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RESEARCH DAY

ABSTRACT BOOKLET

MAY 3, 2025

Welcome Attendees and Presenters,

On behalf of the Research and Scholar Committee and the Student Government Research Committee, we extend our sincere gratitude for your attendance at the annual CHSU Research Day. We welcome you to enjoy all the research showcased today. This research comes from researchers located throughout the Central Valley, many of which are faculty and students from CHSU. Another large group of researchers are our friends in residency locally.

This year's CHSU Research Day program promises to be an enriching experience, boasting a distinguished keynote speaker and over 110 poster presentations for your perusal.

We are honored to feature (Nathan) Zev Minkoff, MD, a renowned pediatric gastroenterologist physician, as our keynote speaker. Dr. Minkoff has been practicing as a specialist and researcher at Valley Children's Hospital since 2021.

We invite you to explore the poster presentations covering a breadth of research topics outlined in the program booklet, at your leisure. There are two sessions for you to view posters and speak to the primary presenters based on odd and even posters. Even-numbered posters will be presented from 10:15 am-11:15 am. Odd-numbered posters will be presented from 11:15 am-12:15 pm.

Following the poster presentations, we look forward to seeing the talks of select poster presentations and the award ceremony. Please enjoy refreshments and appetizers before proceeding to the presentation of awards for the poster competition winners in each category: Faculty, Resident Physician/Pharmacist, and Student.

We are eager to engage with you throughout this auspicious occasion and express our sincere appreciation for your invaluable support in ensuring the success of CHSU Research Day.

Research & Scholar Committee
Dr. Edward Merino (Chair)
Dr. Sree Pattipati (ex-officio)
Dr. Talal El-Hefnawy
Dr. Gisou Mohaddes
Dr. Koteswara Nalamolu
Dr. Sudhakar Pemminati
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Audrey Kao
Song-Ah Baek
Sarah Shehata
Anirudh Nayak

Research Day Agenda

8:30 – 9:00 AM	Registration Breakfast
9:00 – 9:15 AM	Welcome Address
9:15 – 10:00 AM	**Keynote Address:** *New Insights into Pediatric Gastroenterology* (Nathan) Zev Minkoff, MD Vice-chair of the Department of Medicine Head of the Intestinal Rehabilitation Center at Valley Children's Hospital Division of Pediatric Gastroenterology, Hepatology and Nutrition
10:00 – 10:15 AM	Break
10:15 – 11:15 AM	Poster Session 1 (Even numbers)
11:15 – 12:15 PM	Poster Session 2 (Odd numbers)
12:15 – 12:30 PM	Lunch *Transition to Presentation Room by 12:30 PM*
12:30 – 1:20 PM	Podium Presentations
1:20 – 1:35 PM	Research Day Award Ceremony

Keynote Presentation:

Title: New Insights into Pediatric Gastroenterology

Presented by:

(Nathan) Zev Minkoff, MD

Vice-chair of the Department of Medicine
Head of the Intestinal Rehabilitation Center
at Valley Children's Hospital
Division of Pediatric Gastroenterology,
Hepatology and Nutrition

Dr. (Nathan) Zev Minkoff received his medical degree from SUNY Upstate Medical University. He completed his residency at Cohen Children's Medical Center and fellowship at Golisano Children's Hospital at the University of Rochester.

Since 2021, he has been a specialist at Valley Children's Hospital, with clinical and research interests in a variety of areas including cystic fibrosis, intestinal failure (also called short bowel syndrome), eosinophilic esophagitis and the human microbiome.

Recent articles by Dr. Minkoff discuss GLP2 receptor deficiency causing severe illness, diagnosis and treatment of chronic intestinal inflammation in patients with short bowel syndrome, as well as meta-analyses on the use of fecal microbiota transplantation for the treatment of inflammatory bowel disease and recurrent Clostridioides difficile infections.

Poster #1: Evaluating Community Awareness of Osteopathic Manipulative Medicine and New Educational Programs in Fresno County Utilizing a Cross-Sectional Survey

Zian Shabbir[1], Layla Mazdeyasnan[1], Jared Ham-Ying, DO[1]
[1]California Health Sciences University College of Osteopathic Medicine

Abstract:

Introduction:

Osteopathic manipulative medicine (OMM) is a patient-centered, evidence-based approach emphasizing the body's ability to self-heal and the interrelationship between structure and function. Despite its established history and growing recognition, public awareness of OMM and the role of Doctor of Osteopathic Medicine (DOs) remains limited, particularly in underserved regions such as Fresno County, California. With the recent establishment of California Health Sciences University College of Osteopathic Medicine (CHSU-COM) in Clovis, understanding local awareness and perceptions of osteopathic medicine is increasingly important.

Methods:

A cross-sectional survey consisting of 10 Likert-scale questions was distributed in person through a QR code at five public and educational locations throughout Fresno County. Eligible participants were adults (18+) residing in Fresno County with current or past medical conditions requiring treatment. Individuals affiliated with CHSU-COM were excluded from the survey. After data collection, 182 valid responses were analyzed using Google Forms to assess knowledge, perception, and openness toward osteopathic medicine and the presence of a local osteopathic medical school.

Results:

Survey results revealed a substantial gap in awareness of osteopathic medicine, with 72% of respondents reporting being unaware of its distinction from allopathic medicine. However, over 83% expressed openness to receiving osteopathic care, and 95.5% agreed that treating the whole person is important. Additionally, 91.2% believed an osteopathic medical school would positively impact the region, yet 56% were unaware of CHSU-COM's existence. While respondents supported the holistic principles of osteopathy, nearly half (45.1%) remained neutral about the similarity of DO and MD training, suggesting uncertainty about osteopathic education.

Conclusion:

There is a significant opportunity to enhance awareness and utilization of osteopathic medicine in Fresno County. While current awareness remains low, the community's openness to holistic care and CHSU-COM are promising for future engagement. Strategic education and outreach programs are essential to expanding recognition of osteopathy and addressing healthcare disparities in underserved regions such as California's Central Valley.

Poster #2: Evaluating the Association Between Caregiver IBS and Pediatric Constipation in the Central Valley

*D. Badr[1], *E. Bebla[1], *R. Beltran[1], *A. Chakraborty[1], *M. Khan[1], *N. Mohebati[1], *A. Naouai[1], *P. Sandhu[1], S. Pattipati Ph.D.[1], M. Rahman Ph.D.[1], G., H. A. Wang, M.D.[2]
[1]California Health Sciences University College of Osteopathic Medicine, [2]Valley Gastroenterology Institute
*Indicates equal contribution and authorship

Abstract:

Background: Constipation—defined by infrequent, difficult bowel movements, often with fecal incontinence or stool withholding—differs from irritable bowel syndrome (IBS), which includes broader symptoms like abdominal discomfort and irregular bowel habits. Existing literature suggests a familial link in gastrointestinal conditions, with caregiver symptoms often reflecting those in their children. This study explores non-genetic factors influencing the relationship between caregiver IBS and pediatric constipation at the Valley Gastroenterology Institute in Fresno, with a focus on the role of social determinants of health.

Methods: We surveyed primary caregivers (age >18) of pediatric constipation patients at the Valley Gastroenterology Institute. Demographics included age, gender, race/ethnicity, education, and insurance. An IBS Severity Score (IBSSS) was calculated from responses. Surveys were available in English, Spanish, Punjabi, and Hmong. Data was compared across four caregiver-child groups based on IBS and constipation status:

Group A: Caregivers with IBS whose children have constipation
Group B: Caregivers without IBS whose children have constipation
Group C: Caregivers with IBS whose children do not have constipation
Group D: Caregivers without IBS and children without constipation

Due to limited sample sizes, the Wilcoxon rank sum test will be used for group comparisons against the control (Group D).

Results: Preliminary analysis suggests a potential association between caregiver IBS and pediatric constipation, shaped by socio-demographic factors. Of 100 surveys returned, 68 met inclusion criteria, with eight caregivers (11.8%) reporting a formal IBS diagnosis—seven of whom had children with constipation ($p = 0.055$), indicating a trend toward significance. Caregivers with IBS severity scores >75, consistent with clinical symptoms but without a diagnosis, were excluded; including them in future analyses may strengthen the observed association. These preliminary findings highlight the need for a family-centered approach to pediatric gastrointestinal care, and future studies with larger samples should include subclinical IBS and examine interventions targeting caregiver health and education.

Poster #3: A RARE CASE OF NAIL PATELLA SYNDROME

[1]Dhayanithi Dhayalan, MD; [2]Swetha Annam, MD; [2]Maheshwari Nallur Siddaraju MD; [2]Puneet Khela MD, [2]Bukhtawar Munir MD
[1]Adventist Health Central Valley Network; [2] Adventist Health Tulare Internal Medicine Residency Program

Abstract:

Introduction

We present a rare case of nail-patella syndrome (NPS), a multisystem autosomal dominant disorder caused by mutations in the LMX1B gene. NPS commonly involves the skeletal system, kidneys, gastrointestinal tract, as well as vasomotor, neurological, and ophthalmological features. Family history plays a crucial role in diagnosis, which can be confirmed through genetic testing when clinical suspicion is high.

Case Presentation

The patient is a 26-year-old individual with a medical history of hypertension, pre-eclampsia during pregnancy, stage 2 chronic kidney disease, and biopsy-confirmed thin basement membrane disease associated with sub-nephrotic range proteinuria. The patient presents with worsening proteinuria up to 12 g/day. Family history is notable for end-stage renal disease of unknown etiology in the patient's mother, who underwent renal transplantation, and a son with patellar skeletal abnormalities.

A repeat kidney biopsy reveals segmental glomerular basement membrane (GBM) abnormalities with marked variability in thickness and infiltration by atypical, bundled collagen fibrils—findings highly suggestive of NPS. Focal and segmental glomerulosclerosis (FSGS) is also observed, likely secondary to NPS. Physical examination reveals dysmorphic thumbnails bilaterally, consistent with findings in the patient's mother and further solidifying the diagnosis.

The patient is counseled to avoid NSAIDs and nephrotoxic agents, maintain adequate hydration, and optimize antihypertensive therapy with an ACE inhibitor. Dietary modifications, including sodium restriction and vitamin D supplementation, resulted in improvement of proteinuria on follow-up visit.

Discussion

This a rare clinical case where patient should have a close follow up and monitoring of proteinuria to control progression of disease. Once diagnosed, patient should also receive genetic counselling.

Poster #4: MUSCLE MYSTERIES; A RARE CASE OF IMMUNE MEDIATED NECROTIZING MYOPATHY

[1]Bukhtawar Munir, MD; [2] Petrosyan Nerses, MD
[1] Adventist Health Internal Medicine Residency Program; [2] Adventist Health Central Valley Network

Abstract:
Intro: Immune Mediated Necrotizing Myopathy (IMNM) is a rare phenomenon characterized by necrotic muscle fibers and paucity or absence of inflammatory infiltrate on biopsy with or without history of statins exposure. There has been an increased incidence of anti-3-hydroxy-3-methyl-glutaryl-coenzyme A reductase (HMGCR) antibody positive IMNM likely secondary to increased exposure to statins. However, recent debate has raised questions regarding IMNM being statin-associated and not statin-induced so patients should be tested for viral illnesses as well.

Case presentation: 70-year-old male with past medical history of hypertension and hyperlipidemia on atorvastatin who presented to the emergency department with a complains of progressive weakness in his lower extremities, 20 pounds weight loss, shortness of breath, hoarseness and dysphagia for three weeks. He denied any recent viral illness. Labs significant for transaminitis, elevated ESR and CRP, significantly elevated Creatinine Kinase 8,094IU/L, ANA positive titer 1:160. The patient had electromyography significant for myopathy with muscle membrane instability and electrical myotonia. Muscle biopsy was significant for IMNM. Anti-HMGCR antibodies also returned positive, and the patient was started on Intravenous immune globulin (IVIG) along with steroids. Incidentally, HBV core ab returned positive as well and thus the patient was started on tenofovir. Rheumatology was consulted and outpatient Azathioprine was recommended along with the prednisone.

Discussion: IMNM is a rare and debilitating disease associated with severe morbidity. The treatment depends on the severity of disease with discontinuation of statins as first line for mild disease. Steroids and immunosuppressive drugs can also be used in mild disease and tapered. However, if symptoms fail to improve or the progression of symptoms is severe, patients can receive triple therapy including IVIG. Statins are contraindicated in such patients and the benefits don't outweigh the risks.

Poster #5: ENDOSCOPIC CLOSURE OF GASTRIC PERFORATION IN PATIENT WITH LIVER FAILURE

[1] Usman Rahim, MD; [2] Bukhtawar Munir, MD; [3] Johnson Yeboah, MD; [2] Pausescu Dragos, MD

[1] Director of Gastroenterology and Hepatology Adventist Health; [2] Adventist Health Tulare Internal Medicine Residency Program; [3] Adventist Health Tulare Family Medicine Residency Program

Abstract:

Introduction

Gastric perforation involves full thickness injury to the wall which can be secondary to peptic ulcer disease, ischemia, vomiting, retching, corrosive agents, medications, vasculitis, trauma or instrumentation [1,2]. Acute presentation can include abdominal pain, febrile episodes, systemic inflammatory response syndrome while chronic presentation can include abscess development or fistula formation [3]. It carries a very high-risk mortality in patients with decompensated liver disease and acute liver failure. Diagnostic studies include X-ray, CT scan, direct visualization with endoscopy, dye studies or upper gastrointestinal studies. Patients have been historically managed with surgical intervention to prevent further leakage of gastrointestinal contents, risk of peritonitis and abscess formation. Alternative approach includes endoscopic repair of perforation which can include sutures, over-the-scope clips and through-the-scope clips [4,5]. Here, we present a case of gastric perforation which led to decompensated liver disease of a patient with no known history of liver disease.

Case Presentation

66-year-old male patient with past medical history of morbid obesity who presented to the emergency room with worsening upper abdominal pain of three days duration and radiation to retrosternal area. On presentation, the patient was noted to be hypotensive and septic. The patient was also noted to have anemia, thrombocytopenia, acute kidney injury, lactic acidosis and severe coagulopathy. Abdominal imaging was significant for cirrhotic liver and free fluid and air under the diaphragm, consistent with gastric perforation.

The patient underwent emergent laparotomy, gastric perforation was confirmed and managed with Graham patch repair. The patient subsequently improved and was started on a clear liquid diet. However, on postoperative day nine, his pain reoccurred, and he developed purulent output from Jackson-Pratt drain. Upper gastrointestinal (GI) series was performed which confirmed persistent leak from perforation site.

Patient was deemed to be a very high-risk surgical candidate for mortality due to worsening comorbidities including cirrhosis secondary to MASH, and development of hepatorenal syndrome requiring dialysis. MELD Na (Model for End Stage Liver Disease) score had worsened to 43 points (90-day mortality risk of 95.9%). Mayo clinic post-operative mortality risk in patients with cirrhosis was also calculated to be 94.3% at 7 days interval. Goals of care were discussed with the patient, and he preferred to proceed with attempting endoscopic repair

given the high operative risk, and the possibility of endoscopic repair failure given the chronicity of the perforation. Hence, the decision was made to attempt endoscopic repair as an alternative to hospice because the patient had high surgical risk for mortality.

Area of leak was identified using endoscopy and fluoroscopy. Endoscopic repair was performed by application of Argon Plasma Coagulation (APC) ablation followed by clip closure. Successful repair was confirmed fluoroscopically during the procedure. The patient was closely monitored over the next few days, and a repeat upper GI series was performed which confirmed successful repair of gastric antral leak and diet was resumed.

Discussion

This case highlighted the importance of providing appropriate, minimally invasive, and timely interventions. It is well-established that peptic ulcers carry a significant risk of mortality when not managed promptly and effectively. This presented a unique opportunity to explore an alternative approach as the patient was a very high-risk surgical candidate. Endoscopic intervention spared him the additional risks associated with another surgery, improving patient outcomes. Compiling additional data on this technique may help determine whether it offers significant advantages over traditional surgical re-exploration, potentially shaping future clinical guidelines.

Poster #6: The Effects of Electroconvulsive Therapy and Transcranial Magnetic Stimulation on Neuroplasticity in Patients with Major Depressive Disorder

[1]Brett Hughes, [1]Alex Cha, [1]Lakshyaa Balakrishnan, [1]Maria Huang, [1]Matthew Hadweh, [1]Dr. Gisou Mohaddes, PhD
[1]Department of Biomedical Education, California Health Sciences University, College of Osteopathic Medicine, Clovis, CA

Abstract:
Alongside pharmacological treatments, non-pharmacological therapies warrant exploration as options to support the neurogenesis of patients diagnosed with Major Depressive Disorder (MDD). This can provide patients with additional options for symptom improvement. Electroconvulsive Therapy (ECT), is a treatment modality in which electrical impulses are delivered in a measured, controlled way so that functional connectivity between brain regions can be re-established. Transcranial Magnetic Stimulation (TMS) is a non-invasive rehabilitation modality that induces magnetic fields to stimulate neuronal cells and other brain factors. Repetitive Transcranial Magnetic Stimulation (rTMS) delivers numerous pulses of magnetic stimulation in efforts of providing therapeutic benefit to patients with various psychiatric illnesses. Studies have demonstrated that ECT leads to increases in neuroplasticity, specifically in brain regions connected to the prefrontal cortex and limbic system, which are key in mood regulation. Studies on rTMS have also displayed increases in neurogenic markers. Results have been most prominently identified in the hippocampus.

Poster #7: Bridging the Gaps: A Holistic Approach to Strengthening the Pediatric Medical and Surgical Workforce

[1]Matinder K. Dhillon BS, [1]Rajvarun S. Grewal BS, [2]Adaeze R. Okoroaiuzie MS, [3]Julieanne P. Sees, DO, MBA, FAOAO, FAOA, FAAOS

Abstract:

Introduction and Background: Osteopathic medicine offers a unique and valuable perspective to the pediatric surgical workforce by emphasizing the integration of physical, environmental, and emotional factors into patient care. This review examines the intersection between pediatric surgical workforce limitations and osteopathic medicine, emphasizing how osteopathic principles, including whole-person care, preventive strategies, and osteopathic manipulative treatment (OMT), can help address these workforce deficiencies.

Methods: Building upon the 2023 National Academy of Science, Engineering, and Medicine's (NASEM) report on the medical pediatric workforce, this paper aims to identify actionable steps to strengthen the pediatric surgical workforce and enhance care for children and families. Special emphasis is placed on leveraging osteopathic perspectives to drive solutions in surgical care, focusing on whole-person health and comprehensive patient management.

Results: Current data indicate that there are only 1,150 board-certified pediatric surgeons nationwide, with a distribution of 0.51 to 29.3 pediatric surgeons per million children, disproportionately affecting rural and underserved regions.

Proposed Solutions and Conclusion: Addressing gaps in the pediatric surgical workforce requires expanding training programs, promoting diversity, and implementing collaborative care models to improve access, especially in underserved areas. Strategies like increasing fellowship opportunities, supporting underrepresented minority physicians, and integrating telemedicine and learning health systems are key to building a more equitable and effective workforce. By embracing a comprehensive, patient-centered approach, the pediatric surgical community can ensure that all children, regardless of their background or location, have access to high-quality surgical care.

Poster #8: Development of a Quality Improvement Workflow to Salvage and Repurpose Unused Medical Supplies

Abdul Bagi Y.*, Khoury D.*, Nguyen A.*, Pham J.*, Sulit S.*, Wen M.*, Carstens S. DO, Nijjer-Sidhu A. PhD, RD
California Health Sciences University, College of Osteopathic Medicine

Abstract:
Background: Based on the current literature, it is generally concluded that medical waste, especially in settings such as operating rooms or emergency rooms, is inevitable; and most of the literature focuses on methods to quantify and reduce that waste. A component of reducing medical waste discussed less often in the literature is the redistribution and reuse of opened but unused single-use medical supplies. This is likely due to the array of restrictions based on federal regulations or hospital procedures that complicate the redistribution aspect of the collected unused medical supplies.

Purpose: Our primary focus will be to systematically assess and develop a quality improvement workflow for collecting, redistributing, and repurposing medical supplies to countries with ill-equipped medical resources. The benefits of collecting these products can help repurpose hospital medical waste to tackle the issue of low resources leading to problems such as treatment failures, development of antimicrobial resistance, and adverse drug reactions. Therefore, it is critical to understand how hospitals in the United States dispose of their wasted products and if any programs are in place to repurpose them. Our future goal is to utilize these findings to, in a separate project, implement a system where the excess supplies are redistributed through an existing international medical supply donation program.

Method: A list of Fresno/Clovis hospitals was determined based on the highest frequency of visits. Each hospital listed would then be contacted by two members, using a standard questionnaire script designed to determine which hospital items were most wasted, and medical supplies that can be reused. The data collected from each respective hospital will be compared in order to grasp similar policies that are effective for reusing viable discarded medical supplies.

Results: Hospitals were often unwilling to share detailed policies on purchasing and handling unused medical supplies, creating a barrier to surplus data collection. Some hospitals donate to Medical Ministries International (MMI), which distributes surplus equipment globally. Next steps include contacting MMI to learn about their collection procedures and, if permitted, analyzing data on donated items. Expanding the sample beyond the Fresno/Clovis area may improve access to more diverse hospital practices and policies.

Conclusion: It is our goal to survey local hospitals in Central California to expand upon the current literature by extensively documenting the redistribution of the collected material with the aim to lay the groundwork for future individuals or organizations who are interested in partaking in global health philanthropy. Through our research it is concluded that the most

effective method of collecting unused or opened but unused medical supplies is through an existing medical philanthropic agency.

Poster #9: The Impact of Commercial Third-Party Learning Resources on Pre-Clinical Medical Education: A Systematic Review on Faculty and Student Perspectives

Abdul Bagi Y.[1], Badriyha M.[1], Martinez E.[2], Richards S.[2]
[1]California Health Sciences University, College of Osteopathic Medicine, [2]California Health Sciences University, Department of Biomedical Education

Abstract:
Context: With the surge of high-quality online medical education resources, preclinical medical students are increasingly shifting their reliance away from traditional curricular resources. While this trend is well-documented in its impact on student learning, the appropriate perspectives from medical educators and institutions still need to be explored.

Objective: This systematic review aims to contextualize the use of Commercial Third-Party Learning Resources (CLRs) by preclinical medical students and assess their influence on student learning, faculty practices, and institutional approaches to assessment, pedagogy, and curriculum design.

Methods: A comprehensive literature review was conducted using predefined search terms. The authors refined the search based on the inclusion and exclusion criteria, and thematic analysis was applied to systematically evaluate the selected studies' findings.

Results: The review incorporated 34 studies on CLRs, including 31 surveys, two interviews, and one mixed-methods study. Most studies focused on allopathic students (11), with five on osteopathic students, six on both, and one on non-US students. Six studies explored faculty perspectives. Thematic analysis identified faculty motivation and adaptation, student utilization and outcomes, and the impact of self-directed learning on the curriculum as the three main themes.

Discussion: The review highlighted three key themes: (1) Student utilization, assessment, and outcomes, revealing the effectiveness of CLRs in enhancing preclinical education; (2) Faculty motivation and adaptation, addressing factors influencing shifts in teaching methods; and (3) Self-directed learning and curriculum impact, emphasizing the need for additional faculty and institutional guidance to support students in their learning.

Conclusion: The reliance on CLRs marks a significant shift in preclinical medical education, focusing mainly on student perspectives and preferences. Despite evidence showing the effectiveness of these resources, there is a notable gap in understanding how faculty are adapting their teaching strategies in response. This highlights the need for further research into faculty perspectives and institutional responses to these educational changes.

Poster #10: Mental Health Education for Patient Population at UHC-Bullard

Abel Thomas[1], Tina Singh[1], Dipa Patel[1], Andrea Martinez[1], Sylvia Garcia[1], Navleen Brar[1], Geni Perryment PhD[1]

[1.] California Health Sciences University, College of Osteopathic Medicine, Clovis, California, USA

Abstract:

The patient population at United Health Centers (UHC) Bullard in Fresno experiences barriers to seeking mental health resources, such as a lack of awareness regarding available resources, cultural stigma, financial constraints, lack of transportation, shortage of mental health providers, language barriers, and lack of education. In the present study, a brochure and resource list was administered along with a pre-reading and post-reading survey. Our goal was to determine patients' prior knowledge of mental health resources, as well as to assess the effectiveness of the brochure in helping patients become more comfortable utilizing mental health resources. This three-phase study utilized a quasi-experimental research design in order to determine if there was a causal relationship between an educational brochure and patient resource utilization. Data analysis of the survey responses showed that the brochure and resource list did not significantly change patients' comfort level in using mental health resources. The lack of human interaction and personalization that an online/paper brochure and survey create presents a possible limitation to the impact our research can have on the UHC-Bullard patient population. Mental health providers could utilize the brochure and resource list as an adjunct to their mental health therapy rather than as an independent resource.

Poster #11: Recent Advances in the Management of Dyslipidemia: A Systematic Review

Adil Yousaf, Jacky Xiao Feng Huang, Julie Moon, Ramiz Ahmed, Krishma Uppal, Sudhakar Pemminati
California Health Sciences University College of Osteopathic Medicine

Abstract:
Introduction: Dyslipidemia is a prevalent condition that often involves high levels of cholesterol, low-density lipoprotein (LDL), and triglycerides (TG) with low levels of high-density lipoproteins (HDL). This leads to an increased risk in atherosclerosis and cardiovascular diseases (CVD), such as coronary artery disease, which elevates the likelihood of morbidity. Traditionally, dyslipidemia is managed with medications such as statins. However, statins are known to cause side effects including statin associated myopathies (SAM) and intolerance. These side effects have led to an increase in research and development of new therapies that are safer and effective. Thus, the aim of this poster is to highlight and describe certain novel treatments that could potentially replace statin monotherapies or be included in a treatment regimen for dyslipidemia.

Materials/Methods: Using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, databases such as PubMed, Google Scholar, MedLINE, Scopus, Web of Science, and Elsevier were utilized to retrieve information on current and new lipid-lowering agents. Articles included clinical trials, meta-analyses, and reviews published within the range of 2014 to 2025. After screening for relevancy and statistical legitimacy, 83 articles were utilized.

Results: Certain novel drugs of interest, which showcase promising efficacy in treating dyslipidemia with a relatively lower number of side effects, are highlighted on this poster. In their individual trials, inclisiran, obicetrapib, and evinacumab were able to reduce LDL-C levels by 47.9%, 43.5%, and 47.1%, respectively. Plozasiran reduced TG levels by 49.8%. Examples of their mechanism, clinical data, and advantages are also provided. Furthermore, the most common class of novel drugs researched was cholesterol ester transfer protein inhibitors (CETPi).

Conclusion: Dyslipidemia treatments are an ever-evolving subject of medicine. Strides have been made in curating novel and safe pharmacological agents to target LDL-C, ApoB, and other specific molecules contributing to the disease. These could be implemented as a combination therapy or replace traditional therapies in the future, as research on their effects continues to develop.

Poster #12: Evaluation of Gender and Sexuality Minority Friendliness in Primary Care Clinics at the UHC Blackstone Clinic

Agathe Jacobsen*[1], Katie Guenin*[1], Roma Ramirez-Bueno[1], Salwa Hossain[1], Grace Pillinini[1], Samar Elshekh[1], Geni Perryment, PhD[1]
[1]California Health Sciences University College of Osteopathic Medicine, [2]United Health Centers Blackstone Clinic
*These authors contributed equally to the work

Abstract:
Members of the LGBTQIA+ (lesbian, gay, bisexual, transgender, queer, and intersex+) community have long faced discriminatory social policies and barriers to equitable healthcare. California has the highest population of LGBTQIA+ adults in the US, with 10% living in the Central Valley. United Health Centers (UHC) operates 31 clinics throughout Fresno and adjacent counties, making them a key healthcare provider for this population. This project aimed to assess the LGBTQIA+ inclusivity of UHC's Blackstone clinic and provide recommendations for best practices for inclusive and equitable care. Using the "Checklist for Recommendations to Improve Primary Care for Sexual and Gender Minority Patients" from the Pacific Institute for Research and Evaluation, we evaluated the clinic's policies and practices. The evaluation identified several gaps, particularly in the areas of creating a welcoming physical environment and sexual orientation/gender identity (SO/GI) documentation. In Section 1 (Affirmative Policies and Procedures), the clinic met 18 of 20 requirements but was uncertain about benefits for domestic partners of employees and coverage for gender-affirming care. Section 2 (Creating a Welcoming Physical Environment) revealed that the clinic lacked visible LGBTQIA+ signage, posters, pamphlets, or flags, though it did provide single-stall restrooms without gender designations. Section 3 (SO/GI Documentation) highlighted a lack of gender-inclusive language on patient history forms, and the electronic health record system utilized patients' legal names rather than their chosen names. Section 4 (Employee Training and Competency) showed that the clinic met 11 of 12 criteria, with the exception of annual training on LGBTQIA+ terminology. Section 5 (Workforce Development) showed mostly positive responses, though there were gaps in providing puberty-blocking hormones, training on conditions specific to LGBTQIA+ patients, and offering incentives for providers involved in LGBTQIA+ care. While the UHC Blackstone clinic fulfilled 67% of the recommendations, there is room for improvement and implementation of care strategies to create a welcoming and accepting environment optimal for the care of LGBTQIA+ patients.

Poster #13: Autism Spectrum Disorder: Through the Lens of Dysbiosis

Aicha Naouai[1], Ynez Nguyen[1], Joshua Pham[1], Gisou Mohaddes[1], Reena Lamichhane-Khadka[1]
[1]California Health Sciences University College of Osteopathic Medicine

Abstract:
The gut microbiota is essential for sustaining host homeostasis via metabolic, trophic, and protective influences in the gastrointestinal system. It plays a role in producing vital clotting cofactors like Vitamins K, B12, and B7, and supports the breakdown of complex nutrients to generate short-chain fatty acids, which are important for metabolism. Moreover, gut microbiota protects the host by neutralizing toxic substances, producing antimicrobial molecules, and inhibiting pathogen establishment. Dysbiosis, a disruption in gut microbiota, can occur due to several stressors such as oxidative stress and alterations in the intestinal environment, and is linked to various conditions including inflammatory bowel disease, diabetes, obesity, and autism spectrum disorder (ASD). The link between gut microbiota and ASD has attracted considerable interest, since gastrointestinal issues frequently co-occur with ASD, and changes in microbiota profiles have been noted in those affected. Studies indicate a complicated interplay within the gut-brain-microbiota axis, where gut microbiota affects neuroimmune and neuroendocrine pathways that influence brain activity. Research has recognized microbial changes, including an increased Firmicutes/Bacteroidetes ratio and disturbances in Clostridium, Lactobacillus, and Bifidobacteria, that could worsen ASD symptoms. Although the exact mechanisms are not fully understood, it is believed that gut dysbiosis in ASD may play a role in immune system impairment, neuroinflammation, and changes in neurotransmitter signaling. Additionally, factors related to the environment, including maternal immune activation and the use of antibiotics, could worsen these microbiome imbalances. This study explores the complex relationship between gut microbiota and ASD and highlights the need for additional research to improve understanding of the causative mechanisms and therapeutic possibilities of microbiome modification in ASD treatment.

Poster #14: Using Z-Scores to Standardize Emergency Medicine Residency Interview Inter-rater Reliability

Amin M.[1], Rojas V.[2], Patel X.[3], Lewis M.[4], Anderson M.[5], Wexner S.[6]
[1]Kern Medical Simulation Center, [2]Kern Medical Emergency Department

Abstract:
There is an inherent variability between interviewers' ratings for emergency medicine residency applicants that could potentially influence a program's rank order list. A study published in 2023 demonstrated that the use of a standardization calculation might help increase inter-rater reliability in Plastic Surgery.[1] Our institution piloted a similar method of standardization to determine the potential impact on an emergency medicine rank order list. This was an observational study on a single emergency medicine residency program during a single interview cycle. Interviews were conducted virtually, and data was collected retrospectively during a period of one interview cycle. We performed an observational statistical analysis and utilized a Z-score to standardize interviewers' ratings and candidate scores. The results were then used to re-compile a hypothetical rank order list. The average interviewer rating was 48.13 (± 4.93) prior to standardization. Interviewer C gave an average score of 52, whereas Interviewer B gave an average score of 45. After standardization, the mean interviewer rating was 30 (± 0.02). Interviewer C and B's adjusted average scores were 31 and 30, respectively. Standardization of raters' scores impacted the ranking positions of eight of the top 10 emergency resident candidates from the rank order list of 2020. Interviewer C interviewed candidates 150, 133, and 154 which were removed from the standardized rank order list. Candidate 152 moved from position two to number one, and candidate 163 moved from position one to number two. Candidate 140 was moved from position three to number nine. Candidate 144 was moved from position seven to number six. Candidate 157 was moved from position 10 to number eight. Candidate 145, interviewed by Interviewer B, received an adjusted score of 50, was added to the top 10 of the standardized rank order list and ranked third. Candidate 162 and 161 remained the same despite standardization. Application of our standardization calculation may assist with inter-rater reliability by standardizing interviewers' scores, which might improve the rank order list process. The findings are similar to a study regarding Plastic Surgery Residents published in 2023.[1]

Poster #15: Dysbiosis and Dementia: Microbial Signatures of Neurodegeneration

Kaxon-Rupp, Ariana*,[1], Chakraborty, Ahana*,[1], Desai, Naiomi*,[1], Lamichhane Khadka, Reena, PhD, MS[1], Mohaddes, Gisou, PhD, MS[1]
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Abstract:
Introduction and Background: Dementia encompasses a group of neurocognitive disorders, including Alzheimer's disease (AD), vascular dementia (VaD), frontotemporal dementia (FD), and Lewy body disease (LBD), that are characterized by injury to various brain regions, resulting in progressive cognitive decline. Emerging evidence suggests an association between the gut microbiota and nervous system, and the effect they both have on each other via the gut-brain axis. We aim to explore the relationship between the composition, diversity, and dysbiosis of gut microbiota along with the influence of the metabolites they produce on the pathogenesis of neuroinflammation and cognitive decline. Additionally, the research also considers the potential therapeutic implications of modulating the gut microbiome through dietary changes, prebiotics, or other interventions.

Materials and Methods: We utilized a broad literature search via PubMed, Google Scholar, OpenEvidence and ResearchGate. Examples of keywords included “neurodegeneration”, “gut microbiome”, “Alzheimer’s dementia”, “gut-brain axis”, “Mediterranean diet”, “DASH”, etc. As of April 2025, our search collection has yielded nearly 108 references published within the last 10 years. This collection is continuously growing and being stored on SciWheel, a reference management tool. The graphical abstract was illustrated using BioRender.com.

Results and Conclusion: The human microbiome, largely composed of Bacteroidetes, Firmicutes, and Actinobacteria, produces short-chain fatty acids (butyrate, propionate, etc.), cytokines (IL-1, IL-6, TNF-α, IL-10, TGF-β, etc.), and other microbial metabolites (such as indole-3-acetic acid) that can exert either neuroprotective or neurodegenerative effects. Studies show that alterations in some microbiota, such as a high Bacteroidetes-to-Firmicutes ratio, have been linked to pro-inflammatory gut dysbiosis, which may compromise intestinal barrier function and increase permeability of both the intestinal mucosa and blood-brain barrier. This disruption of the gut-brain axis propagates systemic inflammation, contributing to neuroinflammation, cognitive decline, and the progression of dementia. This study highlights the intricate relationship between brain function, microbiota composition, and neurodegenerative diseases, offering valuable insights into potential strategies for the prevention and management of dementia, especially through various types of dietary modifications.

Poster #16: Wnt Pathway Targeted Therapy in GI Cancers: Integrating Benchside Insights with Bedside Applications

Anirudh Nayak [1,2], Hannah Streiff [1,2], Oluwabomi Oluwatomi Adekoya [1], Ivan Gonzalez [1], Itzcoatl Silva [1] and Anitha Kota Shenoy [1],

Abstract:

The Wnt signaling pathway is critical in the onset and progression of gastrointestinal (GI) cancers. Anomalies in this pathway, often stemming from mutations in critical components such as adenomatous polyposis coli (APC) or β-catenin, lead to uncontrolled cell proliferation and survival. In the case of colorectal cancer, dysregulation of the Wnt pathway drives tumor initiation and growth. Similarly, aberrant Wnt signaling contributes to tumor development, metastasis, and resistance to therapy in other GI cancers, such as gastric, pancreatic, and hepatocellular carcinomas. Targeting the Wnt pathway or its downstream effectors has emerged as a promising therapeutic strategy for combating these highly aggressive GI malignancies. Here, we review the dysregulation of the Wnt signaling pathway in the pathogenesis of GI cancers and further explore the therapeutic potential of targeting the various components of the Wnt pathway. Furthermore, we summarize and integrate the preclinical evidence supporting the therapeutic efficacy of potent Wnt pathway inhibitors with completed and ongoing clinical trials in GI cancers. Additionally, we discuss the challenges of Wnt pathway targeted therapies in GI cancers to overcome these concerns for effective clinical translation.

Poster #17: A Continuing Quality Improvement Study on Diabetic Foot Exam Compliance at a Residency Clinic

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Mathew Personius, MD
Adventist Health Central Valley Network

Abstract:

Introduction and Background: Diabetes is the eighth leading cause of death in California. Diabetic foot ulcers for diabetic patients may be as high as 34 percent. Diabetic foot problems are an important cause of morbidity in diabetic patients and thus diabetic foot exams are key components in providing quality primary care to diabetic patients. The annual diabetic foot exam compliance at Adventist health Family Medicine clinic in Hanford was 43%. Our goal is to increase the annual diabetic foot exam compliance by at least 15 percent to over 58% compliance at Hanford FMC clinic.

Methodology: We will use the PDSA cycle to help implement new intervention strategies, in order to gain lost ground and improve annual Diabetic Foot Exam compliance. New inventions will be provided which include providing proper training for new residents and staff, as well as providing more accessible materials needed to perform a proper foot exam. Pre and post surveys will be given in order to assess standardization and proper training for residents. Poster reminders with instructions on how to do diabetic foot exams were posted in each exam room. Data was collected over 7 months to keep track of diabetic foot exam compliance.

Results: Pre survey only 20% knew where supplies were located, post didactic training sessions, post survey results revealed 90% of residents knew where supplies were located, an overall 70 % increase in provider awareness. Pre-survey comfort with diabetic foot exams was 80%, and after didactics training session, this was found to be 97%. Didactic training sessions included YouTube video on how to perform a proper diabetic foot exam. Data collected revealed a 16 percent increase in overall comfort level of properly performing examinations.

Conclusion: Through multiple PDSA cycles and interventions we saw considerable improvements at the end of 7 months, diabetic foot exam compliance increased to 61.6% on 2/23/25 from 43% on 7/23/24.

Poster #18: Postpartum care for the parent-infant dyad: community midwifery care and perinatal health equity

Ariana Thompson-Lastad,[1,2] Sara Jhanjar,[3] Jessica M. Harrison,[1] Chanda Williams,[1] Tanya Khemet Taiwo,[4] Mounika Parimi,[5] Briana Wilborn,[6] Maria T. Chao[1,7]
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Abstract:
Context and Objectives: Postpartum health is in crisis in the United States, with rising. pregnancy-related mortality and worsening racial inequities. The World Health Organization recommends four postpartum visits during the six weeks after childbirth, yet standard postpartum care in the US is generally one visit six weeks after birth. We present community midwifery postpartum care in the US as a model concordant with WHO guidelines, describing this model of care and its potential to improve care for birthing people and babies.

Setting/Populations: Community midwives provide perinatal care in homes and free-standing birth centers, and include Certified Nurse-Midwives (CNMs) Certified Professional Midwives (CPMs), and Licensed Midwives in CA.
Intervention/Study Design: We conducted semi-structured interviews with 34 community midwives in Oregon and California. A multidisciplinary team analyzed qualitative data using reflexive thematic analysis.

Outcomes/Results: Fourteen midwives identified as people of color; 22 spoke multiple languages. Across 34 midwives, we found a consistent model of care for postpartum families including five key elements: 1) care for the parent-infant dyad; 2) continuity of personalized care; 3) relationship-centered care; 4) planning and preparation for postpartum; 5) focus on postpartum rest. The community midwifery model of postpartum care is structured, yet flexible and individualized, and involves caring for birthing parents and babies as a unit. The comprehensive dyad approach encompasses postpartum and well-baby care, typically involving 5 to 8 visits in the 6 weeks after birth. We found numerous barriers to expanding access to this model of care. Though all midwives in the study wanted to care for people insured through Medicaid, only 12 were Medicaid providers. Midwives detailed potential changes to state Medicaid policy that would greatly increase access to their care.

Conclusion: The community midwifery model of postpartum care is a guideline-concordant approach to caring for the parent-infant dyad. Addressing structural barriers to access and sustainability of community midwifery care is key to achieving perinatal health equity.

Poster #19: The Impact of Nutrition Education on Post Cancer Treatment: A Quality Improvement Initiative

Arimi Nguyen[1] Niki Tabatabai[1], Terry Pham[1], Mariya Leshchuk[1], Saida Alcozie[1], Cassandra Hill[1], Emily Uyen Thai[1], Avtar Nijjer-Sidhu PhD, MS, RD [1], Dina Ibrahim MD[2], Carleen De Leon MD[1],
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Abstract:
Cancer remains a significant global health burden, with treatment primarily focused on biomedical approaches. Lifestyle factors, particularly nutrition, are often overlooked in standard cancer care. Growing evidence suggests that nutritional education can play a pivotal role in improving patient outcomes and quality of life. This study evaluates the impact of a targeted nutritional education intervention on cancer patients' dietary knowledge and its potential to enhance their overall well-being.

This prospective interventional study was conducted at Premier Cancer Center in Fresno, California. Six post-cancer participants were screened and enrolled by a physician. Participants completed a baseline nutrition questionnaire assessing their dietary knowledge. They then attended a brief educational session focusing on macronutrients, such as carbohydrates, proteins, fats, and portion sizes. Following the intervention, participants completed a post-test to measure knowledge improvement. Demographic data, including cancer diagnosis and age, were collected for subgroup analysis.

Pre-test scores averaged 51%, with 50% of participants scoring below 50%. Post-test results demonstrated a 27% overall improvement, with average scores increasing to 78%. Significant gains were observed in understanding dietary fats, with scores rising from 33% to 56%.

Nutritional education interventions can effectively enhance dietary knowledge in cancer patients, particularly in areas related to fat consumption. There was increased knowledge of fats in comparison to other topics such as carbohydrates and proteins. While the limitation of this study was a small sample size (n), this was a pilot project with the potential to impact more patients overtime at Premier Cancer Center. Consideration is made in continuing this nutritional education program for a longer period of time to monitor behavior modification. Incorporating lifestyle counseling into cancer care may offer a valuable adjunct to conventional treatments, supporting survivorship and improved quality of life.

Poster #20: More Than Mood: TCAs in Neuroplasticity and Synaptic Repair

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Abstract:

Introduction/Background:
Tricyclic antidepressants (TCAs) are well-established treatments for depression, primarily through their modulation of serotonin and norepinephrine reuptake. Beyond their antidepressant effects, recent studies suggest that TCAs influence neuroplasticity, synaptic plasticity, and dendritogenesis—key processes in brain adaptation and recovery from mood disorders. This review compares the effects of two prototypical TCAs—imipramine and desipramine—on these neurobiological processes.

Methods:
A literature review was conducted using PubMed, Embase, Scopus, and Web of Science from 2000–2025. Search terms included “imipramine,” “desipramine,” “neuroplasticity,” “synaptic plasticity,” “dendritogenesis,” and “antidepressants.” Emphasis was placed on preclinical studies examining the mechanisms of action and neurobiological outcomes associated with each drug.

Results:
Imipramine, a dual serotonin and norepinephrine reuptake inhibitor, enhances hippocampal neurogenesis, modulates long-term depression (LTD) at thalamic-amygdala synapses, and promotes glial transformation into neuron-like cells. It also increases expression of neurotrophic factors such as BDNF, VEGF, and bFGF. Desipramine, a selective norepinephrine reuptake inhibitor, modulates neuroinflammatory enzymes (Ido1/Ido2), protects neural stem cells from LPS-induced apoptosis via bcl-2, and preserves glutamate receptor function in the prefrontal cortex. It also supports dendritic arborization and restores long-term potentiation (LTP) impaired by reserpine. Both drugs demonstrate complementary neuroprotective mechanisms.

Conclusion:
Imipramine and desipramine modulate brain plasticity through distinct but overlapping pathways. Imipramine’s dual action on serotonin and norepinephrine promotes synaptic and cellular repair, while desipramine’s norepinephrine-centric profile enhances neuronal resilience and receptor stability. Together, they underscore the broader therapeutic potential of TCAs in enhancing synaptic function, neurogenesis, and cognitive restoration.

Poster #21: Prenatal Trends in Huron, CA: A Quality Improvement Investigation of Prenatal Visits at a Rural FQHC

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Abstract:
Prenatal care is essential for improving maternal and neonatal outcomes, yet rural communities like Huron, California, face significant barriers such as limited healthcare access, language barriers, and socioeconomic constraints. This study investigates factors influencing prenatal appointment attendance at United Health Centers (UHC) Huron to inform targeted interventions and improve care. We conducted a retrospective analysis of de-identified electronic health records from 2019-2024, focusing on appointment cancellations and rescheduling rates. Our sample included 6,094 pregnant patients, the majority of whom were aged 22 years or older (90.7%), single (62.1%), Spanish-speaking (71.6%), Hispanic or Latino (86.4%), and on a capitated health plan (73.1%). Overall, 55.3% of appointments were attended, and 17.2% were rescheduled. Chi-square tests revealed significant associations between appointment status and marital status ($p<0.001$), age ($p=0.015$), and language spoken ($p<0.001$), while appointment rescheduling was associated with marital status ($p=0.01$) and age ($p=0.011$). These findings suggest that demographic factors, particularly marital status, age, and language, can influence prenatal care attendance. Further development of culturally sensitive, focused-based prenatal care and public health programs could positively affect healthcare delivery and maternal care outcomes. Identifying these factors provides a foundation for targeted interventions to address barriers and improve prenatal care access in rural communities like Huron. Further research is needed to explore additional determinants and create potential future interventional studies.

Poster #22: A Case of Complex Regional Pain Syndrome in a 42-Year-Old Female with Hypermobile Ehlers-Danlos Syndrome and Mast Cell Activation Syndrome: Exploring the Role of Unconventional Therapies in Symptom Management

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California Health Sciences University College of Osteopathic Medicine[1], Central Valley Indian Health[2]

Abstract:
Introduction: Complex Regional Pain Syndrome (CRPS) Type 2 is a chronic pain condition that develops after a nerve injury and is characterized by severe pain, allodynia, and functional impairments. Ehlers-Danlos Syndrome Hypermobility Type (hEDS) and Mast Cell Activation Syndrome (MCAS) are connective tissue and inflammatory disorders that may contribute to the development of CRPS. Despite various treatment approaches, effective pain management remains a challenge, particularly in complex cases involving underlying genetic predispositions.

Case: We report the case of a 42-year-old female with a history of CRPS Type 2, who was recently diagnosed with hEDS and has a family history of MCAS. Her clinical symptoms of chronic pain and gastrointestinal (GI) disturbances were unresponsive to typical therapeutic interventions. She is currently being managed with multiple medications. With this thought in mind, Montelukast, a leukotriene receptor antagonist, was introduced, and the patient reported an initial improvement in pain. Cromolyn Sodium, a mast cell stabilizer, was also added to her treatment regimen to target her pain exacerbation further. Finally, an anti-inflammatory GI regimen was trialed. Her progress was monitored using a pain scale over the next 6 months. However, due to declining health, a subjective narrative scoring system replaced the Visual Analog Scale (VAS) to represent her fluctuating and multifaceted symptom experience better.

Discussion: The relationship between hEDS, MCAS, and CRPS suggests a multifactorial pathogenesis involving connective tissue fragility, mast cell dysregulation, and neurogenic inflammation. Montelukast, Cromolyn Sodium, and GI supplementation represent potential therapeutic interventions for managing patients with CRPS linked to MCAS. These treatments offer a novel approach by targeting mast cell-mediated inflammation. This case emphasizes the need for further research into the role of mast cell stabilization in CRPS treatment to improve patient outcomes.

Keywords: CRPS, Complex, Regional, Pain, Syndrome, Ehlers-Danlos, Syndrome, Mast- Cell, Activation, Montelukast, Cromolyn-Sodium

Poster #23: Determining the Reasons T2D Patients Fail to Undergo Annual Exams Specifically at Omni Health

Awadallah, V.[1], Dhami, S.[1], Kao, E.[1], Kaur, C.[1], Lee, D.[1], Makhoul, J.[1], Tran, D.[1], Wu, D.[1]
PI: Merino, E., Ph.D[1], Monga, I.[1], Nijjer-Sidhu, A.[1], Ph.D, Torres, M.[1]
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Abstract:
Background: Diabetes mellitus is a major public health concern in California's Central Valley, with counties such as Fresno and Merced experiencing high prevalence rates. Effective management of type 2 diabetes (T2D) requires routine exams, including HbA1c monitoring, retinal screenings, and neuropathy assessments. However, many patients fail to undergo these essential evaluations, leading to worsened outcomes. Understanding the barriers to compliance within the Omni Health system is critical for improving patient adherence and optimizing diabetes care.

Aim of the Study: This study aims to identify the primary reasons for non-compliance with routine diabetes exams among patients receiving care at Omni Health. By quantifying missed screenings and assessing contributing factors, we seek to develop targeted interventions to enhance adherence and improve diabetes management in the Central Valley.

Methods: A survey-based quality improvement (QI) study will be conducted, targeting 100-350 T2D patients at Omni Health. Participants must be at least 18 years old, diagnosed with T2D, and receiving care at Omni for at least one year. The survey will assess compliance with key exams (HbA1c, retinal eye exams, urine protein tests, foot neuropathy exams, and blood pressure readings) and investigate reasons for non-compliance using a Likert-scale questionnaire. Data collection will occur via phone interviews conducted by student researchers, with de-identified responses stored securely for analysis.

Results: A total of approximately 63 phone calls were made, resulting in only seven completed surveys. Of the seven respondents, five reported full compliance with all six survey questions related to routine diabetes care. One participant reported receiving all recommended evaluations except a kidney function exam, and another reported no recent changes to their diabetes medication, stating, "diabetes meds not working." No demographic data were collected, limiting the depth of analysis and preventing subgroup comparisons. Due to the small sample size and lack of demographic information, quantitative analysis and meaningful graphical representation were not feasible.

Conclusions: Despite most respondents reporting adherence to recommended diabetes screenings, the low response rate restricted meaningful analysis of barriers to care. These findings underscore the need for improved outreach methods and more robust data collection strategies in future quality improvement efforts. Addressing these limitations will be essential

for developing effective interventions to support diabetes management and improve screening adherence among T2D patients in the Central Valley.

Poster #24: A Comprehensive Educational Study of Ashwagandha: Exploring Benefits & Potential Risks

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California Health Sciences University College of Osteopathic Medicine

Abstract:
Introduction and Background: Today, many nutraceuticals are widely available, yet there remains a gap in public awareness regarding their benefits and risks. This poses a unique challenge in clinical settings, particularly in primary care, where patients may use such supplements without informing their providers. Ashwagandha (Withania somnifera), a key herb in traditional Indian Ayurveda, is gaining popularity due to its reported benefits in stress relief, inflammation reduction, and muscle strength enhancement. These effects are attributed to its bioactive compounds, such as withaferin-A, withanolides, and sitoindosides, which influence hormone levels, inflammatory pathways, and neurotransmitter activity. We aim to investigate the public's knowledge of Ashwagandha and identify gaps between scientific findings and general awareness.

Material and Methods: We designed a survey-based study to assess baseline knowledge, perceptions, and usage patterns of Ashwagandha among college students aged 18–36 in California's Central Valley. The survey includes questions about Ashwagandha's uses, mechanisms, safety profile, and sources of information. Approximately 150 responses will be collected anonymously and analyzed to evaluate awareness levels and demographic correlations. No physical intervention is involved, and IRB approval has been obtained. Data will be stored securely and de-identified to ensure confidentiality.

Results and Conclusion: To date, approximately 90 students have responded. Preliminary analysis suggests higher Ashwagandha usage among Asian students, though stress management was not a commonly cited reason for its use. Users demonstrated limited awareness of recommended usage guidelines or potential adverse effects. Additionally, many medical students were unfamiliar with the herb's anti-inflammatory benefits despite supporting scientific evidence. This pilot study will help bridge the gap between scientific evidence and public knowledge, and inform future educational efforts or expanded research in nutraceutical awareness.

Poster #25: Navigating the Rise of Commercial Third-Party Learning Resources: Perspectives of Pre-Clinical Medical Educators

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Abstract:
Context: The growing use of commercial learning resources (CLRs) in medical education has prompted preclinical students to increasingly supplement or replace traditional curricular materials. While much research has focused on student utilization of these resources, there remains a gap in understanding faculty perspectives on their roles in verifying and guiding the use of CLRs. As medical students and faculty alike navigate a rapidly evolving educational landscape, there is also a need to understand how challenges for students in content gaps and accessibility manifest, highlighting the need for better integration between institution, faculty and student to cultivate a more holistic approach to medical education.

Objective: This study aims to explore medical educators' perceptions of third-party resources in medical education, focusing on their role in validating information, supporting students in resource selection, and adapting to the changing educational landscape.

Methods: Using the Delphi technique, a series of surveys will be distributed to faculty at CHSU-COM identified as “experts” based on their history of medical education, experience in teaching team-based learning (TBL) or didactic sessions, and student advising. Responses from the initial survey will be validated and used to develop interview questions for follow-up discussions. Thematic analysis will be applied to both survey and interview data to identify key codes and themes. Participants: A sample of 8-10 CHSU-COM faculty members who meet the expert criteria will be recruited, with informed consent obtained for participation. Institutional Review Board (IRB) approval will be sought prior to data collection.

Results: The study will examine faculty perspectives on their evolving roles in the age of proliferating CLRs, the challenges they face in verifying these resources, and how they guide students in resource selection.

Conclusion: Following our literature review exposing gaps in this area, we aim to explore faculty insights, contributing to a deeper understanding of how medical educators adapt to the increasing use of commercial learning resources and how they influence student learning in this context.

Poster #26: Expression and Purification of MUC16 Antibody Fragments in Escherichia coli

Batool Abdelruhman[1], Maram Salman[1], Cory L. Brooks[1]
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Abstract:
A 12% 5-year survival rate for pancreatic cancer makes this disease one of the leading cancer-related deaths in the United States. Due to pancreatic cancer's poor prognosis, new methods of treatment are required. One novel approach is fluorescence-guided surgery (FGS), a surgical procedure using fluorescent conjugated probes to detect tumorous sites. MUC16 is a glycoprotein overexpressed in 60-80% of pancreatic cancers. This makes it an ideal target for antibody directed FGS. A MUC16-targeted antibody called AR9.6 has shown promising results for FGS of pancreatic tumors. However, intact antibodies can engage the immune system and are expensive to produce. The aim of this project is to express and purify AR9.6 as a single chain variable domains (scFv), a smaller antibody fragment that may overcome limitations associated with using intact antibody. The scFv genes were cloned into the periplasmic expression vectors, pSJF2H and pET22b. Protein expression from the two plasmids was assessed by Western blots. The expression tests revealed that the scFv with the domain orientation VL-VH in pSJF2H expressed the best, as evidenced in the Western blot. A six-liter E. coli culture was grown, and protein purified by nickel affinity chromatography yielding 1.4 mg of protein. After concentrating the elutions of the purification, the final protein amount was 0.3 mg. This limited protein yield presented a challenge. Further experiments will be performed under the same protocols using the scFvs cloned as maltose binding protein fusions to enhance protein solubility and yield.

Poster #27: The Role of Gastrointestinal-Derived Serotonin in Chronic Pruritus from IBS and Functional Dyspepsia

Behzad Maher, OMS-III[1]
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Abstract:
Gastrointestinal-derived serotonin (5-HT), a key neurotransmitter in the enteric nervous system, has emerged as a critical mediator in the pathogenesis of chronic pruritus associated with irritable bowel syndrome (IBS) and functional dyspepsia (FD). Dysregulated serotonin signaling, driven by altered enterochromaffin cell activity and abnormal serotonin reuptake, amplifies gut-brain axis dysfunction and sensitizes peripheral nerves, contributing to heightened pruritic sensations. In IBS and FD, serotonin dysregulation causes visceral hypersensitivity and systemic inflammation, promoting neurogenic inflammation in the skin and enhancing the release of pruritogenic mediators, including substance P and histamine. Evidence indicates that serotonin receptor modulators, like 5-HT3 and 5-HT4 antagonists, can mitigate pruritic symptoms by targeting gastrointestinal (GI) motility and pruritus-associated pathways and systemic agents provide complementary neural desensitization. Gut microbiome imbalances in IBS and FD may influence serotonin production, suggesting a potential for microbiota-targeted therapies in reducing pruritus severity. This review addresses the interplay between GI serotonin dysregulation, neurogenic inflammation, and chronic pruritus, essential for advancing therapeutic strategies for patients with IBS and FD. Thus, indicating an integrated approach targeting the gut-brain-skin axis could redefine pruritus management and enhance patient outcomes in these disorders.

Poster #28: Cervical Cancer Screening in Asian American Women

Betsy Cletus[1], Shyenna Wongsavanh[1], Divya Muttineni[1], Pamela Fung[1], Daniel Yun[1], Chandni Tailor[1], Shreedeep Patel[1], and Gurnaj Johal[1]
[1]California Health Sciences University

Abstract:
Cervical cancer can be effectively prevented through early detection with a Pap test and HPV vaccination. However, cervical cancer screening (CCS) rates among Asian Americans (AsAms) remain low. We intend to identify barriers to CCS to increase CCS rates of Asian American individuals in the Central Valley by 5% from the current compliance rate of 45% through the creation of language-specific education material. We administered pilot phone surveys from self-identifying Asian females who are noncompliant with CCS at Omni clinics within California's Central Valley. The survey collected information regarding age ethnicity, preferred spoken and written language, employment status, household income, highest level of education, marital status, number of children, history of pelvic examinations and cervical cancer screenings, attitudes/beliefs regarding cervical cancer screening, and their personal attitudes towards general barriers to screening. Based on the responses, we found that most patients strongly preferred a female physician and lacked knowledge that CCS is important. Limitations in our study involved conducting surveys Wednesday afternoons, potentially leading to an underrepresentation of individuals employed in standard 9:00 AM to 5:00 PM work schedules. Furthermore, non-English-speaking participants may have been underrepresented due to challenges in coordinating three-way phone calls with a translator.

Poster #29: The Relationship Between Patient Demographics and Hepatobiliary Side Effects for GLP-1 Receptor Agonists

Brar P. OMS-1 , Bach D. OMS-1, Wilkins G. OMS-1 , Tran K. OMS-1 , Merino E. PhD

Abstract:

Background:

Glucagon-like peptide-1 receptor agonists (GLP-1 RAs), such as semaglutide, have demonstrated significant efficacy in glycemic control, weight loss, and cardiovascular risk reduction in patients with type 2 diabetes (T2D) and obesity. However, growing evidence suggests an association between GLP-1 RAs and adverse biliary events, including gallbladder dysfunction, cholelithiasis, and cholecystitis.

Objective:

The purpose of this focused review is to analyze raw data from Embase/Pubmed studies and the FDA Adverse Effects database to determine the correlation between the incidence of adverse hepatobiliary effects and ratifiable variables.

Methods/Results (Current and Future):

A comprehensive review of current literature on GLP-1 RAs and their associated adverse effects was conducted. This review showed that hepatobiliary adverse effects were the most prevalent in existing literature. Raw data from Embase/Pubmed studies and the FDA Adverse Effects database within the last decade were obtained. Subsequent research will stratify key demographics, including sex, race, and age, to control for potential confounding variables. Additionally, analyzing different GLP-1 RA formulations and dosages may reveal variations in associated risks.

Conclusion/Implications:

This preliminary analysis highlights the GLP-1 RAs association to biliary diseases, suggesting that clinicians should consider individual patient risk factors for gallbladder disease when prescribing these agents. Further research is required to elucidate the precise mechanisms linking GLP-1 activation to biliary and pancreatic complications and to develop strategies for mitigating these risks, when considering increased dosages and weight loss.

Poster #30: GFAP Positive Transitional Meningioma with Invasion into the Frontal Bone

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[2.] Community Regional Medical Center

Abstract:

Transitional meningiomas may present asymptomatically but can exhibit both benign and aggressive features. We report the case of a female in her 50s with a medical history significant for diabetes, hypertension, morbid obesity, and recent gastric bypass surgery. She presented to the emergency department following a seizure, prompting further evaluation with magnetic resonance imaging (MRI) of the head. Imaging revealed a left frontal intracranial mass invading the frontal bone, accompanied by a 2.7 cm midline shift, consistent with a meningioma. The patient subsequently underwent a frontal craniotomy and tumor debulking. Pathological examination confirmed the diagnosis of a transitional meningioma, WHO Grade I with positive glial fibrillary acidic protein (GFAP) staining representing malignant features. Due to the tumor's invasion into the frontal bone, the affected portion was excised and replaced with a titanium mesh to prevent postoperative skull defects and reduce the likelihood of future surgeries.

Poster #31: Barriers to Behavioral Health at UHC-Parlier

Gigi Thao[1], Tiffany Tran[1], Gabrielle Glassen[1], Anna Smirnova[1], Jonathan Newman[1], Rahim Khan[1], Liliana Garcia[1], Shreya Desai[1], Rosa Manzo PhD[1], and Mohammad Rahman, PhD[1]

[1]California Health Sciences University College of Osteopathic Medicine

Abstract:

Current literature on behavioral health appointments in rural areas has found several demographic factors correlated to appointment attendance. However, there is a gap in the research specifically pertaining to behavioral health appointments in the Central Valley beginning after the 2020 COVID-19 timeframe. We aim to understand the demographic factors that impact patient attendance for behavioral health visits at the UHC-Parlier clinic, and how identifying these demographics can aid the clinic in improving appointment attendance. De-identified data regarding 7204 patients over the age of 18 from May 2023 through May 2024 was obtained directly from the UHC-Parlier clinic via secure Excel document with monitored access. The data included appointment outcomes, specialty of provider, insurance type, city of residence, and date of appointment. Data was analyzed using power analysis and chi squared tests. From this data, we were able to conclude that there are statistically significant correlations between cancelling behavioral health appointments and distance from to clinic, insurance type, and provider speciality. Variations in appointment cancellations were also observed throughout the calendar year. By further researching these groups and developing processes that reduce barriers to care, attendance of behavioral health appointments may improve. Identifying these barriers is the first step in improving access to care for patients who need behavioral health appointments at the UHC-Parlier clinic.

Poster #32: Correlation of patient hemoglobin A1c and C-peptide as a function of time and treatment

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California Health Sciences University College of Osteopathic Medicine, Bautista Medical Group

Abstract:
Type 2 diabetes mellitus (T2D) is increasingly prevalent and burdensome, affecting 1 in 10 people in the United States and approximately 49% of all adults in Fresno County as of 2016. T2D pathophysiology is characterized by insulin resistance, resulting in excessive stimulation of pancreatic beta cells to secrete both insulin and C-peptide as part of the body's compensatory response. This strenuous effort leads to beta cell failure, thus causing a gradual decline in insulin and C-peptide production as T2D symptoms and associated complications arise. Currently, glycated hemoglobin A1c (HbA1c) serves as the current biomarker of pancreatic beta cell function due to its ability to reliably measure chronic hyperglycemia. However, in long-standing T2D, monitoring C-peptide levels may provide a more precise and predictable measure of T2D progression. Bautista Medical Group clinics have been collecting semi-annual C-peptide levels in compliant patients for decades, and by using retrospective lab results, we aim to identify a statistically significant correlation between HbA1c and C-peptide as a function of time and treatment in T2D patients with the goal of determining whether C-peptide can serve as a valuable biomarker to continuously monitor throughout diabetic management of long-term glycemic control.

Data on 18 to 60-year-old T2D patients with at least 5 years of medical history and at least 2 lab results with both HbA1c and C-peptide levels at Bautista Medical Group clinics were collected and analyzed. Median HbA1c levels were elevated in males (Mdn=7.50, n=140) compared to females (Mdn=6.70, n=121). A statistically significant positive correlation was found between HbA1c values and sex (r=0.191, p=0.002, n=261). In a regression model, a statistically significant correlation was found between HbA1c values and male sex ($p<0.005$) while controlling for ethnicity and age. Furthermore, a strong negative correlation was found between HbA1c and C-peptide levels (r=-.583), but this correlation was not found to be statistically significant (p=0.129, n=8). These results suggest that male patients with T2D at Bautista Medical Group warrant more clinical attention. Further data collection should focus on C-peptide levels within this subgroup. Due to technical issues, we are unable to determine if C-peptide is correlated to HbA1c and more data needs to be collected to better establish a statistically significant relationship.

Poster #33: Analyzing the Effect of Training CHSU-COM Students on an Online Resource Directory

Camden Nucum, Zachary Carling, Jillian Day, Maria Huang, Ariana Kaxon-Rupp, Brandon Lai, Micheal Petro, Eve Stark, Avtar Nijjer-Sidhu, PHD, MS, RDN, Sarmad Ghazi, MBChB

Abstract:
Within Fresno County, a gap exists in connecting unhoused and housing-insecure individuals with available community resources. This study investigates if training third-year osteopathic medical students (OMS-III) students at the California Health Sciences University College of Osteopathic Medicine (CHSU-COM) to use an online resource directory (findhelp.org) improves their knowledge and confidence in providing patients with needed community resources. OMS-III students will participate in an educational presentation during an Entrustable Professional Activities (EPA) rotation that includes a step-by-step walkthrough of findHelp.org, demonstrations of zip code-based searches, and guidance on generating tailored patient resource summaries. Before and after the training, anonymous surveys will assess students' knowledge, attitudes, and ability to connect patients—especially those with housing concerns—to local resources using a Likert scale. The training will demonstrate how to navigate findhelp.org, gather resources for specific zip codes, and print summaries for patients. Pre- and post-survey data will be analyzed using a matched-pairs t-test to assess the overall impact of the training. ANOVA will be used to analyze differences among demographic groups. The hypothesis is that training on the resource directory will enhance students' knowledge of local resources and confidence in matching patients with needed services. Data will be collected via Microsoft Forms, stored securely, and analyzed to determine the effectiveness of the intervention.

Poster #34: The Gut-Brain Axis Role in Neurological Disorders

Chandler Kelser[1], Akrum Moshin[1], Kendall Fischer[1], Harnoor Brar[1], Nathan Do[1], Rishab Majumder[1], Koteswara Rao Nalamolu[1]
California Health Sciences University College of Biosciences and Health Professions[1]

Abstract:
Human health is greatly impacted by the gut microbiota, which affects not only immunity and digestion but also neurological function via the gut-brain axis. A disturbance in the composition of the gut microbiota can lead to neurological disorders like Alzheimer's disease, Parkinson's disease, multiple sclerosis, epilepsy, migraines, autism spectrum disorder, schizophrenia, depression, and anxiety. This two-way communication system involves neural, immune, and metabolic pathways. Increased intestinal permeability, neuroinflammation, and neurotransmitter dysregulation have all been connected to dysbiosis, or microbial imbalance, and can worsen the course of disease. The gut microbiota may now be profiled due to developments in nucleic acid sequencing, which help identify neurological disorders and serve as biomarkers. Furthermore, there is potential for reducing neuroinflammation and enhancing patient outcomes through treatment strategies that target the gut microbiota, including as probiotics, prebiotics, dietary changes, and microbiome-based medicines. Understanding these complex interactions may lead to novel strategies for diagnosing, managing, and potentially mitigating the progression of neurological disorders.

Poster #35: NADPH Oxidase Biochemistry, Pathological Consequences, and Potential Therapeutic Applications

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Abstract:
This review provides a comprehensive background and review of the nicotinamide adenine dinucleotide phosphate (NADPH) oxidase (NOX) family of enzymes. The traditional NADPH oxidase gene products are comprised of seven core members, though the most famous member, NOX2, is not only an NADPH oxidase but also reduces oxygen. In addition, this review provides an overview of ten essential accessory gene products that are essential for activation of the NADPH holoenzyme. These enzymes have divergent functions and tissue expressions that lead to differential correlations in disease states. We will initially discuss the essential functional biochemistry of each NADPH oxidase member and its associated core subunits. Then, we will describe pathophysiological consequences of overactivation of the NADPH oxidase holoenzyme. Finally, research into therapeutic applications on specific NOX family inhibitors designed to manage various diseases will be discussed. The purpose of this review is to provide a consolidated exploration of current information regarding the growing research on NOX enzymes, as well as to clarify the different members of these gene products. In this poster, we will specifically discuss the pathophysiological relevance of NOX1 and NOX5 enzymes and potential inhibitors that may facilitate disease management.

Poster #36: Improving Access to Screening Colonoscopies: A Rural Health Solution

Chris Dy, MD, Bukhtawar Munir, MD, Hasham Masood Qureshi, MD, Swetha Annam, MD, John Leal, RN, Usman Rahim, MD
Adventist Health Tulare

Abstract:
Colorectal cancer (CRC) remains a significant public health concern, with recent epidemiologic data indicating higher rates of colon and rectal cancer, including early-onset and average-onset cases, in rural areas compared to urban regions in the United States. The growing population in Central Valley, California, coupled with a limited number of gastroenterology clinics, exacerbates delays in CRC screening, diagnosis, and treatment. Additionally, rural patients face logistical and financial barriers, including long-distance travel and limited insurance coverage, further delaying access to essential preventive and therapeutic care. This quality improvement (QI) project aims to address these challenges by implementing a direct referral system for screening colonoscopy to reduce the time from primary care physician (PCP) referral to procedure completion.

The pilot study will be conducted at Adventist Health Kingsburg Internal Medicine Residency Clinic using a direct referral pathway, while Adventist Health Selma Clinic will serve as the control site utilizing the traditional referral system. On March 31, 2025, residents will undergo structured training on the decision-making pathway for direct referrals, supervised by gastroenterologists and PCPs. The study will commence on April 1, 2025, and conclude on May 31, 2025. Key process measures will include the average time from referral to colonoscopy, adherence to bowel preparation, adenoma detection rates, cancellation and no-show rates, and provider satisfaction. Data collection and analysis will be completed on June 1, 2025.

The expected outcome of this intervention is a 20% reduction in the referral-to-procedure time, improved patient adherence to bowel preparation, and increased provider satisfaction. By streamlining the referral process and enhancing collaboration between PCPs and gastroenterologists, this project aims to improve CRC screening rates and facilitate early detection, ultimately reducing morbidity and mortality associated with delayed diagnosis in rural populations.

Poster #37: Endoscope retention in aftermath of Hemospray: A unique clinical scenario

Chris Dy, MD, Bukhtawar Munir, MD, Hasham Qureshi, MD, Dragos, Pausescu, MD
Adventist Health Tulare, Internal Medicine

Abstract:
Background: Endoscopy is an essential tool in controlling upper gastrointestinal bleeding (UGIB), permitting direct mapping and therapeutic intervention. Hemospray is a hemostatic powder that has shown strong potency in accomplishing hemostasis for GI bleeds. It has been observed that Hemospray can attain around 90-95% initial hemostasis in several situations [1]. However, challenges can arise during endoscopic procedures, as presented in this case where the endoscope became lodged while applying hemospray, requiring the use of an innovative approach to assist in its removal.

Case Report: A 43-year-old male presented with a 4-day history of vomiting and jaundice, along with one episode of blood-tinged vomitus. The patient reported binge drinking 8 cans of beer daily for the past 2 weeks. In the emergency department, the patient was noted to be hypotensive, tachycardiac and tachypneic. Laboratory tests were significant for thrombocytopenia, severe hyponatremia of 107 mmol/L, hypokalemia, elevated total bilirubin level of 13.5 mg/dL and elevated transaminases (AST 774 U/L, ALT 498 U/L and ALP level of 268 U/L). Shortly after admission, he experienced massive hematemesis, prompting transfusion, emergency endotracheal intubation and esophagogastroduodenoscopy (EGD) using a dual-channel endoscope. Endoscopic findings revealed a Mallory-Weiss tear at the distal esophagus. Hemostasis was achieved using hemostatic powder. However, difficulty was encountered in removing the dual-channel endoscope. The patient was administered rocuronium for paralysis, and after 3 minutes, the endoscope was successfully removed using positional maneuvers. The patient was turned from supine position to his left which aided in successful retrieval of the endoscope. A second-look EGD performed 24 hours later showed a healing Mallory-Weiss tear with an adherent clot and no evidence of active bleeding.

Discussion: The case described above highlights an incident of an UGIB that led to a rare complication: endoscopic entrapment following the application of Hemospray. UGIB accounts for approximately 2% of all hospital admissions, with a peak annual incidence of 172 per 100,000 cases [2]. Rebleeding rates vary but can reach up to 17% [3]. Management typically involves initial medical stabilization followed by endoscopy to diagnose and provide definitive treatment. This approach was employed in the case described above. Endoscopic interventions for UGIB include techniques such as band ligation, hemostatic clipping, Hemospray application, or thermal coagulation cautery, with the choice of method depending on the bleed's etiology and the physician's discretion [4]. There are only a few case reports describing endoscope entrapment within the esophagus after Hemospray application to achieve hemostasis. In one report, the patient required admission to the intensive care unit for 48 hours before safe endoscope removal was possible [5]. In another case, a bronchoscope was passed alongside the trapped endoscope, and the adhesions caused by the Hemospray were manipulated using a back-and-forth motion. This approach resolved the issue within 15 minutes and without complications [6].
Given the potential for this rare complication to occur during a commonly performed procedure, our case report offers an alternative management strategy including proper patient positioning. Although, there is no clear understanding of how effective this approach might be, it did prove effective for said patient and provides an alternative to dissolving the hemospray.

While limited literature exists regarding this rare complication and its optimal management, we believe that documenting such cases can contribute to a better understanding of the condition.

Poster #38: Neurological Sequelae of Coccidioidomycosis: A Case of Stroke

Chris Dy, MD, Bukhtawar Munir, MD, Maheshwari Nallur, MD
Adventist Health Tulare, Internal Medicine

Abstract:
Background: Valley fever is a fungal infection caused by Coccidioides species, endemic to the southwestern United States, especially in California's Central Valley [1]. While it typically affects the lungs, it can disseminate to other parts of the body causing severe complications such as coccidioidal meningitis. Because of its often-nonspecific symptoms, this condition can be very challenging to diagnose [2]. Neurologic sequelae include stroke and hydrocephalus in patients with coccidioidal meningitis; these require the management of long-term antifungal therapy [2,3]. This case highlights a diagnosis of Coccidiodal meningitis with incidental finding of a stroke on MRI and was initially missed on CT scan. This poses a further question if MRI should be the standard of management to monitor for future complications.

Case Report:
A 19-year-old female, Central Valley California resident, field worker, and a high school graduate presented to emergency department with headache, photophobia, and neck pain for the past 2 weeks. With aseptic meningitis high on differential, the decision was made to perform the lumbar puncture for CSF fluid analysis and admit the patient for treatment. However, the patient refused admission and was discharged on Valacyclovir and prednisone. The patient returned to the emergency department after three days with a lack of response to therapy and underwent a lumbar puncture. Subsequent fluid analysis revealed WBCs of 195 mm3 with a differential of 40% Polys/Segs, glucose of 19 mg/dL and total protein of 100 mg/dL. The patient was started on empiric treatment with intravenous Ceftriaxone, Vancomycin, Steroids and Acyclovir for meningitis. After four days, meningoencephalitis panel returned negative while CSF Coccidioides IgG and IgM came back positive, ruling out other potential causes of meningitis. The patient was diagnosed with Coccidioides meningitis and managed with fluconazole 800 mg daily, while all other antibiotics and antivirals were discontinued. Given the potential for future neurologic complications, a brain MRI was obtained that revealed an incidental finding of a small acute infarct in the left globus pallidus. With Coccidioides as the likely etiology of stroke, the multidisciplinary decision was made to treat the underlying infection. The patient was discharged on fluconazole and was advised to closely follow up for monitoring as she is high risk for developing hydrocephalus.

Discussion:
High suspicion for Coccidioidomycosis should be maintained in patients presenting from endemic areas with signs and symptoms of meningitis because it is associated with high morbidity and mortality [4]. Coccidiodal meningitis is classified as a severe form of disseminated disease [5]. Complications include hydrocephalus and stroke, and patients require lifelong therapy [6,7]. Discontinuation of therapy has been associated with recurrence of disease process [8]. Ventriculoperitoneal shunts are utilized in addition to medical therapy, but the rate of complications remains high. Patients should have an MRI Brain at time of diagnosis to establish baseline neurological defects and monitored for additional strokes or development of hydrocephalus. In addition, appropriate counselling should be done to ensure compliance with medical therapy and adequate follow-up with the provider. Management involves treating the

underlying fungal infection and relieving symptoms, if needed, with help of ventriculoperitoneal shunt.

Poster #39: Left Heart Catheterization in Dextrocardia

Chris Dy, MD, Puneet Khela, MD, Bukhtawar Munir, MD
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Abstract:
Background: Dextrocardia is a rare congenital condition in which the heart is positioned on the right side of the chest rather than the left. Although individuals with dextrocardia typically have a similar risk of developing coronary artery disease as the general population, their unique cardiac anatomy—characterized by the abnormal orientation and origin of the coronary sinus, as well as the mirror-image arrangement of the aorta and its branches—can pose significant challenges in diagnosing and managing conditions such as myocardial infarction.

Case Report: A 69-year-old female with a medical history of hypertension, diabetes mellitus, dyslipidemia, and dextrocardia presented to the cardiology clinic following an emergency room visit due to acute-onset shortness of breath that awakened her from sleep. The shortness of breath was associated with palpitations. An electrocardiogram (ECG) revealed sinus rhythm with evidence of anterior wall ischemia, while Troponin I levels were normal. A chest X-ray confirmed the presence of dextrocardia.

The patient underwent coronary angiography via the right femoral artery. Judkins Left-4 and Judkins Right-4 catheters were utilized, and mirror-image angiographic angles were employed due to her dextrocardia. The left main coronary artery (LMCA) had a normal origin in the left coronary cusp and was a normal-caliber vessel, giving rise to the left anterior descending (LAD) and left circumflex (LCX) arteries. No angiographic evidence of atherosclerotic disease was observed in the LMCA. The LAD, a large vessel, gave rise to multiple diagonal and septal branches, extending to wrap around the apex. Mild stenosis was noted in the proximal (20%) and mid (30%) LAD segments (Fig. 1).

The ramus intermedius artery, originating from the LMCA between the LAD and LCX, demonstrated no angiographic evidence of atherosclerotic disease (Fig. 1). The right coronary artery (RCA) was a dominant vessel, giving rise to the marginal artery, posterior left ventricular branch, and posterior descending artery (PDA). Mild diffuse disease was observed in the PDA branch (Fig. 2).

Discussion: Dextrocardia is a rare condition and hence poses unique challenges for healthcare professionals [1]. Performing angiogram in such patients due to associated challenges of mirror anatomy requires advanced skills and techniques [2]. This case is particularly important as it highlights a different variant of heart vasculature and aids in raising awareness in such predicaments. A right transfemoral approach was utilized in this case due to ease of access and to avoid unexpected angulations of subclavian branches. Illustrations were reversed to obtain mirror image angiographic angles which allowed for successful angiography in a patient with dextrocardia without any complications using traditional catheters. Right coronary artery dominance pattern makes up more than 80% of cases as noted in this patient as well [3].

Coronary artery disease burden is also noted to be no different in patients with dextrocardia as compared to normal population [4].

Poster #40: Glucagon-Like Peptide Receptor Agonists (GLP1-RAs) Providing Alternative for Weight Loss to Bariatric Surgery

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Abstract:

Obesity remains highly prevalent, contributing to detrimental health conditions such as heart disease, stroke, type 2 diabetes, and cancer. Many interventions have been explored over the years to address this growing epidemic. This systematic review intends to analyze and compare the various options for obesity management in terms of significant weight loss and their associated safety profiles. Currently, the most common modality to rapidly decrease body weight is bariatric surgery; however bariatric surgeries, such as gastric sleeve and bypass, carry risks of complications like gastric strictures, leaks, infections, blood clots, and frequent reoperations, with varying rates across procedures. Rapid weight loss from these interventions may also lead to nutritional deficiencies, gastrointestinal disruptions, and long-term challenges like weight regain, highlighting the importance of patient selection and postoperative care to mitigate risks. There are other pharmacologic options including glucagon-like peptide-1 receptor agonists (GLP-1 RAs), metformin, phentermine-topiramate, naltrexone-bupropion, orlistat, and sibutramine. Most recently, the growing popularity of GLP1-RAs is attributed to their effectiveness while being noninvasive and more affordable alternatives to bariatric surgery. This review highlights the importance of potential integration with other medical management options in order to facilitate a multifaceted approach to combating obesity and comorbidities at the individual and systemic level. PubMed/MEDLINE, Google Scholar, EMBASE, and Cuchreane Library databases were accessed to retrieve relevant literature between February 23, 2025, and April 18, 2025. The search was limited to articles published between 2010 and 2025, with most terms targeting studies from 2010 or later, focusing on recent and relevant findings.

Poster #41: Assessing the Impact of an Informational Brochure on Parental Stress, Self-Efficacy, and Understanding Following Pediatric Referral for Autism Diagnosis: A Pilot Study

Cortland Jell, OMS-III[1]; Ariana Kaxon-Rupp, OMS-II[1]; Edward Merino, PhD[1]; Mohammed Rahman, PhD[1]; Michelle Perez, MD[2]
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[2]Camarena Health

Abstract:
Background: While early detection of autism spectrum disorder (ASD) can improve outcomes, families often face long wait times for evaluation. Research shows that children from families of color, low-income backgrounds, or rural areas can experience longer delays. Although reducing wait times is an active area of research, there are currently very few resources and interventions available to support families while they wait for an evaluation. Objective: The objective of this study was to assess the impact of an informational brochure at the time of a positive autism screen on parental stress, self-efficacy, and knowledge of next steps.

Methods: A brochure was developed with information about ASD, guidance on next steps for parents, and resources for connecting with the local ASD community, drawing on a literature review and consultations with field experts. The brochure was translated into Spanish in collaboration with a Medical Spanish professor and adjusted to an 8th-grade reading level. Parents of children referred for an ASD diagnosis by a pediatrician in Madera, California—an area with significant physician shortages and lengthy wait times—were recruited. The brochure was provided at the time of a positive screen/referral, and changes in stress, self-efficacy, and knowledge were measured immediately before and after receiving it. Stress was assessed with the Spielberger State-Trait Anxiety Inventory (STAI), and self-efficacy with the Brief Parental Self-Efficacy Scale (BPSES). Three additional questions were included to assess knowledge of, and confidence in, the next steps of obtaining and managing the wait for an ASD evaluation. Data collection spanned from November 2023 to September 2024. Paired t-tests were used to evaluate the mean changes in stress, self-efficacy, and knowledge of next steps pre- and post-intervention, as well as changes in individual items on each scale.

Results: The intervention led to a 14% increase in self-efficacy and a 13.5% decrease in stress among surveyed parents immediately before and after reviewing the brochure. The findings showed statistically significant improvements in parents' understanding of next steps and a greater sense of calm, along with enhancements in several other questionnaire items. Additionally, a 21.6% increase was observed in parents' knowledge of strategies to support development at home.

Conclusion: The findings of this project offer a potentially effective and cost-efficient resource for primary care providers, enabling them to support families in managing the wait for an ASD evaluation.

Poster #42: Effect of Positive Airway Pressure (PAP) Treatment for Obstructive Sleep Apnea (OSA) in Reduction of Post-surgical Complications

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Abstract:

Post-surgical outcomes vary significantly with levels and types of patient co-morbidities. The prevalence of OSA is increasing, and it has been proposed as a risk factor for postoperative complications. We hypothesize that treating OSA with positive airway pressure (PAP) decreases the risk of these postoperative complications.

Poster #43: Strong-Arming the Future of Peripheral Nerve Stimulators

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Abstract:
Objectives: Chronic upper extremity pain is a debilitating condition that restricts the lives of a significant portion of the population. While there are a variety of interventional pain treatments on the market, a peripheral nerve stimulator offers a cost-effective modality with long-term results. This modality relies on semi-permanent percutaneous implantation of leads at the target nerve to provide set daily doses of battery-powered stimulation that inhibit peripheral nociceptive fibers. The aim of this project is to understand why peripheral nerve stimulators possess the market share that they currently have and whether more widespread usage would lead to better patient outcomes.

Design: A review was performed of the current available literature in PubMed, ClinicalTrials.gov, and Cochrane databases, including randomized controlled trials, case reports, and case series. Search term queried was ((“peripheral nerve stimulation” OR “peripheral nerve stimulator”) AND “percutaneous”) AND (“upper extremity” OR “brachial” OR “arm”)). A total of 41 relevant studies were found. A cost comparison was also completed, comparing the costs of standard interventional pain treatments for chronic upper extremity pain to that of peripheral nerve stimulation. The costs per Current Procedural Terminology code were based on the Medicare Fee Schedule.

Results: The literature demonstrates that, when used to address chronic upper extremity pain, peripheral nerve stimulation provides significant pain relief and gain of function, lasting years after lead removal.
Cervical radiofrequency ablation is more commonly used for chronic upper extremity pain than peripheral nerve stimulation, but its effects do not last as long. The annual cost for a patient receiving regular cervical radiofrequency ablations is estimated to be about $2,164.17 while the cost of peripheral nerve stimulator placement and programming is around $2,651.86. An option with even lower upfront costs would be cervical medial branch blocks, with one round costing around $431.67.

Conclusions: Therefore, though peripheral nerve stimulation is currently a last resort in interventional pain, it should be more highly considered as a potential treatment method due to its benefits for the patient. Peripheral nerve stimulation has been shown to provide relief for 24 months post treatment, which is more than double the time offered by conventional methods like radiofrequency ablation or medial branch blocks. Such sustained pain relief also makes it more cost-effective than the latter. Furthermore, a peripheral nerve stimulation implant has no need for fluoroscopic imaging once the implant is correctly placed, minimizing radiation and contrast exposure to the patient. Given these benefits, peripheral nerve stimulation is more likely to improve patient quality of life and outcome and thus, should be considered more frequently for treatment of chronic upper extremity pain.

Poster #44: Assessing the Benefits and Drawbacks of Food Pharmacy Utilization in the Central Valley

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Abstract:
Introduction: Food insecurity is limited access to nutritious and safe foods. As a response to food insecurity in Merced, Golden Valley Health Center (GVHC) has created their Food Pharmacy to address food insecurity and provide clients with food boxes in the Central Valley. If they identify as food insecure, clients are given a prescription to visit the Food Pharmacy and receive a parcel of non-perishable foods, such as rice, canned vegetables, and boxed milk products. To understand the effectiveness of food pharmacies, it is crucial to ask participants regarding usage of the Food Pharmacy, difficulties in obtaining food, and their demographics. Therefore, we have created a survey to further understand how clients perceive and utilize the Food Pharmacy. Over time, we expect to analyze a reduction in food insecurity after visiting the Food Pharmacy and will identify relationships between demographics, food usage, and attendance of the program. This is an achievable goal within the year given the resources available by the clinics.

Materials and Methods: The Golden Valley Health Center Food Pharmacy Survey consists of 9 questions that allow patients to choose between a range of options to best describe their situation. Additionally, an open-ended question will allow participants to express preferences for specific food items they would like to see in the Food Pharmacy. Likert scales will also be employed to collect quantitative data on patients' experiences with the program across multiple visits, providing insights into both collective and individual patient experiences over time.

Retrieving patient demographics, such as ethnicity and household size, enables us to categorize de-identified patients and find relationships between sociodemographic factors and risk of food insecurity. The GVHC Food Pharmacy site will administer the survey via Microsoft Forms accessed via QR code. An alternative physical paper copy of the survey will be provided if patients are unable to access the Microsoft Forms. Data analysis consists of qualitative variables such as race, socioeconomic status, and food insecurity status before receiving a food pharmacy donation box.

This study is designed as a longitudinal assessment of patients' dependency on the Food Pharmacy program and their experiences with the service over time. Convenience sampling will be used to gather responses with the goal of receiving 100 survey responses. Prior to participation, patients will be informed about the study's purpose and how their responses will be used. Informed consent will be obtained to ensure ethical compliance.

Next Steps/Future Plans: In the next phase of the project, surveys will be distributed using various methods to ensure the accessibility of the population. The collected data will be used to assess the program's impact on participants' lives and improving food insecurity while enhancing strategies to address gaps effectively.

Conclusion: Overall, using our specifically tailored survey, we hope to gain a better understanding of the use and efficacy of Golden Valley Health Center's Food Pharmacy program

in a variety of demographics. With that data, there is a potential to improve the current program and eventually expand to other sites in the future.

Poster #45: Association of Presenting Symptoms and Diagnosis, with Urinary Mycotoxins, Metals, PFAS, and Environmental Toxins: A Prospective Study in an Urban Gastroenterology Practice

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Abstract:
Humans are constantly exposed to environmental toxins, which disrupt biological processes and adversely impact multiple organ systems, particularly the gastrointestinal (GI) tract. Exposure to a mixture of xenobiotics, like heavy metals, Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS), pesticides, and toxic gases, can occur concurrently. While the gut can metabolize these toxins, failure in detoxification can impact one's health. Furthermore, mycotoxins, produced by fungi such as Aspergillus, can cause mycotoxicosis. When ingested through contaminated food, mycotoxins first interact with the GI tract. The intestinal barrier filters harmful substances, but some mycotoxins can disrupt this barrier. By analyzing urine samples, this study investigates the correlations between environmental toxins, heavy metals, PFAS, mycotoxins, and presenting symptoms. This study uses mass spectrometry to test for 39 environmental toxin markers, 20 heavy metals, 26 PFAS, and 31 mycotoxins. A Total Toxicity Score (TTS) is calculated based on these results, while digestive and non-digestive symptoms are assessed using the Symptoms Score (SS). This research provides valuable insights into how environmental toxins, heavy metals, PFAS, and mycotoxins contribute to the onset and exacerbation of symptoms, enhancing our understanding of their detrimental effects on GI and overall health.

Poster #46: Investigating Sodium Levels in Fresno Unified School Lunches and Their Impact on Children's Health and Future Wellness

Donna Badr, Musa Dajani JD, Rola Ghobashy MS, Maria Torres MS, Zachary Yamada

Abstract:
As American adults face alarmingly high rates of preventable chronic diseases, such as hypertension, obesity and type 2 diabetes, conversations surrounding lifestyle modifications have long been major topics of research and discussion among healthcare providers. However, since these conditions largely affect adults, the impact of children's dietary habits, particularly in sodium intake, within the Fresno Unified School District has remained largely underexplored. This has proven to be problematic as rates of childhood and adolescent chronic illness continue to rise, particularly in disadvantaged communities. With more research pointing towards the correlation between childhood health and outcomes in adulthood, it has become imperative to address these dietary factors early, as this can potentially mitigate the onset of life-altering conditions in future generations. Many American children consume most of their meals in public schools; therefore, addressing the broader challenges of the American healthcare system requires scrutinizing the nutritional quality of school-provided meals, as certain diets can predispose individuals to preventable conditions. With childhood hypertension on the rise, the link between high sodium intake and this dangerous condition highlights the urgency of evaluating school nutrition. This article examines the hypothesis that schools in the Fresno Unified School District (FUSD) are offering meals that, when combined, can exceed USDA daily sodium recommendations. Additionally, it explores whether schools in economically disadvantaged areas are more likely to face this issue. This review synthesizes existing research on sodium in school meals, socioeconomic disparities in nutrition, and the implications for public health. Fresno was selected as the geographic location of the study due to its above-average obesity rates and high blood pressure rates and its below-average healthcare provider-to-person ratio making it a severely medically underserved community. Such a combination puts an extreme strain on the city's health system. Early interventions, especially those relating to diet, can help alleviate some chronic diseases faced by members of the Fresno community such as obesity and hypertension and relieve pressure on the metropolitan's healthcare system. Finally, it will suggest interventions for the Fresno Unified School district and the parents of elementary school aged children to implement in hope of combatting childhood obesity and hypertension which can down the line ravage an individual's health and wellness.

Poster #47: Valves and Vessels from Stenosis to Bleeding

Edgardo Torres Garcia, MD; Ghufran Quresh MD; Tanveer Singh, MD, Nashwan Obad, MD; Anil Reddy Anumandla, MD;
Sierra View Medical Center GME

Abstract:
Introduction: Heyde syndrome is a rare but clinically significant condition characterized by the coexistence of aortic stenosis and gastrointestinal (GI) bleeding due to angiodysplasia. Clinically, patients with Heyde syndrome present with symptoms of aortic stenosis, including exertional dyspnea, syncope, and heart murmurs, in conjunction with recurrent episodes of GI bleeding, often resulting in iron-deficiency anemia. Given its potential morbidity, diagnostic uncertainty surrounding Heydee syndrome, delaying diagnosis leading to multiple unnecessary blood transfusions, This case report aims to contribute to the growing body of literature on Heyde syndrome by describing a patient who presented with characteristic clinical findings and underwent successful treatment.

Discussion: Given its potential morbidity, diagnostic uncertainty surrounding Heydee syndrome, delaying diagnosis leading to multiple unnecessary blood transfusions, This case report aims to contribute to the growing body of literature on Heyde syndrome by describing a patient who presented with characteristic clinical findings and underwent successful treatment.Heyde syndrome is characterized by the triad of aortic stenosis (AS), gastrointestinal (GI) bleeding from angiodysplasia, and acquired von Willebrand factor (vWF) deficiency. The pathophysiology is primarily attributed to shear stress from severe AS, which leads to proteolysis of high-molecular-weight vWF multimers, impairing hemostasis and promoting bleeding from fragile GI angiodysplasias. Studies have shown a strong correlation between the severity of AS and the likelihood of GI bleeding. Bleeding often localizes to the right colon, consistent with the distribution of angiodysplasia. Definitive treatment lies in addressing the underlying valvular disease. Aortic valve replacement (AVR), both surgical and transcatheter (TAVR), has been associated with significant improvement or resolution of GI bleeding and restoration of normal vWF multimers. Medical therapies (e.g., octreotide, hormonal agents) offer temporary control but are generally insufficient as standalone treatments.

Typically, Heyde syndrome, has a ratio of VWF activity to VWF antigen, (VWF: RCo- VWF: Ag) is 0.5-0.7. This indicates a low force of the largest VWF multimers which are crucial for normal blood clotting. Following aortic valve replacement and reduction in shear forces across aortic valve, VWF activity to antigen ratio is reported to improve back to normal. Though there have also been cases of active bleeding, and resolution of active bleeding despite normal VWF ratio in the preoperative phase. We will follow the patient post op to assess any changes in VWF activity to antigen ratio.

Conclusion: Timely recognition of Heyde syndrome is crucial, especially in elderly patients presenting with iron-deficiency anemia and occult GI bleeding alongside known or suspected AS. A multidisciplinary approach involving cardiology and gastroenterology optimizes outcomes.

Poster #48: The Development of a Survey to Identify Medical Staff Need for Culturally Appropriate Diabetes Education Material, a Quality Improvement Initiative

Edwin Rojas, Saba Doustmohammadi MPH, Adil Yousaf, Daniel Boemer, Mathew Hadweh, Akash Dhillon, Ravreet Singh, Jasman Mann, Tom Thao, Mohammad A Rahman, PhD, Alvaro Pinto, MD, PhD, Avtar Nijjer-Sidhu, PhD, RD, MS
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Abstract:
Type 2 Diabetes (T2D) is a prevalent chronic condition affecting diverse populations across the Central Valley, an area known for its rich cultural diversity. Effective diabetes education is crucial for managing the disease, yet standardized educational materials often fail to address the unique cultural and linguistic needs of patients, leading to complications such as a lack of understanding and adherence to treatments. This Quality Improvement (QI) project assessed the need for culturally tailored diabetes education materials among medical staff at United Health Centers (UHC), a Federally Qualified Health Center serving Central Valley communities. Electronic surveys were administered to 33 UHC clinics to gather insights from healthcare staff regarding diabetes education needs, barriers, and preferred formats and languages. The anonymous answers from 60 respondents were then analyzed. An educational pamphlet was also created, linking diabetes resources for Spanish, Hmong, Punjabi, and English-speaking populations. Most respondents were a part of the Health Administration team and identified as female. findings revealed that 70% of respondents considered culturally tailored diabetes education "extremely important." The most frequently cited patient concerns were related to diet and nutrition, while insurance questions were the least reported. Besides English, Spanish was the most reported language, validating its inclusion onto the pamphlet along with Hmong, Punjabi, and English. Overall, the healthcare staff at UHC clinics reported that patients would benefit from culturally tailored diabetes education. This study underscores the critical need for culturally appropriate diabetes education materials in the Central Valley. Implementing tailored resources and improving accessibility to diet and nutrition education may enhance patient understanding and health outcomes. Continued collaboration between healthcare providers and community organizations is essential for addressing these educational gaps effectively.

Poster #49: Impact of Nutritional Sessions on HbA1c Levels for Diabetic Populations in Selma-Highland and Selma-Rose

Emmanuel Ho, OMS-II[1]; Skylynn Thangwaritorn, OMS-II[1]; Saad Hassan, OMS-II[1]; Pooya Ganjali, OMS-II[1]; Abel Guzman, OMS-II[1]; Maria Torres, MS, RDN; Rosa Manzo, PHD

[1.]California Health Sciences University College of Osteopathic Medicine

Abstract:

Glycemic control and lowering HbA1c levels is paramount for medical providers to prioritize due to the rising prevalence of diabetes mellitus in the Central Valley. Previously, specific dietary interventions have proven to be effective in significantly decreasing glycemic levels over time. 1 Additionally, lifestyle changes obtained from health education sessions provided similar positive outcomes for diabetic patients. 2

Diabetic patients in Selma-Highland and Selma-Rose United Healthcare Clinics (UHC), are referred to nutritional programs with one-on-one sessions to create individualized plans. We performed a comparative analysis to assess how referral to these programs affected patient outcomes.

Poster #50: Identifying Barriers to a Self-Measured Blood Pressure Program, a Quality Improvement Initiative

Felicia Hung, Jacky Xiao Feng Huang, Tabor Liu, Muskaan Dhillon, Jaivind Grewal, Rey Law, Amitoj Randhawa, Mohammed Rahman PhD, MSP, MSS, Avtar Nijjer-Sidhu PhD, MS, RD
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Abstract:
Hypertension remains a significant health concern in California's Central Valley, particularly in King County, which ranks among the highest for cardiovascular mortality. To improve hypertension management, Aria Health, a federally qualified clinic with locations in Fresno, Tulare, and King County, has implemented a Self-Measured Blood Pressure Program (SMBP). However, patient enrollment and retention often fall below the target. Previous studies suggest barriers such as limited technology access, inadequate hypertension knowledge, financial constraints, and distrust in monitoring devices may contribute to low participation. This study aimed to identify a minimum of two primary barriers to SMBP compliance at Aria Health by April 2025. A survey was developed using Likert-scale and open-ended questions. Eligible participants included Aria Health patients aged 18-85 with diagnosed hypertension (≥140/90 mmHg on at least two occasions) who were enrolled in SMBP but not actively submitting readings at their last three appointments. Surveys were administered via secure phone lines by student doctors. Survey results show that most participants are middle-aged to older adults (40–59), with a higher proportion of female and Hispanic individuals. Education levels are mostly high school or some college, and many are unemployed or retired. The majority have Medi-Cal or Medicare, indicating a low-income and/or elderly population. The survey findings highlight key barriers to adherence in Aria Health's SMBP program, including forgetfulness, lack of education on BP interpretation, and inconsistent provider follow-up. While most participants feel confident using their BP monitors, some report difficulty with device operation, lack of training, and uncertainty about responding to abnormal readings. Addressing these gaps through enhanced patient education, reminders, and stronger provider engagement could improve adherence and effectiveness in home BP monitoring.

Poster #51: Exploring Bacterial Influence in Psoriasis and Atherosclerosis: Shared Inflammatory Pathways and Therapeutic Insights

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Abstract:
Psoriasis and atherosclerosis are chronic inflammatory conditions linked by overlapping immunological pathways. Psoriasis, an autoimmune skin disorder characterized by keratinocyte hyperproliferation and plaque formation, is associated with an increased risk of cardiovascular diseases, including atherosclerosis. Atherosclerosis, a vascular disease marked by lipid accumulation and immune cell infiltration, can lead to severe cardiovascular events such as myocardial infarction and stroke. The immune mechanisms driving both conditions overlap, with psoriasis contributing to endothelial dysfunction and atherogenesis through the activation of Th1 and Th17 cells, which produce proinflammatory cytokines that exacerbate vascular inflammation. Additionally, we identified that the bacteria Chlamydia pneumoniae, Helicobacter pylori, and Porphyromonas gingivalis contribute to the formation of atherosclerotic plaques by promoting chronic inflammation. This review of 80 peer-reviewed primary and secondary papers explores the shared immunological and molecular pathways of psoriasis and atherosclerosis and examines the potential role of psoriasis treatments in mitigating the progression of atherosclerosis by targeting these specific bacteria. Specifically, biologic therapies targeting cytokines TNF-α and IL-17A, commonly used in the management of psoriasis, may also offer therapeutic benefits in reducing atherosclerotic risk by modulating the inflammatory response produced by Chlamydia pneumoniae, Helicobacter pylori, and Porphyromonas gingivalis.

Poster #52: CHICA-D10: Current hyperkalemia interventions co-administered with a dextrose 10% solution significantly lower hypoglycemic rates

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[2.] California Health Sciences University (CHSU), College of Osteopathic Medicine
[3.] University of California San Francisco at Fresno, Department of Emergency Medicine

Abstract:
Background: Current protocols which include the administration of a single dextrose dose concomitantly with insulin are inadequate as hypoglycemia commonly occurs 60 minutes after insulin administration and may persist for up to two hours post-insulin administration. To prevent delayed hypoglycemic events, our institution revised our adult acute hyperkalemia order set to include hypoglycemic preventative measures not currently described in the literature.

Methods: The primary purpose of this retrospective study was to determine if the new adult acute hyperkalemia order set resulted in lower rates of hypoglycemia (glucose < 70 mg/dL) compared to the old order set in patients with impaired renal clearance and lower pre-insulin glucose values. In addition to reducing the IV regular insulin dose from 10 to 5 units, the new order set recommends patients receive a 250 mL dextrose 10% solution over two hours in addition to a 50 mL dextrose 50% IV push concomitantly with IV regular insulin if their pre-insulin glucose is ≤ 250 mg/dL. Patients were included if they were adults, received IV regular insulin from the order set within six hours of presenting to the ED, had a pre-insulin potassium > 5.5 mmol/L, had a pre-insulin glucose ≤ 250 mg/dL, and had impaired renal clearance [creatinine clearance (CrCl) < 30 mL/min or dialysis dependent].

Results: 100 patients were included in each arm. The median pre-insulin potassium levels were 6.4 mmol/L and 6.3 mmol/L in the old and new groups, respectively (p =0.133). The median pre-insulin glucose levels were 120 mg/dL and 107.5 mg/dL in the old and new groups, respectively (p =0.013). Twenty (20%) patients in the old group developed hypoglycemia, whereas six (6%) patients in the new group developed hypoglycemia (p = 0.003). There was no significant difference between the two groups in number of patients who achieved a post-insulin potassium level ≤ 5.5 mmol/L.

Conclusion: Our study found that our approach of additionally administering a 250 mL dextrose 10% solution upon therapy initiation is associated with significantly lower rates of hypoglycemia. Our findings indicate that hypoglycemia rates can be significantly reduced in vulnerable populations if additional preventative measures are employed.

Poster #53: Review of Subcutaneous Insulin Regimens in the Management of Diabetic Ketoacidosis in Adults and Pediatrics

Francisco Ibarra Jr, PharmD[1-3]; Ryan Bae, BS[2]; Bardya Haghighat, BA[2]

Abstract:

Objective: Summarize the studies evaluating the use of subcutaneous (SQ) insulin in the management of diabetic ketoacidosis (DKA) in adults and pediatrics. Data Sources: A PubMed literature search was conducted for articles published between 2000 and the end of May 2024 which contained the following terms in their title: (I) subcutaneous, glargine, or basal and (2) ketoa*. Study selection and data extraction: Review articles, guidelines, meta-analysis, commentaries, studies not related to the acute management of DKA, studies evaluating continuous SQ insulin, animal studies, if the time to DKA resolution was not clearly defined, and studies where basal insulin was administered greater than 6 hours after the insulin infusion was started were excluded. Data synthesis: The electronic search identified 58 articles. Following the initial screening 38 articles were excluded and 3 were added after bibliography review. Of the 23 articles assessed for eligibility, 7 were excluded. Sixteen articles were included. Five studies compared SQ rapid/short-acting insulin and intravenous (IV) insulin infusions in adults, 4 compared SQ rapid/short-acting insulin and IV insulin infusions in pediatrics, 4 evaluated IV insulin infusions with or without SQ basal insulin in adults, and 3 evaluated IV insulin infusions with or without SQ basal insulin in pediatrics. Relevance to patient care and clinical practice: In comparison with IV insulin infusions, rapid/short-acting SQ insulin regimens were associated with reduced ICU admission rates, hospital length of stay, and hospitalization costs. IV insulin infusion regimens that included a single SQ basal insulin dose upon therapy initiation were associated with reduced concurrent IV insulin infusion durations. Conclusion: Studies reviewed suggest that SQ insulin regimens may be as effective and safe as IV insulin infusions in the management of DKA and are associated with the conservation of resources. Providers may refer to this review when establishing or modifying their DKA management protocols.

Poster #54: COMPARISON OF TWO DIFFERENT FIXED-DOSE FACTOR EIGHT INHIBITOR BYPASSING ACTIVITY (FEIBA) REGIMENS IN THE MANAGEMENT OF WARFARIN-ASSOCIATED COAGULOPATHIES

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Abstract:
Background: Warfarin is an oral anticoagulant used to prevent thromboembolisms. In the management of warfarin-associated coagulopathies, prothrombin complex concentrates (PCC) are administered concurrently with vitamin K to rapidly normalize the international normalized ratio (INR) and restore hemostasis. Fixed-dose PCC regimens are increasingly being used in place of standard dosing regimens due to their comparable efficacy. However, the optimal fixed-dose regimen is unknown.

Material and Methods: This is an ongoing retrospective study comparing the study sites' old and new Factor VIII Inhibitor Bypass Activity (FEIBA) dosing recommendations. In the old group, patients received 500 or 1000 units for an INR < 5 or ≥ 5, respectively. In the new group, patients received 1000, 1500, or 2000 units for an INR < 5, 5-9.9, or ≥ 10, respectively. The primary purpose was to determine the number of patients who achieved a post-FEIBA administration INR ≤ 1.5 in the old and new dosing groups.

Results: Preliminary analysis included 18 and 10 patients in the old and new FEIBA groups, respectively. Ten (55.6%) patients in the old FEIBA group achieved a post-FEIBA INR ≤ 1.5, whereas 8 (80%) patients in the new FEIBA group achieved this outcome (p = 0.25). The post-FEIBA INRs were 1.6 in the two patients who did not achieve a post-FEIBA INR ≤ 1.5 in the new FEIBA group.

Conclusions: The new FEIBA dosing recommendations resulted in more individuals achieving the post-FEIBA administration INR goal.

Poster #55: MANAGING SEVERE HYPONATREMIA WITH 8.4% SODIUM BICARBONATE: A FEASIBILITY STUDY

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Abstract:
Purpose of Study: Hyponatremia (defined as a serum sodium level < 135 mmol/L) is an electrolyte disorder resulting from sodium deficits, water excess, or a combination of these conditions. Patients most often are asymptomatic, but some may develop cerebral edema which can lead to mental status changes, seizures, coma, and death. Current standard of treatment for severe hyponatremia (serum sodium level ≤ 120 mmol/L) includes administering a hypertonic sodium chloride (HTS) solution to initially raise serum sodium levels by 4-6 mmol/L. Multiple HTS concentrations and doses can be used to accomplish this, but an initial dose of 100 mL 3% HTS is frequently cited. Despite its widespread use, this approach is associated with medication administration delays and errors related to medication preparation. In comparison, 8.4% sodium bicarbonate (HTB) is commercially available as a 50 mL prefilled syringe and provides the same sodium content as a 100 mL 3% HTS solution. The use of HTB is void of the HTS associated issues and is recognized as a treatment option for managing cerebral edema in neurocritical care patients, but it is not recognized as a treatment option for severe hyponatremia in any guidelines. Therefore, the purpose of this study is to determine the feasibility of administering HTB in patients with severe hyponatremia.

Methods Used: This is an ongoing retrospective study conducted at two sites within a health care system. All study measures and procedures were approved by the local IRB and there are no conflicts of interest to report. The primary purpose of this study is to determine how much a 50 mL solution of 8.4% HTB can increase serum sodium levels. Secondary endpoints include the change in serum bicarbonate, chloride, and anion gap levels following administration of HTB. Patients were included if they ≥ 18 years of age and received a single 50 mL 8.4% HTB dose within 12 hours of presenting to the hospital with a baseline serum sodium level ≤ 120 mmol/L. Patients were excluded if they were pregnant, received HTS during the study period, if post-intervention serum sodium levels were obtained after six hours, or the initial glucose was > 250 mg/dL.

Summary of Results: Preliminary analysis included 41 patients. The median (interquartile range, IQR) baseline serum sodium, bicarbonate, chloride, and anion gap levels were 116 mmol/L (115-118.5), 18 mmol/L (14-20.5), 90 mmol/L (83-94), and 8 mmol/L (5.5-13), respectively. The median (IQR) change in serum sodium, bicarbonate, chloride, and anion gap levels following administration of HTB were 4 mmol/L (1.5-5), -1 mmol/L (-5.5 to 3), 1 mmol/L (-48.5 to 3), and 0 mmol/L (-3.5 to 4.5), respectively.

Conclusions: Administering 50 mL of a 8.4% HTB solution raises serum sodium levels approximately 4 mmol/L and meets current severe hyponatremia management recommendations. Future studies should compare HTB and HTS in the management of severe

hyponatremia.

Poster #56: Exploring the Gut Microbiome in Type 1 Diabetes: Integrating Technology for Improved Diabetes Management

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California Health Sciences University, College of Biosciences & Health Professions
California Health Sciences University, College of Osteopathic Medicine

Abstract:
Gut microbial health is important for human health. Plethora of studies reported alteration in gut microbial flora in diseased state. Type 1 diabetes (T1D) has been linked to the composition of gut microbiota, emphasizing the role of dysbiosis and gut permeability in disease progression. The leaky gut hypothesis and immune responses have comprehensively defined the pathogenesis of the autoimmune disease. Scientists reported gut microbial changes in advancement of T1D and their role in disease progression. Through the changes in intestinal permeability, we explore diet, fecal matter transplants, and probiotics to halt disease progression through the restoration of the normal gut flora. Advances in human and animal identification of microbial communities associated with T1D have offered insight into therapeutic measures. These emerging therapeutics are contrasted and discussed throughout this review for personalized treatment in T1D. By incorporating the maintenance of normal glycemic index, this analysis utilizes microbiome databases, integrative nutritional applications, and artificial intelligence (AI) for future personalized therapeutic interventions.

Poster #57: Exploring the Next Generation of Parkinson's Management

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Abstract:

Introduction/Background: Parkinson's disease (PD) is a progressive neurodegenerative disorder characterized by dopaminergic neuronal loss and both motor and non-motor symptoms. While traditional therapies like dopamine agonists and MAO-B inhibitors offer symptomatic relief, they do not halt disease progression. This review investigates emerging pharmacological strategies aimed at neuroprotection, mitochondrial repair, alpha-synuclein clearance, and circuit restoration. The goal is to identify next-generation therapies that may modify the disease course and improve patient outcomes.

Methods: A comprehensive literature review was conducted using PubMed/MEDLINE, Embase, Web of Science, Scopus, and ClinicalTrials.gov for studies between 2000–2025. Search terms included "Parkinson's disease" AND (pharmacotherapy, therapeutics, neuroprotection, gene therapy, clinical trials, disease-modifying). PRISMA guidelines were followed for inclusion criteria.

Results: Emerging therapeutics include GLP-1 receptor agonists (Exenatide, Liraglutide) which reduce oxidative stress and enhance neuroinflammation control, and lysosomal enhancers (Ambroxol, Butanetap) promoting α-synuclein degradation. Gene-targeted therapies like LRRK2 inhibitors are in trials for mitigating lysosomal dysfunction. Novel dopaminergic agents such as ABBV-951 and ND0612 aim to reduce OFF-time without inducing dyskinesias. Other directions include antioxidant therapies, PPARγ agonists, JAK/STAT modulators, and regenerative options like stem cell–derived bemdaneprocel for dopaminergic neuron replacement. Challenges such as blood brain barrier permeability and dosing optimization remain barriers to effective long-term disease modification.

Conclusion: While traditional treatments focus on dopamine replacement, the next frontier of PD management lies in multi-modal strategies targeting disease mechanisms at the cellular and molecular level. These approaches hold promise for modifying disease progression and achieving durable motor and non-motor improvements.

Poster #58: TALE OF 2 INFECTIONS: VALLEY FEVER AND TUBERCULOSIS IN A VULNERABLE PATIENT

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[1] Adventist Health Tulare Internal Medicine Residency Program, [2] Adventist Health Tulare Internal Medicine Residency Program

Abstract:
Introduction: Valley fever is a fungal infection caused by either Coccidioides immitis or Coccidioides posadasii which is endemic to southwestern united states especially Arizona and California [1]. Tuberculosis is an infectious disease caused by Mycobacterium tuberculosis [2,3]. Both disease processes involve lungs primarily but can become disseminated regardless of immune status of the patient although more so in immunocompromised patients.

Although rare, coinfection has been reported in the literature with immunocompromised individuals being at a greater risk [4]. Taking detailed history is essential in such cases to establish association with endemic areas, sick contacts and immune status of the patient so high-risk patients can receive adequate workup.

Case Presentation: A 37-year-old immigrant male patient with history of uncontrolled diabetes mellitus, valley fever and past smoker presented to emergency department with persistent dizziness, dyspnea, hemoptysis, chronic headaches, chronic dysuria and severe unintentional weight loss (80–90 lbs.). He was diagnosed with Coccidioidomycosis 3 months prior and was taking fluconazole. Despite therapy, his symptoms progressively worsened.

Patient was noted to be severely cachectic with temporal wasting (BMI 20.43 kg /m^2). Imaging was significant for fungal balls, worsening of bilateral pulmonary infiltrates and a prostate abscess.

Workup was significant for leukocytosis, anemia, thrombocytosis, hemoglobin A1c 13.0, elevated (1,3) beta –D glucan, positive QuantiFERON TB Gold Plus, Cocci Titer 1:512, positive sputum cultures for acid-fast bacilli (AFB) and positive Mycobacterium tuberculosis (MTB) PCR. Ultrasound-guided prostate fluid aspiration confirmed Coccidioidomycosis. Lumbar puncture revealed Coccidioidomycosis IgG antibodies, while MRI Brain was negative for any acute findings. A nuclear medicine bone scan indicated increased uptake in the thoracic and lumbar spine, though subsequent MRI Spine was unremarkable.

A standard anti-TB regimen (isoniazid, ethambutol, pyrazinamide, rifampin) was initiated for tuberculosis. For fungal co-infection, intravenous amphotericin B was administered for two weeks, followed by maintenance therapy with oral fluconazole 800mg. The patient also underwent cystoscopy with transurethral unroofing of prostate abscess and dysuria resolved with treatment. Appropriate isolation protocol was observed, and three negative sputum cultures were confirmed with county before discharging the patient.

Discussion: Tuberculosis has been increasing in incidence with 2,113 new cases reported in 2023 which is an increase of 15% as compared to 2022 [5]. While Valley fever is endemic to the area, increased prevalence of tuberculosis was noted to be in people born outside the United States.

While coinfection is rare, it should be suspected in individuals who are from coccidiomycosis endemic areas and are currently being treated for one disease process but have persistence of symptoms as they both require different kinds of treatment [6]. Diagnosis of coinfection is particularly challenging due to anchoring bias and similar clinical and radiological presentation of the disease processes [7].

Treatment for Valley fever depends on severity of disease and includes antifungals such as amphotericin B and fluconazole. Treatment of tuberculosis includes an intensive phase and a continuation phase and involves antituberculosis drugs. Patients should also undergo testing for drug resistance if risk factors are present including exposure history, failure of therapy and progression of symptoms despite therapy.

Poster. #59: Investigating the Role of Tumor Microenvironment in Drug Resistance: Implications for Targeted Therapy in Breast Cancer

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California Health Sciences University, College of Biosciences and Health Professions

Abstract:

Introduction and Background: Breast cancer remains one of the most commonly diagnosed cancers worldwide, yet treatment efficacy is significantly limited by drug resistance. Recent studies highlight the tumor microenvironment (TME) as a key driver of this resistance, particularly through mechanisms such as enhanced DNA repair and activation of drug efflux pumps. Our study investigates the TME's role in breast cancer resistance and identifies therapeutic targets that could enhance the effectiveness of current treatments.

Materials and Methods: This study employed a systematic literature review in accordance with PRISMA guidelines. Databases searched included PubMed, Scopus, Web of Science, Cochrane Library, and MDPI using terms such as "tumor microenvironment," "drug resistance," "DNA repair," and "efflux pumps" in breast cancer. Studies were screened for relevance using predefined inclusion and exclusion criteria. Data were extracted using a standardized form and synthesized into thematic categories.

Results and Conclusion: This review found that the tumor microenvironment (TME) contributes to drug resistance in breast cancer by promoting two key mechanisms: increased DNA repair and drug efflux activity. These changes allow cancer cells to survive treatment and reduce drug effectiveness. Additionally, hypoxia and immune suppression within the TME further support resistance and tumor progression. These effects are especially seen in triple-negative and hormone receptor–positive breast cancers. Targeting TME components such as blocking efflux pumps, modulating the immune environment, or reducing hypoxia that may improve treatment outcomes. Future therapies that focus on the TME may help overcome resistance and lead to more effective, personalized care.

Poster #60: Improving Colorectal Cancer Screening in the Central Valley: Overcoming Barriers Through Patient Education and Awareness

Hailey Jenkins, Eeman Khan, Lakshyaa Balakrishnan Omid Dehghan, Nitan Kumar, Jacob Afable, Sanamjit Singh, Fernando Teixeira, MD, MSc, Sara Goldgraben, MD, MPH, MBA

Abstract:
Colorectal cancer (CRC) is a significant public health concern, with screening playing a vital role in reducing morbidity and mortality. However, disparities in screening persist, particularly in underserved regions such as the Central Valley of California. This study aims to identify barriers to CRC screening within a specific population of the Central Valley and evaluate whether patient education can improve screening rates. The literature review identifies key barriers including cultural factors, financial constraints, and informational barriers (i.e., language, mistrust in healthcare, and lack of awareness), particularly among African American and Hispanic populations. This study follows a SMART Aim methodology in its implementation.

Specific: UHC Visalia patients
Measurable: Aim to measure the increase in Fecal occult Blood test kits given out at the Visalia UHC clinic for all eligible patients before and after educational intervention.
Attainable: Increased participation will result from a targeted multimedia intervention of UHC Visalia patients.
Relevant: CRC is the second leading cause of cancer-related deaths in the United States. Although preventable, screening rates fall under the threshold set by the state of California.
Timely: The research project will be completed over the course of PRHS class.

An educational PowerPoint presentation at the UHC Visalia clinic was designed to increase patient awareness of CRC screening options and their importance. A longitudinal, quasi-experimental design study was implemented. This research study compared screening rates over a 12-month period. We designed a bilingual multimedia tool to assess CRC screening rates at UHC Visalia. Implementation of this tool will complement screening rates as measured in the 2025-2026 calendar year. The goal of this study is to create a broader reach for CRC screening across all 33 UHC clinics.

Poster #61: Proteinuria which defied diagnosis - A rare finding on biopsy - Fibrillary Glomerulonephritis

Hasham Masood Qureshi, MD [1], Dhayanithi Dhayalan, MD [2], Sandhia Masood Qureshi, MBBS [3], Ayesha Sattar Almani, MD [4], Mercury Lin, MD [5], Abinaya Rajendran, MBBS [6].

[1] Adventist Health Tulare Internal Medicine Residency Program, [2] Nephrology, Adventist Health System, [3] LUMHS, Pakistan, [4] Mercy Health Family Medicine Residency Program Wisconsin, [5] Pathology, Cedars Sinai Medical Center, [6] Pondicherry Institute of Medical Sciences

Abstract:

Introduction

Fibrillary glomerulonephritis (FGN) is a rare primary form of glomerular disease, with no specific standardized treatment. The diagnosis can be established only by renal biopsy. Initially considered as idiopathic, it was found to have a strong association with malignancy, autoimmune disorder, HIV and hepatitis C infections. We present the clinical presentation, diagnostic process, and management of an elderly male with stable CKD who developed suddenly worsening proteinuria with unidentified cause.

Case Presentation

A 70-year-old male with diabetes mellitus, hypertension, hyperlipidemia, and CKD stage G1A2 attributed to diabetic kidney disease and hypertensive nephropathy had a follow up visit. His renal function had been stable with microalbumin-to-creatinine ratio (MCAR) <1000.

Daily medications included Lisinopril, Dapagliflozin and Finerenone. Laboratory results during this visit showed a notable rise in MCAR : 2700 and a protein-to-creatinine ratio (Pr/Cr) of 3800. No acute illness was identified in recent medical history. DM and HTN remained well controlled. Renal US revealed kidney sizes consistent with age and height.

A comprehensive proteinuria workup including PLA2R Ab, ANA, dsDNA, C3 and C4, HIV, RPR, Hepatitis B and C were negative. However, SPEP showed a faint M spike and elevated Kappa/ Lambda ratio :1.9.

Renal biopsy confirmed FGN with monotypic IgG1-lambda deposits, mild diabetic glomerular injury and mild arterial and severe arteriolar nephrosclerosis. Also, DNAJB9 positivity was confirmed.

The treatment plan was modified to specifically address the type of kidney damage, with monitoring of kidney function and proteinuria levels to measure disease progression.

Discussion

Fibrillary glomerulonephritis (FGN) is a rare disorder with 0.6% - 1% positive biopsies1. It is

characterized by disorganized fibrillary deposits in the glomeruli, measuring 10 - 30 nm in diameter with deposits of IgG and light chains and can be associated with malignancies and autoimmune diseases2.

Clinically, patients have proteinuria, hematuria, hypertension and renal impairment, exhibiting nephrotic syndrome2. Due to the association with malignancies, particularly multiple myeloma, it is important to screen for secondary causes at the initial evaluation3.

Renal biopsy can reveal fibrillar deposits. Light microscopy shows glomerular hypercellularity, and immunofluorescence microscopy shows staining for IgG and complement component 4. Electron microscopy is confirmatory for diagnosis, revealing the non-branching fibrillar deposits. The recent introduction of DNAJB9 immunohistochemistry has improved diagnostic accuracy, allowing better differentiation from other similar conditions, such as immunotactoid glomerulonephritis5.

Management remains challenging due to its rare occurrence and a lack of standardized treatment protocols. Rituximab, an anti-CD20 monoclonal antibody, has shown to be effective in some cases, especially in association with monoclonal gammopathy6. However, the overall prognosis for patients with FGN remains poor, with studies showing that approximately 50% of patients may progress to end-stage renal disease within four years of diagnosis2.

Currently, there are no universally accepted guidelines for the management of FGN.

In summary, FGN is a complex renal disease with a multifactorial etiology and a challenging clinical course. Further research and a thorough understanding of its clinical presentation, diagnostic criteria, and management options is necessary for optimizing patient outcomes.

Poster #62: To Immune Suppress or Not to Suppress? IBD Colitis with concurrent CMV Viremia and Norovirus infection

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Abstract:
Introduction: Inflammatory bowel disease (IBD) is a chronic condition characterized by inflammation of the gastrointestinal tract, often leading to debilitating symptoms such as diarrhea. This case report describes an immunocompetent patient with newly diagnosed IBD who presented with severe diarrhea and was found to have concurrent cytomegalovirus (CMV) viremia and norovirus infection. The management of this patient was further complicated by the need for colon decompression and the limitations on corticosteroid therapy due to the active viral infections.

Case Description: A 40-year-old woman with no prior medical history was admitted for severe abdominal pain, bloody diarrhea, nausea, and vomiting, initially misdiagnosed as hemorrhoids. CT imaging indicated colonic wall thickening, and stool tests confirmed norovirus, raising concerns for inflammatory bowel disease (IBD). She also tested positive for CMV viremia. Due to active viral infections, standard IBD treatments were avoided, and she was managed conservatively. Despite improvement with Valacyclovir and mesalamine, a flexible sigmoidoscopy revealed early signs of IBD. We repeated PCR in 1 week to monitor response and later started steroids which helped improve the patient's symptoms. Ultimately, she required transfer to a specialized IBD facility for further management, highlighting the complexities of treating overlapping infections and IBD. We continued to follow the patient while at an outside facility. She was on steroids and develpoed CMV colitis and later had a colectomy with ileostomy. It left us with the question of what would be the best approach to manage a patient with IBD with concurrent viral infections.

Discussion: The patient, a previously healthy adult, presented with acute diarrhea and was diagnosed with IBD following comprehensive evaluation. Laboratory tests confirmed CMV viremia and norovirus, both of which are known to aggravate gastrointestinal symptoms and complicate the clinical management of IBD 1,2. CMV is particularly concerning in IBD patients, as it may lead to colitis and further immunosuppression, while norovirus is a common cause of viral gastroenteritis that can result in dehydration and electrolyte imbalances 3. The decision to avoid corticosteroid treatment was important; although steroids are effective for managing IBD flares, their immunosuppressive effects could worsen the patient's viral infections, leading to severe complications 1. The requirement for colon decompression due to severe colonic distension further complicated the clinical scenario, which made it necessary to maintain a careful balance between managing IBD symptoms and addressing the viral infections. Future research should focus on developing evidence-based guidelines for the management of IBD patients with viral co-infections, aiming to optimize patient outcomes while minimizing the risks associated with corticosteroid therapy. Regarding our experience with the patient, the take home point is that active IBD can be treated with steroids after management of viremia. Does

immunosuppression during acute infectious colitis worsen or stabilize the patient ? This is the question that is yet to be answered.

Poster #63: Ascites - Suspected carcinomatosis with surprising finding - A story about Disseminated Coccidioidomycosis

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Abstract:
Coccidiomycosis is a dimorphic fungus endemic to Southwestern US and Northern Mexico which commonly causes a self-limiting lung disease. Extra-pulmonary manifestations are exceedingly rare. This report highlights an uncommon extra-pulmonary manifestation in peritoneum, with only 36 cases reported in literature1. A 58 year old male from California presented to the hospital with progressive abdominal distention and nausea for 2 weeks. He also reported intermittent fever, night sweats and appetite changes for 3 months, along with two facial lesions that did not respond to trimethoprim-sulfamethoxazole 10-day course.

CT imaging revealed extensive ascites and omental infiltration, while a chest CT showed mediastinal and hilar lymphadenopathy. Initially suspected to have an abdominal malignancy, an omental biopsy was ordered. Ascitic fluid analysis showed 2,100 WBCs, with 37% eosinophils and 51% lymphocytes. The Serum Ascites Albumin Gradient (SAAG) was <1.1, total protein was >2.5, and PMNs were >300 in the ascitic fluid. Colonoscopy and esophagogastroduodenoscopy (EGD) were unremarkable.
Further testing, including alpha-fetoprotein (AFP), carbohydrate antigen 19-9 (CA 19-9), and carcinoembryonic antigen (CEA), returned normal results, and the tuberculosis QuantiFERON test was negative. However, the IgE level was elevated at 1,088 IU/mL. Given the early symptoms of systemic fatigue, fever, cutaneous lesions, and now abdominal distension, coccidioidomycosis was considered. Surgical consultation was requested for a possible omental biopsy, and a repeat diagnostic paracentesis was performed first and cytology showed positive fungal block, abundant eosinophils presence, spherules and endospores consistent with coccidioides. The patient was subsequently started on fluconazole at a dosage of 800 mg daily and discharged with a prescription for six months. He will be followed up outpatient by his primary care physician.

Coccidioides is a genus of dimorphic fungi that exist as mycelia or spherules. C Immitis is most commonly found in California. The infectious particles of Coccidioides are deposited in the lungs when inhaled and transform into spherules. which may leave the lung to set up an extrapulmonary infection in susceptible patients, mostly immunocompromised. In patients with ascites, due to disseminated cocci the diagnosis can be based on standard peritoneal fluid analysis. A SAAG less than 1.1 is strongly suggestive of an etiology other than portal hypertension. Ascites in this context may cause significant morbidity if not diagnosed and treated promptly2. The omental infiltration and eosinophilic predominance in the paracentesis fluid emphasize the importance of further diagnostic evaluation to distinguish between infections and malignancies 3,4 . This case highlights that disseminated coccidioidomycosis can occur even in immunocompetent individuals, although specific risk factors, such as ethnicity and geographic location, increase susceptibility 5,6. Rapid diagnosis via cytology can facilitate timely antifungal therapy, which is crucial for patient outcomes7. Recognition of systemic symptoms

and atypical presentations in endemic regions is essential for effectively managing and treating this infection 8.

Poster #64: Lifestyle Medicine as a Catalyst for Cost Reduction: Chronic Disease Case Series

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Abstract:
Background: The rising cost of managing chronic metabolic diseases reflects escalating medication dependence. Lifestyle medicine offers an evidence-based, cost-effective solution by targeting root causes. This case series demonstrates how comprehensive lifestyle interventions can improve clinical outcomes, reduce pharmaceutical costs, and enhance quality of life in adults with chronic metabolic conditions.

Methods: A retrospective review was conducted on two male patients in their 50s who completed a 13-month lifestyle medicine program led by a board-certified endocrinologist. Patient A presented with obesity (BMI 38.4), obstructive sleep apnea, hypertension, hypertriglyceridemia , and secondary hypogonadism. He was on metoprolol, fenofibrate, testosterone therapy, and carried a GLP-1 receptor agonist prescription that hadn't been initiated. Patient B was overweight (BMI 28.0) with long-standing type 2 diabetes complicated by neuropathy and a chronic foot ulcer that was under evaluation for possible amputation. His regimen included wound care, antibiotics, metformin, and 4-5 daily insulin injections. Both patients adopted a whole-food, plant-based diet, structured exercise, targeted supplementation, and regular physician follow-ups. Additional components included goal setting, body composition analysis, sleep optimization, and stress management. The outcomes assessed were post-lifestyle intervention costs, cardiometabolic markers, and patient-reported well-being.

Results: Patient A's projected pharmaceutical costs dropped from $20,131.96 to $384.61 after lifestyle interventions (98.1% reduction). Patient B's projected pharmaceutical costs dropped from $18,892.59 to $10,002.38 after lifestyle interventions (47.1% reduction). Patient A experienced a 53.8% reduction in triglycerides (461 to 213 mg/dL), 17.4% weight loss (278.5 to 230.0 lbs), 17.2% BMI reduction (38.4 to 31.8), and blood pressure control on minimal medication, which were all achieved without GLP-1 therapy. He discontinued testosterone therapy with normalization of testosterone levels. Patient B experienced a 43% reduction in HbA1c (11.8% to 6.7%), 14% weight loss (240 to 206 lbs), and 12.7% BMI reduction (28.0 to 24.4). He discontinued insulin therapy and experienced complete healing of his chronic foot ulcer, avoiding amputation and preserving functional mobility. While not factored into the pharmaceutical cost analysis, amputation avoidance represents profound economic benefits. Both patients reported significant improvements in energy, mood, sleep, self-image, and quality of life.

Conclusion: This case series highlights the power of lifestyle medicine to reduce pharmaceutical costs, improve clinical outcomes, and prevent complications. These findings support its

adoption as a scalable, patient-centered, and cost-effective approach for long-term management of chronic metabolic disease.

Poster #65: 8.4% Sodium Bicarbonate vs. 3% Sodium Chloride in the Management of Severe Hyponatremia

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Abstract:
Severe hyponatremia (sodium ≤120 mmol/L) can cause cerebral edema, leading to mental status changes, seizures, or coma. Current treatment includes administering 100 mL of 3% sodium chloride (3% NaCl) to raise sodium levels by 4–6 mmol/L. However, this method is prone to preparation errors and delays. Alternatively, 8.4% sodium bicarbonate (8.4% NaHCO3), available as a 50 mL prefilled syringe, provides an equivalent sodium load without these issues. While 8.4% NaHCO3 is recognized for treating cerebral edema, it is not included in severe hyponatremia guidelines. This study compares the effectiveness of 8.4% NaHCO3 and 3% NaCl in managing severe hyponatremia.

This ongoing retrospective study, IRB-approved, involves two healthcare sites. Patients ≥18 years with baseline sodium levels ≤120 mmol/L who received a single dose of 8.4% NaHCO3 (50 mL) or 3% NaCl (100 mL) within 12 hours of hospital presentation were included. Exclusions were pregnancy, receiving both interventions, delayed post-intervention sodium measurements (>6 hours), or initial glucose >250 mg/dL. Primary outcomes include changes in sodium levels; secondary outcomes include changes in bicarbonate, chloride, and anion gap levels.

Preliminary analysis included 20 patients in each group. Median (IQR) baseline sodium was 117 mmol/L (115–119) for 8.4% NaHCO3 and 114 mmol/L (111.3–116.8) for 3% NaCl (p=0.006). Median (IQR) sodium changes were 4 mmol/L (1.25–4.75) for 8.4% NaHCO3 and 1.5 mmol/L (0–4.5) for 3% NaCl (p=0.102). Median bicarbonate change was -1 mmol/L (-4 to 3) for 8.4% NaHCO3 and -19 mmol/L (-24.5 to -0.5) for 3% NaCl (p=0.002). Median chloride change was 2 mmol/L (-14.5 to 4) for 8.4% NaHCO3 and -80.5 mmol/L (-86.5 to -2.5) for 3% NaCl (p=0.04).

Preliminary findings suggest that 50 mL of 8.4% NaHCO3 raises sodium levels comparably to 100 mL of 3% NaCl while minimizing administration delays and disturbances in bicarbonate and chloride levels. Providers may consider 8.4% NaHCO3 as an alternative to 3% NaCl for managing severe hyponatremia.

Poster #66: Comparative effectiveness of three potassium exchangers in the acute management of hyperkalemia: sodium zirconium cyclosilicate, sodium polystyrene sulfonate, and patiromer

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Abstract:
Hyperkalemia is a serious electrolyte abnormality defined as a serum potassium level > 5.5 mmol/L. Patients with mild hyperkalemia may remain asymptomatic, whereas patients with severe hyperkalemia may experience life-threatening cardiac arrhythmias, muscle weakness, and paralysis. Pharmacological management of hyperkalemia includes the administration of agents to stabilize cardiac membranes (i.e. calcium gluconate), transiently shift potassium from the extracellular to intracellular space [i.e. intravenous (IV) regular insulin], and potassium exchangers. Potassium exchangers effectively remove potassium from the body via increasing fecal potassium excretion, but their relatively delayed onset of action has limited their use in the acute management of hyperkalemia. However, they should be administered in the acute management of hyperkalemia as their potassium lowering effects may be additive and prevent rebound hyperkalemia which may occur once the effects of agents used to temporarily drive potassium into cells wears off. The three potassium exchangers currently approved for the management of non-acute hyperkalemia are sodium polystyrene sulfonate (SPS), sodium zirconium cyclosilicate (SZC), and patiromer (PMR). Few studies have evaluated the role of these agents in the acute management of hyperkalemia and it remains unknown how these agents compare to one another. Consequently, providers may be unaware of which agent to prescribe.

Poster #67: Maximizing Neuroplasticity after ischemic stroke by Rehabilitation: Role of Mediators

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#These authors contributed equally to the paper

Abstract:

Ischemic stroke, caused by an obstruction in cerebral blood flow, often leads to motor, sensory, and cognitive impairments that significantly impact quality of life. Neuroplasticity, the brain's ability to reorganize itself by forming new neural connections, plays a critical role in post-stroke recovery. Rehabilitation therapies leverage neuroplasticity to improve functional outcomes, but their effectiveness depends on factors such as timing, intensity, and individual variability. This study explored the role of neuroplasticity in stroke rehabilitation and the molecular factors that mediate recovery. A comprehensive literature search was conducted using PubMed and Google Scholar for studies published between June 2024 and December 2024, focusing on neuroplasticity, stroke rehabilitation, and biochemical factors in recovery. Keywords included "ischemic stroke rehabilitation," "neuroplasticity post-stroke," "rehabilitation-induced neuroplasticity," and "molecular factors in stroke recovery." Findings indicate that rehabilitation promotes neuroplasticity by remodeling neural circuits, enhancing synaptic efficacy, and recruiting alternative pathways to compensate for damaged brain regions. Functional reorganization occurs through experience and use dependent plasticity, as seen in repetitive exercises used in physical, occupational, and cognitive therapy. Physical therapy improves motor pathways through task-specific movements, while occupational therapy restores daily functional skills by reinforcing adaptive neural mechanisms. Cognitive training further supports cortical reorganization by enhancing memory, attention, and executive function. However, while higher-intensity physical therapy improves functional outcomes and reduces hospital stays, extending the duration of therapy in acute settings offers limited additional benefits, highlighting the need for patient-specific optimization. Rehabilitation also stimulates the release of molecular factors and neurotransmitters that enhance neuroplasticity. Neurotransmitters such as acetylcholine, dopamine, serotonin, and glutamate facilitate synaptic remodeling, promote neuronal survival, and influence cognitive functions like learning and memory. Additionally, factors such as exercise enhance these effects, improving neural connectivity and brain function. Ultimately, rehabilitation enhances post-stroke recovery by promoting neuroplasticity and modulating key molecular pathways. Understanding the interplay between rehabilitation strategies and neuroplastic mediators may help optimize individualized treatment protocols, leading to better functional outcomes.

Poster #68: Gene Therapy for Wet Age-related Macular Degeneration

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Abstract:
Age-related macular degeneration (AMD) is the fourth leading cause of blindness in older adults and is estimated to affect 8.7% of the global population. The neovascular, or exudative ("wet"), form of the disease currently requires long-term treatment with intravitreal anti–vascular endothelial growth factor (VEGF) pharmacotherapy, resulting in a high treatment and office visit burden experienced by patients and their caregivers.

Financial costs of neovascular AMD (nAMD) are significant, ranging between $8,814 and $23,400 per year, or $32,491 to $70,200 after 3 years of treatment, according to recent analyses. Accordingly, several gene therapies are being explored in clinical testing as potential options to help mitigate the need for frequent injections and potentially curb long-term costs associated with chronic intravitreal injection (IVI) therapy.

Recently, there have been several promising updates from clinical trial programs exploring the role of various gene therapies in nAMD. As gene therapy research continues to expand within the nAMD space, major factors should be considered, including long efficacy and durability of the therapeutic payload, safety profile, and overall expenditures to the health care system.

Poster #69: Symptomatic PAPVR Diagnosed after Extensive Invasive Surgical History

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Abstract:
Partial Anomalous Pulmonary Venous Return (PAPVR) is a rare congenital cardiovascular anomaly in which one or more pulmonary veins drain anomalously into the right atrium or systemic venous circulation instead of the left atrium. This creates a left-to-right shunt that may remain asymptomatic for years but can progressively lead to right heart volume overload, pulmonary hypertension, arrhythmias, and ultimately right-sided heart failure. We present a unique case of a 66-year-old male with a complex post-transplant history, including two deceased donor liver transplants, who was ultimately diagnosed with PAPVR after the onset of exertional dyspnea, pleuritic chest pain, pulmonary hypertension, and atrial flutter. Notably, the anomaly went undetected despite numerous imaging studies and surgical interventions, including workup for two deceased donor liver transplant surgeries. This case emphasizes the importance of maintaining a broad differential diagnosis in patients with unexplained pulmonary hypertension and right heart dilation, especially in those with long-standing medical complexity. It also highlights the potential for PAPVR to remain clinically silent for decades, even in hyperdynamic states, and the need for high clinical suspicion when evaluating adult-onset cardiopulmonary symptoms.

Poster #70: Ostomy Reversal in Patients with Metastatic Gastric Carcinoma

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Abstract:
Gastric carcinoma remains a significant global health concern, with over 1.08 million new cases and approximately 769,000 deaths reported worldwide in 2020. Due to complications, bowel obstructions are frequent and often alleviated with a permanent diverting ostomy. The current standard of care is to avoid ostomy reversal due to the poor prognosis associated with gastric carcinoma; however, with ongoing advancements in oncologic treatment and improved patient outcomes, reversal may be appropriate in select cases. This case report highlights a patient who received a palliative diverting ostomy for metastatic gastric cancer, now showing no evidence of disease on interval imaging. This scenario presents a unique challenge in medical decision-making, as there are no established guidelines for patients with metastatic gastric cancer who achieve remission following a palliative ostomy. The rarity of such cases—where metastatic disease regresses to the point of potential curative intervention—reflects a gap in current research and clinical standards. As oncologic therapies continue to advance, there is a growing need to revisit existing protocols and develop evidence-based guidelines for ostomy reversal in this emerging patient population.

Poster #71: Microvascular Decompression of the Medulla: A Case Study and Review of Surgical Options

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Abstract:
Introduction: Microvascular decompression (MVD) is a well-established surgical intervention for neurovascular compression syndromes, including trigeminal neuralgia, hemifacial spasm, and glossopharyngeal neuralgia. Vertebral Artery Compression Syndrome (VACS) is a rare condition in which the vertebral artery exerts pathological compression on the medulla, leading to a spectrum of debilitating neurological symptoms. While MVD is a well-documented treatment for common cranial nerve compression syndromes, its application in relieving medullary compression due to VACS remains less explored.

Case Presentation: A 49-year-old female presented with headache, dizziness, vertigo, blurry vision, diplopia, pulsatile tinnitus of the left ear, a sensation of a lump in her throat, hoarseness, left hemiparesis, and issues with balance. Preoperative imaging identified a tortuous, right intradural vertebral artery segment with mass effect and deformity of the right ventral medulla. Surgical approach with microvascular decompression of the medulla and transposition of the vertebral artery led to significant symptomatic relief. Postoperatively, the patient demonstrated marked improvement of symptoms.

Discussion: Clinical presentation of VACS is complex and symptomatology can be widespread due to the nature of the posterior fossa anatomy. This case highlights the efficacy of MVD with transposition in alleviating symptoms of medullary compression. A review of the literature supports the feasibility of MVD in select cases, though further research is necessary to establish standardized guidelines.

Conclusion: Advancing the management of VACS will continue to require expanding the evidence base through case reports and clinical studies. By continuing to refine our understanding and approach, we can improve outcomes for patients inflicted by this condition.

Poster #72: Metastatic Spinal Cord Compression Secondary to Prostatic Adenocarcinoma: A Case Report on Functional Outcomes in Inpatient Rehabilitation

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Abstract:
Prostate cancer is the most frequently diagnosed malignancy among men worldwide. Bone is the most common site of metastasis, specifically the axial skeleton. This case discusses a 68-year-old male with a history of prostate cancer who presented to the emergency department with complaints of progressively worsening mid and lower back pain with radiation to the mid and upper abdomen. The back pain had begun approximately four months prior and was previously managed with rest and acetaminophen. The patient's condition deteriorated a few weeks before visiting the emergency department, rendering him unable to lie in the supine position upon admission. Magnetic resonance imaging (MRI) displayed abnormal signal changes consistent with metastatic disease throughout the mid and lower thoracic vertebral bodies, with partial destruction and an extraosseous tumor partially compressing the thoracic cord in the spinal canal. The patient underwent T8 laminectomy for tumor resection and T6-11 fusion with instrumentation. The pathology report confirmed metastatic prostatic adenocarcinoma. After being evaluated by physical therapy, he was deemed an appropriate candidate for acute rehabilitation due to decreased strength in the right lower extremity and gait impairment. The patient was admitted to an inpatient rehabilitation facility with at minimum three hours of combined physical therapy and occupational therapy daily along with 24-hour skilled rehabilitation nursing under the supervision of a physiatrist. Considerable improvements in regaining his ability to perform activities of daily living were demonstrated during this stay. The patient's functional outcomes are assessed and discussed, illustrating the role of rehabilitation in restoring quality of life.

Poster #73: Reducing Gaps in Post-Hospitalization Mental Health Follow-Up Through Barrier Analysis

Kiana Nouri, Alex Cha, Tanvi Chitre, Dinah D'Silva, Brett Hughes, Allan Li, Julie Moon, Veda Reddy, Soha Said, Krishma Uppal, Dr. Mohammad Rahman, Dr. Geni Perryment (in alphabetical order)

Abstract:
Timely post-hospitalization mental health follow-up is essential for patient recovery, yet many individuals in California's Central Valley face significant barriers to accessing these services. Cultural, socioeconomic, and educational factors contribute to these challenges, particularly within the Hispanic community. Language barriers, stigma, lack of transportation, and financial constraints often prevent patients from attending follow-up appointments. Studies have shown that culturally competent healthcare, community health workers, and technological solutions such as telehealth can help mitigate these barriers. This study aims to identify the key factors preventing patients from attending 3- and 7-day post-hospitalization mental health follow-up appointments at Omni Health. We used a cross-tabulation statistical analysis focused on the Omni population in Bakersfield to compare various demographics against follow-up appointment compliance, and to identify significant barriers that impact follow-up adherence. Our analysis of a sample size of 164 yielded the following results. In regards to sex, females are more likely to be compliant at 57% and adhere to their post-hospitalization follow up visits, compared to males at 43% compliance. For age, individuals under 25 have the lowest compliance at 66.7%, while those aged 55+ have the highest compliance at 91.7%. In terms of race, African American individuals had the lowest compliance at 68.8%. Hispanic patients were compliant at a rate of 80% and white patients had the highest compliance at 75%. For education, there was a higher compliance of 75% among college educated individuals in comparison to the 67% compliance rate of individuals with only a high school diploma. Lastly for location, patients in Bakersfield had a lower compliance of 74% compliance rate compared to 84% for individuals outside of Bakersfield. Thus, our findings highlight opportunities to develop targeted strategies for improving follow-up retention. Based on our literature review and analysis of OMNI Family Health's data, we propose improving cultural competency and the use of technology could be beneficial in improving patient outcomes. Furthermore, despite Bakersfield's large Asian population, we did not receive any data about Asian patients, so future studies could seek to include that information as well. Implementing culturally competent and age-appropriate interventions has the potential to improve mental health among the diverse populations which Central Valley FQHCs such as OMNI Family Health strive to serve.

Poster #74: When Treatment Becomes Threat: A Rare Case of Chemotherapy-Induced Enteritis

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Background: Gastrointestinal manifestations, such as colitis, are well-established adverse effects of 5-fluorouracil (5-FU) chemotherapy. However, enteritis, a less common gastrointestinal toxicity, is infrequently reported. This case highlights the emergence of enteritis as an uncommon complication associated with 5-FU and leucovorin combination therapy, emphasizing the critical need for prompt recognition and management of this side effect in oncology patients undergoing chemotherapy.

Case Description: A 67-year-old male with a history of hypertension, type II diabetes, stage II prostate cancer, and recent partial colectomy for descending colon adenocarcinoma presented with fevers and over 40 episodes of diarrhea in 48 hours while undergoing adjuvant chemotherapy with 5-FU and leucovorin. Stool culture for Clostridium difficile was negative, but fecal calprotectin was elevated. Colonoscopy and imaging revealed erythematous mucosa in the rectum and ulcerations in the terminal ileum, with biopsy confirming acute ileitis. Initially managed for suspected inflammatory bowel disease with azathioprine, sulfasalazine, methylprednisolone, and folic acid, a subsequent review of literature on 5-FU-induced enteritis prompted cessation of azathioprine and sulfasalazine, with transition to a prednisone taper. Within 24 hours, diarrhea frequency dramatically decreased from >10 to <5 episodes per day.

Conclusion: This case highlights the critical need for clinicians to stay vigilant for chemotherapy-induced enteritis in patients on 5-fluorouracil (5-FU) and leucovorin, especially when faced with refractory diarrhea. Swift discontinuation of the causative agents and prompt initiation of corticosteroid therapy are pivotal in managing this rare, yet serious complication, ultimately enhancing patient outcomes and preventing further morbidity.

Poster #75: Pharmacological Options For Managing Burning Mouth Syndrome

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Abstract:
Purpose of Study: Burning mouth syndrome (BMS) is a rare, complex condition without a known etiology and is characterized by a persistent burning sensation in the oral cavity. There is no standardized approach to managing BMS, and providers may be unaware of how to manage their patients appropriately. This review summarizes the pharmacological options available for managing BMS so providers may refer to it when managing patients with BMS.

Methods Used: A PubMed literature search was conducted for articles published between 2000 and 2024 that contained "burning mouth syndrome" in their title. Review articles, guidelines, meta-analyses, commentaries, studies not related to managing BMS, studies not including pharmacological interventions, and animal studies were excluded during the initial screening. The bibliographies of the studies remaining after the initial screening were reviewed for additional articles.

Summary of Results: The electronic search initially identified 743 articles. Following the initial screening, 529 articles were excluded, and 16 were added after the bibliography review. Of the 230 articles assessed for eligibility, 184 were excluded. A total of 46 articles, which evaluated 22 different medications, were included in this review. The most commonly assessed medications were Alpha Lipoic Acid (ALA, n = 9), Clonazepam (n = 8), and Capsaicin (n = 5). Other medications evaluated included: Amisulpride, Amitriptyline, Aripiprazole, Cannabis, Diazepam, Duloxetine, Gabapentin, Moclobemide, Melatonin, Milnacipran, Naltrexone, Olanzapine, Palmitoylethanlamide, Paroxetine, Perispirone, Pramipexole, Pregabalin, Sertraline, and Vortioxetine. In most studies, the visual analog scale was used to evaluate efficacy. ALA (mitochondrial coenzyme with antioxidant and neuroprotective properties thought to stimulate the production of nerve growth factor) was effective in most studies when administered at a total daily dose of 600 mg. Clonazepam (benzodiazepine and GABA-A agonist thought to indirectly moderate trigeminal nerve activation) was found to be effective when administered topically and systemically, with fewer adverse effects observed when administered topically. Clonazepam dosing in the studies reviewed was variable (0.25 to 1.50 mg per day in divided doses). Capsaicin (a compound found in chili peppers that binds and inactivates nociceptors with repeated use) resulted in pain relief when applied topically, but its use was limited by its propensity to cause nausea, dyspepsia, and pain initially. Some of the other medications evaluated provided symptom relief but to varying degrees. The studies assessing combination therapies observed more pain relief after receiving multiple interventions.

Conclusions: Although few studies have evaluated the use of pharmacological agents in the management of BMS, several have demonstrated efficacy, including ALA, Clonazepam, and Capsaicin. Providers may refer to this review when managing patients with BMS.

Poster #76: Posterior Scleritis with Optic Nerve Edema Presenting in a Case of Atypical Cogan's Syndrome

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[2.] Kaiser Permanente-Fresno, California

Abstract:

Introduction:

Cogan's syndrome is a rare autoimmune disease classically defined by interstitial keratitis and audiovestibular dysfunction. Atypical presentations may involve diverse ocular inflammation and auditory symptoms without the hallmark features of interstitial keratitis. This complicates the diagnosis and delays treatment. Early recognition and immunosuppressive therapy are crucial to prevent irreversible complications.

Methods:

We report a case of a 37-year-old woman who presented with bilateral uveitis, posterior scleritis, and optic nerve edema, followed by an onset of bilateral sensorineural hearing loss. A comprehensive workup was performed to exclude infectious and autoimmune etiologies. Treatment response was evaluated following systemic corticosteroids and immunosuppressive therapy.

Results:

The patient initially improved with oral Prednisone; however, symptoms recurred after tapering, leading to a diagnosis of atypical Cogan's syndrome. Positive anti-cochlear (Hsp70) antibodies supported an autoimmune etiology. A second course of steroids led to symptom resolution, and long-term disease control was achieved with Methotrexate. At six months, the patient had a full recovery of vision and hearing without active inflammation.

Conclusion:

This case underscores the diagnostic complexity and relapsing nature of atypical Cogan's syndrome. Multidisciplinary collaboration and early immunosuppressive treatment are crucial for preserving vision and hearing. Clinicians should maintain a high index of suspicion for atypical presentations to initiate timely and aggressive management.

Poster #77: An Informational Wound Care Pamphlet and Survey Administered to the General Population

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Abstract:
California Health Sciences University, College of Osteopathic Medicine
Non-medical CHSU (California Health Sciences University) staff were assessed on their knowledge of basic wound hygiene. Non-medical CHSU staff were provided with an educational pamphlet designed by the research team that detailed wound hygiene specifics including assessment of different wound presentations, early signs of infection, and wound-related emergencies. A pre-survey was distributed to assess initial knowledge of the subject, before reading the educational pamphlet. The survey consisted of ten questions. Afterwards, the study participants engaged in learning from the educational pamphlet. A post-survey was administered after the learning phase to determine the amount of retained information acquired from the learning phase. Participants were then given a post-survey where they were asked to answer the same questions from the pre-survey. The intent of the gathered data is to show improved comfortability and knowledge about wound care practices, such that the educational pamphlet could be used and distributed in a patient care setting. Educational resources used in the creation of the pamphlet include: the CDC website, Harm Reduction Coalitions, Collectives and Overdose Prevention, Association of the Advancement of Wound Care, and National Wound Care Strategy Programme. Participant demographics were collected separately from the pre- and post- surveys. With a larger participant pool and more data, an improved analysis can be conducted to better quantify the improvement of knowledge amongst the participants. Statistical methods were implemented to extrapolate the overall impact and success of the pamphlet in educating the participants regarding overall wound hygiene.

Poster #78: Geriatric Acute Appendicitis

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[1]Kern Medical Simulation Center

Abstract:
Introduction: Acute appendicitis afflicts patients predominantly between 10-30 years old.1 Acute appendicitis is not a common pathological condition afflicting the elderly and was found to be the cause of abdominal pain in only 14% of patients above 50 years old in one study.2 For this simulation, which is based on a real case, an elderly patient presented with abdominal pain and was found to have a ruptured appendix requiring surgery. The signs and symptoms of appendicitis can be vague, which frequently leads to misdiagnosis.3 Acute abdominal pain can be caused by infection, inflammation, or obstruction and is often accompanied with nausea and vomiting. Cost conservative and non-invasive methods to evaluate abdominal pain for appendicitis include assessment scales like the Alvarado Scoring System.4 Imaging strategies such as ultrasound, MRI, and CT scans can be utilized to diagnose acute appendicitis. Surgical intervention for acute appendicitis is one of the most common procedures performed.

Methods: This simulation was implemented as a simulation for EM interns, in lieu of an oral-boards verbal encounter. A standardized patient was utilized, along with a nurse actor. An EM physician and general surgeon observed and the surgeon took the consult at the end of the simulation. Learners were given a pre-brief prior to the simulation and were debriefed upon completion. Learners received feedback on differentials, treatment, and communication with the patient and family, followed by a debrief. Immediate and anonymous electronic surveys gathered feedback on the simulation's quality and educational value.

Summary Of Results: Feedback completed by 4 of 5 interns in the post-simulation survey was generally positive. One intern did not fill out the survey. Everyone present for the simulation felt that it was realistic and provided a unique opportunity to practice resuscitation skills. On a scale from 1-5, three learners rated their overall experience as a 5 and one learner rated it as a 4. Three learners felt that the simulation was educational and rated it as a 5 and one learner rated it a 4. Three learners strongly felt that the simulation should be used for future interns, while one learner was indifferent. Three learners strongly agreed, and one learner somewhat agreed that this was an appropriate case in terms of an intern-level patient encounter. 100% of the learners noted that they did not notify the patient's family nor give them updates about the elderly patient. Three of the learners felt that this simulation gave them a different outlook on how to approach elderly patients and their family members. This case was derived from a real patient that offered their personal background for the case. That patient reported feeling happy with the care implemented but noted that her family did not know the diagnosis and plan. She strongly indicated that she would have liked better physician-to family communication.
Five out of the five learners diagnosed the patient correctly with acute appendicitis. Four of the five learners gave morphine as pain medication and one learner gave fentanyl. Five out of the five learners ordered a CT scan of the abdomen/pelvis to confirm the diagnosis and subsequently consulted general surgery. Two of the five learners gave ceftriaxone via IV before the appendectomy. Performance ratings from the confederate nurse and patient for each of the 5 learners were: 100%, 64%, 82%, 82%, and 92%, using a form adopted from ASPE guidelines. Learners with lower scores were due to a perceived deficiency in communication and education for both the patient and family with comments regarding overall empathetic tone as well.

Discussion: Acute abdominal pain is a frequent presenting concern in the emergency department and, when it presents due to acute appendicitis, quick surgical intervention may be necessary.

Poster #79: Two Stage Treatment to Prevent Postoperative Ventricular Arrhythmias: Bilateral Thoracic Sympathectomy followed by Coronary Artery Bypass Graft and Aortic Valve Replacement

Likitha Y. Aradhyula[1], MS; Heidi J. Reich, MD[2]
[1]California Health Sciences University - College of Osteopathic Medicine, [2]Central California Heart and Lung Surgery

Abstract:
Postoperative ventricular arrhythmias (POVAs) after cardiac surgery are associated with significant mortality and morbidity. Established risk factors include advanced age, low ejection fractions (EF), and prior arrhythmic events. POVA is challenging to treat and correlates with worse clinical outcomes. Thoracic sympathectomy is a widely accepted, but underutilized, treatment option for refractory ventricular arrhythmias, decreasing arrhythmic activity and implantable cardioverter-defibrillators (ICD) shocks. To mitigate POVA in high risk patients, we propose a two stage treatment strategy: bilateral thoracic sympathectomy prior to intended cardiac procedure. Here, we present the first reported successful case of a patient with an EF of 25-30% with resistant ventricular arrhythmias, coronary artery disease (CAD), and aortic insufficiency (AI) who was treated with the two-staged approach of bilateral T1-T4 thoracoscopic sympathectomy and partial stellate ganglionectomy followed by coronary artery bypass graft (CABG), aortic valve replacement (AVR), left atrial appendage closure (LAAC), and temporary left ventricular assist device (LVAD).

Poster #80: Implementing an Elective Deskercise Program to Improve GAD-7 Score

Liu L.[1], Bahaaldin J.[1], Boyles K.[1], Ciari P.[1], Desai N.[1], Insco A.[1], Knapik K.[1], Marroquin U.[1], Goldgraban S.[1], Teixeira F.[1]
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Abstract:
Healthcare workers face stressful situations daily as they try to live as models of good health for their patients. Health crises pull their attention in every direction, leaving them with little time and energy devoted to their own wellness. Ramos-Sanchez et al. establish a direct correlation between anxiety reduction and exercise, ultimately identifying a statistically significant reduction in anxiety when paired with exercise. Reif et al. provided evaluated a wellness program for 4,800 employees and found it positively changed employee beliefs about their mental state and increased care utilization. This study intends to implement a wellness program with Camarena Health, a FQHC, and evaluate the positive health effects on the anxiety levels of their employees. This study will assess self-evaluated anxiety levels as measured by a GAD-7 survey administered monthly during a four-month interval.

Poster #81: Navigating the Gut: A Systematic Review of Gastrointestinal Side Effects of GLP-1 Receptor Agonists

Lorenz Carmelo Guerrero[1], Edwin D Rojas[1], Lynn P Fadel[1], Gigi Thao[1], Tanvi Chitre[1], Maria Nguyen Fricko[1], Valerie Domingo1, Brigita Budginas[2], Maria Ghatas[1], Niloufar T Arani[1], Niki Tabatabai[1], Sudhakar Pemminati[1]
[1]California Health Sciences University College of Osteopathic Medicine
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Abstract:
Glucagon-like peptide-1 receptor agonists (GLP-1 RAs) have emerged as effective agents for glycemic control in type 2 diabetes mellitus (T2DM) and weight management, offering benefits beyond traditional antidiabetic therapies. These incretin-based drugs enhance insulin secretion through cAMP-mediated pathways in pancreatic β-cells and exert widespread systemic effects via receptors distributed across multiple organs. As GLP-1 RAs grow in popularity—driven by clinical efficacy and media-driven trends—concerns regarding their gastrointestinal (GI) safety profile have surfaced. This systematic review, conducted in accordance with PRISMA guidelines, evaluates the GI-related risks of GLP-1 RAs with a focus on semaglutide, liraglutide, and exenatide. Across various international studies, nausea, vomiting, diarrhea, and constipation were the most reported side effects, often dose-dependent and most severe during early treatment. Although early research raised concerns about acute pancreatitis and pancreatic carcinoma, large-scale analyses revealed no significant increased risk to the endocrine pancreas, though rare exocrine cases warrant further investigation. Additionally, semaglutide may carry a potential risk of gallbladder disease and malignancy in a small percentage of patients. Despite these concerns, GLP-1 RAs continue to offer promising therapeutic potential in broader systemic disease contexts, including metabolic liver disease and cardiovascular protection. These findings emphasize the importance of individualized treatment strategies, comprehensive patient education, and long-term safety monitoring to optimize efficacy while mitigating adverse effects.

Poster #82: Identifying Barriers to Comprehensive Diabetes Care and Management

Lynn Fadel[1], Cason Chaffee[1], Sowgol Sadeghi[1], Riley Paredes[1], Anurag Sandhu[1], Connor Pollock[1], Paramveer Bhangu[2], Brigita Budginas[2]
[1]California Health Sciences University College of Osteopathic Medicine
[2]Noorda College of Osteopathic Medicine

Abstract:
Introduction and Background: Diabetes management is influenced not only by clinical care but also by social determinants of health (SDOH), including access to nutritious food, health literacy, income, and transportation. Underserved populations in Merced County, CA, particularly Hispanic and Punjabi communities, face these barriers at higher rates. The aim of this study was to identify and evaluate key social factors that hinder diabetes care in patients served by Golden Valley Health Centers (GVHC).

Methods: We administered a paper-based, multilingual survey to adult patients (age 18+) at GVHC. The survey was designed at a 5th-grade reading level and included Likert-scale and multiple-choice questions to assess food accessibility, socioeconomic status, education, transportation, language barriers, and diabetes self-management behaviors. Both qualitative and quantitative methods were used to analyze the data and identify trends.

Results: Survey data from over 50 participants revealed several key barriers to effective diabetes management. The most frequently reported challenges included increased cost and lack of access to healthy foods, followed by challenges with transportation and access to physical activity resources. In contrast, factors including understanding diabetes medication and remembering appointment times were deemed to be the least significant obstacles.

Conclusion: Addressing SDOH is vital to improving diabetes outcomes in underserved populations. Based on the findings, targeted community involvement, culturally relevant patient education, and increased access to healthcare services are necessary next steps. These interventions have the potential to bridge care gaps and support sustainable diabetes management in Merced County.

Poster #83: Micromanagers of the Mind: Micro-RNAs Role in Neuroplasticity

Maria Huang, Lakshyaa Balakrishnan, Alex Cha, Matthew Hadweh, Brett Hughes, Gisou Mohaddes, PhD
California Health Sciences University College of Osteopathic Medicine

Abstract:
MicroRNAs are key regulators of post-transcriptional gene expression in the nervous system, where they fine-tune gene activity. Highly enriched in neural tissue, miRNAs influence neuroplasticity by modulating processes such as neurogenesis, synaptic remodeling, dendritic growth, and mechanisms like long-term potentiation and long-term depression. This project explores how specific miRNAs contribute to these adaptive changes within the brain.

Poster #84: Tiny RNAs, Major Impact: Micro-RNAs as Mediators of Affective Disorders

Maria Huang, Lakshyaa Balakrishnan, Alex Cha, Matthew Hadweh, Brett Hughes, Gisou Mohaddes.
California Health Science University College of Osteopathic Medicine

Abstract:

INTRO and BACKGROUND

MicroRNAs (miRNAs) are short 22 nucleotide long, non-coding RNA molecules found to play a pivotal role in post-transcriptional gene expression modulation within the nervous system. These imperfect sequence guides fine-tune rather than completely silence gene expression. While some microRNAs have specific targets such as miRNA-122 in the liver and miRNA-124 in the brain, most act on multi-target cells and tissue types with varying expression. More than half of the microRNAs are found to be in the nervous system inhibiting translation and promoting sequestration and degradation of target mRNAs. This paper explores micro-RNAs role in affective disorders through neurogenesis, synaptic plasticity, and long-term potentiation and depression.

MATERIALS and METHOD

This research was conducted utilizing PubMed, Medline, and Google Scholar, with the following keywords and combination: "microRNA", "microRNAs AND neuroplasticity", "microRNAs AND affective disorders", "microRNAs AND dendritic growth", "microRNAs AND neurogenesis", "microRNAs AND synaptic plasticity". Databases were accessed from 07/01/2024 to 12/15/2024.

RESULTS and CONCLUSION

Depression involves many areas of the brain, including the prefrontal cortex, limbic system, dorsomedial thalamus, basal ganglia, and brain stem. More than half of the miRNAs are found to be in the nervous system. Recent research has linked several miRNAs to affective disorders, including miRNA 106a&b, miRNA-15, miRNA-101, and miRNA-323. Future research on microRNAs could offer new insights into the root causes of mood disorders like depression. Understanding how these small molecules influence brain plasticity and stress response may open the door to more targeted and effective treatments. As the field grows, microRNAs have the potential to improve both diagnosis and personalized care in mental health.

Poster #85: Development and Evaluation of Cultural Competency Curriculum in Culinary Medicine at an Osteopathic Medical School

Maria Torres, M.S., RDN, Leena Muhanna, M.S., Natalie Yousef, M.S. (OMS-III), Brian Tran (OMS-III), Fatima Yousef (OMS-III)
California Health Sciences University College of Osteopathic Medicine

Abstract:
Introduction: The incorporation of culinary medicine (CM) into medical education remains underexplored, with only 55 U.S. medical schools including CM curricula as of 2024. Tulane University's "Health Meets Food" curriculum is the most widely used, yet it lacks robust cultural competency training. Cultural sensitivity is essential for effective nutritional counseling, especially for diverse populations such as Latin, Asian, and African Americans, as well as religious minorities like Muslims, Jews, Hindus, and Sikhs. To address this gap, we developed a novel CM curriculum emphasizing cultural competency to better prepare medical students for counseling patients from varied backgrounds.

Background: Chronic diseases are the leading cause of death and disability in the United States, with 80% attributed to lifestyle factors, such as diet. However, most medical students graduate with limited training in nutrition and cultural competency. Culinary Medicine (CM), an evidence-based approach combining culinary arts with medical science, has been shown to enhance physicians' ability to address patients' dietary needs. Incorporating culturally centered CM education can improve students' ability to discuss food preferences, dietary restrictions, and food access issues with patients from diverse backgrounds.

Objectives: This study aims to educate first- and second-year CHSU-COM medical students on evidence-based dietary practices with a focus on cultural competency and coaching skills for diverse patient populations. The curriculum highlights regional cuisines, their historical context, and their relevance to health-focused diets. We hypothesize that the course will significantly improve students' nutrition knowledge, cooking self-efficacy, and cultural competency.

Methods: A 22-item pre-survey and a 29-item post-survey will evaluate students' knowledge, cultural competency, and confidence in nutrition counseling. Surveys are administered before the first and after the last culinary medicine lab (CML) session. A 2-tailed t-test will compare pre- and post-survey scores. Data, stored securely and anonymized using study IDs, will also include demographic information of participants from the CHSU-COM classes of 2026 and 2027.

Results: Data analysis is ongoing. Descriptive statistics, including participant demographics (e.g., gender, race) and changes in students' confidence in providing nutrition counseling, will be reported. Preliminary outcomes will assess improvements in students' self-efficacy and cultural competency in nutrition counseling.

Conclusion: Pending results, we anticipate that integrating cultural competency into CM education will fill a critical gap in medical training, equipping future physicians with skills to address diverse patients' nutritional needs effectively.

Poster #86: Barriers to Referral Delays in Rural Surgical Care: A Quality Improvement Approach

Matthew McDougal [1], Sarah Shehata [1], Jason Li [1], Beatrice Weier [1], Erika Kelly [1], Tejomayukha Moganti [1], Zachary Yamada [1], Fatima Zabiba [1], Fateh Entabi, MD [2], Ron Yee, MD [1]

[1] California Health Sciences University, College of Osteopathic Medicine;

[2] Adventist Health, Tulare

Abstract:

Introduction and Background: Timely surgical care is essential to achieving optimal health outcomes, yet rural communities face persistent barriers that contribute to significant delays in referral completion. Common challenges include limited transportation, fragmented communication systems, and inadequate patient education. This quality improvement (QI) project aims to reduce referral delays at a rural surgical clinic in California's Central Valley, with a SMART goal of decreasing the average referral completion time to Dr. Fateh Entabi's surgical practice by 20% within one year.

Materials and Methods: Using the Six Sigma DMAIC framework, the researchers hope to define key barriers through staff interviews and workflow analysis, measure baseline referral times via retrospective chart review, and analyze sources of delay through process mapping and surveys. Targeted interventions will include referral checklists, improved scheduling support, and enhanced patient education. Implementation will be followed by ongoing monitoring of referral metrics and process audits to ensure sustained improvement.

Results and Conclusion: By identifying and addressing systemic inefficiencies in the referral process, the researchers aim to enhance care delivery and reduce delays in rural surgical access. The outcomes of this study may serve as a model for improving referral systems in other underserved regions and inform broader health infrastructure reform.

Poster #87: "When Grooming Goes Awry: A Case of Sepsis Arising from Shaving"

Monika Multani, MD; Qasim Khan, MD; Shareefa Begum, MD; Gay Sammons, PhD; Muhammad Nausherwan Khan, MD, FAAFP

Abstract:
Drug use disorders are associated with an increased risk of infections both directly and indirectly. Multiple reports are seen about increased risk of infection due to poor hygiene status and needle sharing with limited literature on direct immune dysregulation due to drug use. This case report presents a patient with a history of drug use disorder who developed a rare bacterial infection and autoimmune dysfunction. Providencia stuartii is a urease producing gram-negative bacillus of the family Enterobacteriaceae which is associated with UTIs in elderly patients with long-term urinary catheter use and is otherwise a rare isolated. The absence of typical risk factors and underlying immune disorders in this patient with history of chronic drug use raises suspicion of immune dysregulation by drug use disorder resulting in rare presentation of Providence infection as well as findings consistent with pyoderma gangrenosum on biopsy. History of unsuccessful attempts of treatment in the past with current improvement after surgical debridement in the presence of therapy for drug use disorders, supports this statement.

Poster #88: Novel Treatments in Pediatric Psychiatry:A Review on the Therapeutic Potential of Ketamine and Psilocybin for Treatment-Resistant Depression, Mood Disorders, and Post-Traumatic Stress Disorder

Naomi Hematillake[1], Brett Hughes[1], Rahim Khan[1], Soz Mirza[1], Riley Paredes[1], Manasi Ponamala[1], James Sagaser[1], Chandni Tailor[1]
Sudhakar Pemminati, PhD, MSc, MBA, PDCR, FAGE[1]
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Abstract:
Ketamine and psilocybin, once considered nothing more than illicit drugs, are now proving to have efficacy in treating psychiatric conditions such as treatment-resistant depression, post-traumatic stress disorder, and other mood disorders. Our narrative review utilized resources such as PubMed, Nature, Springer Link, and others to identify relevant literature on the therapeutic use of ketamine and psilocybin in the pediatric and adolescent populations. We then narrowed down our list of studies to exclude studies that did not focus on the specific parameters of our study. We followed the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines to direct our selection of studies. Research has shed light on the involvement of glutamate pathways in these disorders, and both substances have emerged as promising options due to their ability to effectively release glutamate. Ketamine's use for treatment-resistant depression shows a rapid onset of relief for symptoms, while psilocybin has demonstrated the ability to enhance neural plasticity, allowing patients to reframe memories and experiences under medical supervision. Furthermore, psilocybin's potential to alleviate psychological distress in survivors of adverse childhood experiences mirrors ketamine's use in trauma-sensitive settings. These treatments offer the potential to help patients create positively associated neural pathways, which can improve their overall mood. Ethical considerations have been raised regarding the use of hallucinogens as therapeutic treatments, especially for the pediatric population. However, further research into these unorthodox treatments could pave the way for innovative approaches to treating mental health disorders.

Poster #89: Can't Feel A Shingle Thing: A Complex Manifestation of Shingles After Steroid Injection

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Abstract:
Herpes Zoster (Shingles) represents the reactivation of latent Varicella Zoster Virus (VZV) within the dorsal root ganglia, typically manifesting as a painful unilateral vesicular rash along sensory dermatomes. This condition disproportionately affects immunocompromised individuals and can present with atypical symptoms such as pre-herpetic neuralgia, VZV plexopathy, and, in rare instances, cauda equina-like syndromes. Here, we discuss the case of a 43-year-old immunocompromised female with a pertinent history of Rheumatoid Arthritis and Systemic Lupus Erythematous who presented with cauda equina-like symptoms, including radicular pain, urinary incontinence, and saddle anesthesia, before developing a characteristic shingles rash. Notably, her symptom onset followed a steroid injection for trochanteric bursitis, highlighting a potential trigger for VZV reactivation. This case underscores the complexity of diagnosing atypical Herpes Zoster presentations in immunocompromised patients and suggests that steroid therapy may contribute to reactivation. It also emphasizes the critical role of vaccination with the recombinant Shingrix vaccine in reducing the incidence and severity of shingles and its complications, such as post-herpetic neuralgia. Increased awareness of such presentations and patient education regarding vaccination and potential triggers, particularly in the context of musculoskeletal treatments, are essential to mitigate risks and improve outcomes.

Poster #90: Evaluation of Hospice Care Admissions at Compassionate Care Hospice Central California

Negin Fadaee MPH[1], Christopher Chung BS[1], Yusuf Corleone BA[1], Shannon Lee BS[1], Ishan Jindal MHS[1], Shan Pegany BS[1], Geni Perryment PhD[1], Duc Chung MD[1]
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Abstract:
Introduction: Admission to hospice care can be a stressful time. No research has been conducted to identify what pertinent information is forgotten by patients and caregivers after the admissions on-boarding process. The potential for digital resources to address these gaps is a novel area of exploration. We aim to identify areas of improvement at Compassionate Care (CC) regarding the hospice admissions process.

Methods: A survey was conducted to 60 CC staff to identify gaps in the admissions process. The anonymous surveys were distributed via the company email and included free response, yes/no, and Likert scale questions. Survey results were utilized to create an informational digital Frequently Asked Questions (FAQ) guide aimed at addressing these knowledge deficits.

Results: A total of 42 survey responses were received (70% response rate). Most respondents were female (60%) and nurses (67%), and have worked at CC for three years or less (90%). Over half (22/42) were involved in at least ten hospice admissions. Most (79%) found the admissions process to be adequate but noted a need for better patient and family education regarding hospice care and philosophy, CC contacts, and expected outcomes during hospice. Four (10%) respondents felt that the current admissions binder was ineffective. While a majority (71%) believed the amount of information at admissions was sufficient, 19% saw gaps, and 7% felt it was excessive. 40% believed that hospice care was delivered with adequate health literacy and cultural sensitivity. However, most respondents (50%) felt that family members expressed confusion and frustration about the admissions process. Key concerns included hospice as a concept (29%), information overload (21%), nurse visit scheduling (21%) and medications (17%). At least 1/3 of respondents (14/42) utilized external resources during their admission. Additionally, respondents believed digital resources (23/42), premade FAQ videos (23/41), multilingual admissions resources (22/42), and live texting/chat services would improve the admissions process.

Conclusion: Our results highlight the need for better education regarding hospice care and its philosophy as well as expectations regarding prognosis and outcomes for patients and their families. An “FAQ Sheet” with commonly asked questions can be helpful in streamlining initial admissions and managing the volume of information being provided. Future efforts should be aimed at creating a digital database of resources and admissions materials.

Poster #91: Doctor, I'm pregnant, but where is my baby? A case of uncommon complete hydatidiform mole in a young female

Nguyen T.[1], Kawagoe R.[2], Dominguez A.[3], Khan, M.
[1]Adventist Health Tulare Family Medicine Residency, [2]Adventist Health Tulare Family Medicine Residency, [3] Adventist Health Reedley, 4 Adventist Health Tulare Family Medicine Residency

Abstract:
Gestational Trophoblastic Disease (GTD) originates from placental tissue and is among the rare human tumors that can be cured even in the presence of widespread metastases. GTD includes a spectrum of interrelated tumors with the most common form of GTD being hydatidiform mole, also known as molar pregnancy. It is quite rare condition with the incidence of complete mole at approximately 1 per 1000 pregnancies.

This case study is about a previously healthy 33-years-old G2P1001 female initially presented to the clinic requesting pregnancy test. Her last menstruation was September 2024. In Oct 2024, urine pregnancy test was positive, and initial beta-HCG quantitative was in the 6,000s. In the office, transabdominal ultrasound showed one intrauterine gestational sac, no yolk sac or fetal pole visualized with combined measurement of about 4 weeks 5 days. After one week, the patient returned to the clinic with concern of pelvic cramping and vaginal spotting for two days. Transabdominal ultrasound in the office this time showed irregular gestational sac measuring 6 weeks 2 days, 13.9mm with no fetal pole or yolk sac. Repeat beta-HCG quantitative was in the 30,000s (only 1 week after initial level). Two serial beta-HCG quantitative measurements continued to show increasing results. Repeat ultrasound now showed multiple cystic structures in the endometrial lining concerning molar pregnancy, with no cardiac activity detected. The patient was scheduled for dilation and curettage with biopsy for concern of molar pregnancy. Pathology report confirmed complete hydatidiform mole. The patient continued to have follow-ups with the clinic, and the beta-HCG level was serially monitored until back to zero.

As family practitioners we do provide prenatal care to women. It is importation for us to be able to analyze ultrasound images, detect early if it's hydatidiform mole. Thus, we can provide immediate treatment or refer patients to receive appropriate care.

Poster #92: My heart hurts, but I cannot tell you! A rare and unusual presentation of incomplete Kawasaki disease in a 2-month-old infant

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[1]Adventist Health Tulare Family Medicine Residency, [2]Adventist Health Tulare Family Medicine Residency, [3] UCSF Pediatric Residency, 4 Adventist Health Tulare Family Medicine Residency

Abstract:
Kawasaki disease (KD) is a condition of inflammatory vasculitis of early childhood, with high prevalence of affecting the coronary arteries. Although after years of research about KD, the etiology of KD remains unknown.
This case study is about an ex-term, previously healthy, 2-month-old male who was brought to emergency department (ED) with mother's concern of fever for 1 day. Upon presentation to the ED, patient was still febrile, tachycardic with heart rate in the 200s, and tachypneic but with good oxygen saturation on room air. Labs were significant for CRP elevated at 7.4. Urine analysis result indicated possible urinary tract infection (UTI). Respiratory viral nasal swab positive for Rhino/Enterovirus. A chest x-ray showed right middle lobe pulmonary opacity concerning pneumonia. Patient was admitted and started on IV Rocephin for management of sepsis secondary to UTI and possible pneumonia. Two days later, the patient developed a blanching erythematous maculopapular rash, which slowly spread all over his body. The patient also received an Echocardiogram which showed tiny patent foramen ovale. Despite IV antibiotics treatments, the patient continued to have several febrile episodes over the next 4-5 days. Patient received a repeat Echocardiogram on sixth day of admission, and it showed dilations of right coronary artery (RCA) and left anterior descending artery (LAD). Patient was diagnosed with incomplete KD and was given IVIG, aspirin, steroids and Infliximab. The patient was discharged with oral therapy of Aspirin and Clopidogrel. On follow-up appointment with Cardiologist, repeat Echocardiogram showed both RCA and LAD returned to normal sizes.
The incidence of KD in the United States is 18 to 25 per 100,000 in children <5 years old. However, it is an important condition to remain high on differential diagnosis list in children with acute persistent febrile illness, because KD is commonly associated with complications of coronary arteries dilations and aneurysms.

Poster #93: Effects of Glucagon-Like Peptide-1 Receptor Agonists on Endocrine System: Benefits vs Risks

Niki Tabatabai[1], Lynn P Fadel[1], Gigi Thao[1], Tanvi Chitre[1], Edwin D Rojas[1], Maria Nguyen Fricko[1], Valerie Domingo[1], Brigita Budginas[1], Lorenz Carmelo Guerrero[1], Maria Ghatas[1], Niloufar T Arani[1], Sudhakar Pemminati[1]
[1]California Health Sciences University College of Osteopathic Medicine

Abstract:
Glucagon-like peptide-1 receptor agonists (GLP-1 RAs) have rapidly gained widespread use for the management of type 2 diabetes mellitus (T2DM) and obesity due to their ability to lower blood glucose levels and promote satiety. However, their influence also exerts diverse effects across multiple organ systems, including but not limited to the integumentary, endocrine, reproductive, gastrointestinal, cardiopulmonary and neurological systems. This review evaluates the benefits and risks of GLP-1 RAs through a systems-based lens, with particular emphasis on endocrine function. This review proposes that GLP-1 RAs exhibit both beneficial and adverse endocrine effects, depending on organ-specific targets, dosage, and patient comorbidities.

Methods of this study included using Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRIMSA) guidelines. Many studies were sourced from databases such as. PubMed, Scopus, and Embase. The selection criteria for the endocrine system included human and animal studies published between 2010 and 2024, with a focus on thyroid benefits and adverse effects of GLP-1 RAs.

Several large-scale studies suggest a potential link between GLP-1 RA use and thyroid cancer; however, this association is still under investigation as multiple systematic reviews have produced conflicting results. Current users of GLP-1 RA appear to have about a 46% higher risk compared to non-users, with risk increasing the longer the medication is administered. Despite the observed association, no consistent identification of certain subtypes such as papillary or medullary thyroid cancer was reported. On the contrary, another meta-analysis reviewing data from over 64 clinical trials found an increased risk of thyroid C-cell tumors in rodents using GLP-1 RA, however there was no significant association with GLP-1 RA use and thyroid cancer in humans.

In conclusion, GLP-1 RAs exert a myriad of endocrine effects. Emerging thyroid concerns highlight the need for specific and individualized treatment plans and long-term monitoring between clinicians and patients. Future studies should further explore these interactions to optimize therapeutic safety and efficacy with long-term use and endocrine health outcomes.

Poster #94: Enhancing medical students' appreciation of anatomy and pathophysiology through forensic autopsy observation

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California Health Sciences University, College of Osteopathic Medicine

Abstract:

Introduction/Background: Throughout history, postmortem dissections, primarily involving cadavers, have been a cornerstone of anatomical education. However, as medical curricula evolve, there has been a shift away from traditional cadaveric dissections. To address this gap, forensic autopsies have been proposed to supplement preclinical learning opportunities. While previous studies suggest potential benefits, there is minimal research on the impact of forensic autopsy observation among medical students who lack access to hands-on cadaveric dissection in their curriculum. This study aims to evaluate whether observing forensic autopsies enhances students' perceived value of learning anatomy and pathophysiology in the absence of cadaveric dissection opportunities.

Methods: This study will include medical students (ages 18–40) from California Health Sciences University College of Osteopathic Medicine (CHSU-COM), where cadaveric dissection is not part of the curriculum. Participants will complete pre- and post-observation questionnaires assessing their perceived value of anatomy and pathophysiology using a 5-point Likert scale. The pre-questionnaire will be administered before their first forensic autopsy observation, and the post-questionnaire will be completed shortly afterward. Responses will be analyzed using a paired t-test ($\alpha = 0.05$) to determine statistically significant changes in students' perceptions.

Expected Outcome: This study will assess whether forensic autopsy observation serves as an effective supplementary teaching tool for medical students without access to cadaveric dissections. Forensic autopsies may offer a valuable real-world application of preclinical knowledge and broaden learning opportunities.

Poster #95: Preeclampsia with severe features complicated by pulmonary edema and postpartum cardiomyopathy

Peña V.[1], Isom S.[2], Mayer J.[3]
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Abstract:
Preeclampsia remains a leading cause of maternal and perinatal morbidity and mortality worldwide, affecting approximately 5–8% of all pregnancies1. Characterized by new-onset hypertension and signs of end-organ dysfunction, preeclampsia with severe features poses a significant threat to both maternal and fetal health, often requiring early delivery to mitigate risk2. Despite growing awareness and advances in obstetric care, cases of rapid clinical decompensation continue to underscore the unpredictable nature of the disease3. This case highlights a patient who developed preeclampsia with severe features at 32 weeks and 3 days gestation, complicated by pulmonary edema and subsequent postpartum cardiomyopathy. It emphasizes the critical importance of early screening and the application of validated tools to identify patients at risk, guide timely intervention, and prevent serious complications4. Through this report, we aim to reinforce the need for vigilant monitoring and evidence-based decision-making in the management of hypertensive disorders of pregnancy.

Poster #96: A scoping review of current techniques for assessing graft site morbidity in QT and BPTP ACL autograft reconstruction

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All authors associated with California Health Sciences University, College of Osteopathic Medicine

Abstract:
Graft site morbidity is a critical yet often overlooked aspect of anterior cruciate ligament reconstruction (ACLR). While autografts such as bone-patellar tendon-bone (BPTB) and quadriceps tendon (QT) have been shown to provide effective mechanical stability, the functional and quality-of-life outcomes associated with graft harvesting location warrant greater attention. This scoping review evaluates existing methodologies for assessing graft site morbidity, focusing on anterior knee pain, paresthesia, and muscle deficits. A systematic search identified 43 studies meeting inclusion criteria, revealing significant variability in assessment methods and reporting standards. This review underscores the need for a uniformly administered series of techniques to measure graft site morbidity, enabling meaningful comparisons and improving patient-centric surgical decision-making. Future investigations should prioritize standardizing assessment tools to access graft selection and optimize holistic patient outcomes.

Poster #97: Meconium Peritonitis

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California Health Sciences University, College of Osteopathic Medicine [1], Valley Children's Healthcare [2]

Abstract: Meconium peritonitis is a sterile chemical reaction due to in-utero bowel obstruction and perforation with leakage of meconium into the peritoneum. Inflammatory response secondary to the chemical peritonitis could result in ascites, dystrophic calcifications, and in some cases, cyst formation. It is classified into three categories: generalized, fibro-adhesive, and cystic. Meconium peritonitis is considered a rare disease with an incident rate of 1 in 30,000 live births. After birth, this condition can present in many ways, from being asymptomatic with closed-off peritonitis to extreme peritonitis requiring immediate surgery. The most common presentations after birth include respiratory distress, bilious vomiting, abdominal distention, and delayed meconium passage. Here, we report a case of meconium peritonitis in a preterm infant.

Case presentation: A preterm infant born at 29 weeks of gestation presented to NICU after delivery with respiratory distress syndrome, apnea and hypoxia. There was no prenatal care and mother used marijuana and alcohol throughout the pregnancy. Apgar score was 4 at 1 minute and 8 at 5 minutes. The infant was intubated and given surfactant. Chest/abdomen radiograph for tube placement showed scattered egg shell, linear, and flocculant calcifications. Meconium peritonitis/pseudocyst was suspected; however, the differential included infection, intraabdominal hemorrhage, neuroblastoma, or teratoma.

Discussion: Meconium peritonitis is typically diagnosed during prenatal ultrasound screening, most commonly after 20 weeks of gestation. The most prominent feature on imaging is intraperitoneal calcification, with fetal ascites being the most common prenatal ultrasound finding; however, lack of calcification does not rule out this condition. Furthermore, while calcification can develop within 24 hours of meconium entering the abdominal cavity, it is thought to take a few weeks for the calcification to be dense enough to be seen on imaging. On plain radiographs, peritoneal calcification can be linear, curvilinear, or flocculant. In the case of meconium pseudocyst, a classic finding on plain radiograph is calcification with a thin "eggshell-like" rim surrounding the pseudocyst with or without amorphous or flocculant calcification. While this condition was once associated with a high mortality rate, current surgical and diagnostic management with post-operative neonatal intensive care have improved the survival rate to more than 80%.

Poster #98: Inhibiting NOXO1 and CYBA binding to reduce NADPH oxidase I dependent ROS damage in skin explants

Prasadini Senevirathne [a], Alyssa Sterlinga [b], Mary Anne Refaei [a], Nazanin Mokhtarpour [a], Laura Gutierrez-Rivera [c], Joshua Garcia [c], Milena Dragovic [c], Elona Bebla [c], Premnauth G. [a], Pearl Tsang [a], Ana Luisa Kadekaro [b], Edward J. Merino [c]*

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Abstract:

NADPH oxidases (NOXs) are newly identified enzymes that generate intracellular reactive oxygen species (ROS) in skin cells. Recent studies demonstrated that NOX1 holoenzyme is expressed in human keratinocytes and melanocytes, which are implicated in skin photo-carcinogenesis due to the high amounts of ROS produced. Holoenzyme activation requires a ternary complex comprised of NOX1, cytochrome B alpha chain (CYBA), and cytoplasmic NADPH Oxidase Organizer 1 (NOXO1) to properly form. By inhibiting this assembly process, an opportunity for reducing the production of catalytic ROS is possible, especially during high ROS conditions that occur under prolonged UV exposure. We designed a series of small molecules and evaluated their inhibitory effects on NOXO2 using in-silico docking methods in the 1WLP crystal structure. We show that the NOX_inh_5 inhibitor was successful in a variety of experiments using primary skin models from various skin tones. NOX_inh_5 proved to be non-cytotoxic while also improving the viability of primary human skin primary cells under UV exposure. Biophysical studies with NOX_inh_5 using an Isothermal calorimetric (ITC) binding and heteronuclear single quantum coherence (HSQC-NMR) exhibited inhibition of complex formation between NOXO2 and CYBA. Authentic human skin explants, treated with and without NOX_inh_5 and UV exposure, decreased p53 stabilization and decreased UV-induced DNA damage as quantified through cyclobutane dimer formation.

Poster #99: Next-Gen Diabetes Care: Revolutionizing Personalized Insulin Delivery with Cutting-Edge Technology

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California Health Sciences University, College of Biosciences and Health Professions, MSBS Program
***all authors contributed equally

Abstract:
Background: Diabetes mellitus (DM) is a prevalent metabolic disorder classified into Type 1 (T1DM) and Type 2 (T2DM). Effective disease management relies on insulin therapy, continuous glucose monitoring (CGM), and emerging artificial intelligence (AI)-driven solutions.

Objective: This review explores advancements in insulin delivery methods, CGM systems, artificial pancreas technologies, and AI-driven interventions to enhance diabetes management. Methods: A comprehensive literature review was conducted to analyze recent innovations in insulin administration, CGM integration, and AI-based solutions. Technologies such as insulin pens, pumps, continuous subcutaneous insulin infusion (CSII), and closed-loop artificial pancreas systems were assessed. The integration of AI for predictive glucose monitoring and personalized treatment was also explored.

Results: Recent developments, including dual-hormone pancreatic systems, smart insulin pens, and CGM-enabled insulin pumps, have enhanced glycemic control and improved patient outcomes. AI-powered glucose monitoring has shown promise in predicting glucose fluctuations and optimizing treatment strategies. Despite these advancements, barriers such as cost, accessibility, and technological adoption remain significant concerns.

Conclusion: Advances in insulin delivery and glucose monitoring have transformed diabetes care, leading to improved treatment precision and reduced complications. Future directions involve AI-driven personalized medicine, wearable technologies, and noninvasive insulin delivery solutions. Addressing economic and accessibility challenges will be critical to ensuring equitable adoption of these innovations, ultimately improving patient outcomes and quality of life.

Poster #100: From Incidental X-Ray to Surgical Intervention: A Case of Coccidioidomycosis Pneumonia leading to Lung Abscess Rupture

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Abstract:
Background: Coccidioidomycosis is a fungal infection endemic to the southwestern United States, primarily caused by Coccidioides immitis or C. posadasii. While often asymptomatic or self-limiting, it can progress to severe pulmonary complications in high-risk patients, particularly those with diabetes or compromised immune systems.

Case Presentation: A 47-year-old female with poorly controlled type 2 diabetes and a history of latent tuberculosis presented with acute pleuritic chest pain and dyspnea. Notably, an incidental cavitary lesion had been captured three months earlier on a shoulder X-ray, but was not pursued. Her condition progressed to a right lung abscess with rupture, resulting in hydropneumothorax and empyema. She required ICU admission, chest tube placement, and later surgical intervention with right lung decortication and segmentectomy. Fungal cultures confirmed Coccidioides immitis, and she improved following initiation of antifungal therapy.

Discussion: This case underscores the importance of recognizing incidental radiographic findings, especially in endemic regions. Pulmonary coccidioidomycosis can mimic bacterial pneumonia and lead to delayed antifungal treatment. In this patient, early radiographic signs were overlooked, allowing progression to a complicated fungal empyema. Pleural fluid findings—elevated pH (9.0) and glucose (107 mg/dL)—were atypical for bacterial infections and should prompt consideration of fungal causes. Surgical intervention became necessary due to sepsis and persistent lung necrosis. As incidence rises due to climate and environmental factors, awareness among clinicians must improve. Advancements in AI and imaging offer promising avenues for early detection, but require further validation for fungal pathogens like Coccidioides.

Conclusion: Timely evaluation of incidental imaging findings and early fungal diagnostics are essential in high-risk patients from endemic regions. Greater clinical vigilance can prevent life-threatening complications of coccidioidomycosis.

Poster #101: A Retrospective Analysis of Unhoused Patient Population at UHC Tuolumne Clinic (2021-2024): Demographic and Healthcare Access Trends in Central Valley, California

Ramiz Ahmed[1], Ani Lao[1], Soz Mirza[1], Leanne Lubrica[1], Musa Dajani[1], Naomi Hematillake[1], Patrick Zhang[1], Manasi Ponamala[1]
Mohammad Rahman PhD, MS[2], Avtar Nijjer-Sidhu PhD, MS, RD[1], Sarmad Ghazi MD, MBChB[1]
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Abstract:
Access to healthcare for unhoused individuals remains a significant challenge, with social determinants playing a crucial role in health disparities. Street medicine programs have emerged as an effective solution, bridging the gap between traditional healthcare systems and marginalized populations by providing direct medical care. This study aims to assess whether key demographic factors are associated with housing status at United Health Centers (UHC) Tuolumne located in Fresno, California. This will in turn help provide insights into the specific healthcare needs of the unhoused population and inform the development of targeted interventions. We hypothesize that racial and ethnic minority individuals within the unhoused population experience greater unmet medical needs compared to non-minority groups. A retrospective analysis was conducted using data from the PRAPARE (Protocol for Responding to and Assessing Patients' Assets, Risks, and Experiences) survey at UHC Tuolumne from January 2021 to May 2024. Patients who answered "I do not have housing" in the PRAPARE survey were included in the study. Data analysis employed descriptive statistics to summarize patient characteristics and chi-square tests for categorical variables to identify predictors of healthcare access disparities among unhoused individuals. Our data shows that out of 1157, only 83 (7.2%) answered that they did not have housing. Within the unhoused group, 62.7% (n=52) identified as Hispanic/Latino, 36.1% (n=30) did not, and 1.2% (n=1) chose not to answer this question. Comparing participants identifying as Hispanic to non-Hispanic participants, the chi-square analysis reveals χ^2=5.72, p=0.017. Among the unhoused participants, 45.8% (n=38) reported that a lack of transportation prevented them from attending both medical and non-medical appointments. Of the unhoused Hispanic patients, 61.1% (n=22) have transportation issues compared to non-Hispanic unhoused patients (n=14, 38.9%). There is a statistically significant association between race and housing status, supporting the hypothesis that minority individuals may face greater unmet medical needs within the unhoused community. Additionally, transportation barriers emerged as a significant issue. Hispanic unhoused patients, in particular, demonstrated the greatest need in this area.

Poster #102: Unmasking Pulmonary Embolism in a Case of Chronic Hypoxemia and Congenital Heart Disease

S. Thiagarajan, MD, I. Gorodniuk, MD, S. Penta, MD, T. Singh, MD, K. Lau, DO
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Abstract:

Introduction and Background: Pulmonary embolism (PE) is an obstruction of the pulmonary vasculature that can range from mild dyspnea to hemodynamic instability that can be fatal. Pulmonary emboli commonly originates as a deep vein thrombosis (DVT), which can often be easily assessed by venous doppler of the extremities at bedside.

Material and Methods: A comprehensive evaluation of the patient's medical history, physical assessments, laboratory investigations, and extensive imaging were used.

Results: We present a 43-year-old female with a history of Down syndrome, congenital heart disease (CHD) with a partial repair, chronic hypoxemia, asthma, and secondary polycythemia. She presented to the Emergency department (ED) with syncope, difficulty breathing, and chest pain for the last four days. Vital signs showed a T of 98F, BP 119/79, HR 98, RR32, and saturating 74% on 15L Oxymask. Physical exam was prominent for characteristic facial features of down syndrome, continuous systolic murmur near the tricuspid valve, bilateral petechiae diffusely across the lower extremities, and alert and oriented to name and place. Labs were significant for polycythemia, thrombocytopenia, and elevated PT and troponin. CXR showed only mild congestion. Of note, the patient did visit the ED two times prior for similar symptoms but workup including troponin, pro-cal, and D-dimer levels were negative and venous doppler in all extremities was inconclusive for DVTs, and hence the patient was discharged. She presented again for the third time that week, and due to the persistence of symptoms, a contrast-enhanced chest CT pulmonary angiography (CTPA) was ordered and confirmed a small pulmonary emboli in the left lower lobe. Repeat venous doppler was also negative for bilateral DVT. Patient was started on heparin drip and admitted to telemetry for further management or PE and recurrent syncope. Patient was subsequently started on an anticoagulant for three months and her supplemental oxygen was continued prior to discharge.

Conclusion: Early and accurate diagnosis is important for initiating prompt treatment and preventing morbidity and mortality from a PE. This is an interesting case that illustrates a scenario where the laboratorial testing failed to detect a PE. Thus, it is crucial to look at the patient's entire clinical presentation, and if clinical suspicion is still there, CTPA must be performed to not miss a PE.

Poster #103: Wound Care Education for the Non-Medical Community

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California Health Sciences University College of Osteopathic Medicine

Abstract:

Introduction and Background:

There is a prevalence of chronic wounds in the United States affecting over 6 million people. Many factors contribute to this high prevalence, including lack of education on when to seek care for their wounds, contributing to the high prevalence of chronic wounds. In order to improve health outcomes in the general public, there needs to be a bridge in education so that people know how to appropriately care for wounds.

Spreading awareness to the community through educational pamphlets could promote a better understanding of how to care and prevent chronic wounds. We hypothesize that after a non-medical individual learns about wounds, infection, and when to seek medical attention for a wound, their wound care medical knowledge and understanding will increase, and they will be able to better determine when to seek medical attention for a wound.

Materials and Methods:

The purpose of the pamphlet is to educate non-medical individuals on the various types of wounds and when to seek medical care for a wound. The aim of this project is to assess the efficacy of an educational wound pamphlet specifically targeting the non-medical community. This study uses a quantitative method by using a pre and post survey design. The pre-questionnaire aims to assess the general baseline knowledge on wound care while the post-questionnaire development seeks to evaluate the efficacy of the pamphlet and the knowledge that the participant gained after reviewing the pamphlet.

Initially our goal was to distribute surveys in person; however, this method has proven to be difficult to reach more participants. Thus, we plan to shift to an online survey posted at Fresno State University in hopes to increase responses.

Results and Conclusion:

Nine participants completed the study at the Bautista Health Fair. The average pre-survey score out of the nine participants was 4.78 out of 10, and the average post-survey score was 7.56 out of 10. There is an increase in the score after reading the pamphlet, which suggests that it may be effective in educating the community about proper wound care.

We anticipate that future data collection with an online survey will garner more participants and help us make more defined correlations and conclusions. Ultimately, educating the public on common health practices will improve health outcomes and better the community.

Poster #104: Non-Typhi Salmonella Enterica Empyema Without Extraintestinal Manifestation: An Extremely Rare Presentation

Sana Khan, MD [1], Hasham Masood Qureshi, MD [2], Shruti Javali, MD [3], Hany Sourial, MD, FACP

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Abstract:

Introduction: Salmonella is a non-spore forming motile gram-negative rod, facultative anaerobic bacilli of the family Enterobacteriaceae with various clinical manifestations. Salmonella empyema is an uncommon manifestation of Salmonella infection. Over the last centennial, 31 non-typhi salmonella enterica empyema cases have been documented.

Case Presentation: A 63-year-old male with a history of hypertension, peripheral neuropathy, DVT, gastric bypass, melanoma, major depressive disorder, and generalized anxiety disorder presented to the ED with a month-long history of worsening chest pain, shortness of breath, cough, unexplained weight loss, and weakness. His vital signs on presentation included tachycardia, tachypnea, and labored breathing. Initial lab results showed a significantly elevated white blood cell count (59000), hypokalemia (2.6), and a high anion gap (23). Imaging revealed a large pleural-based mass in the right hemithorax, with additional findings of osseous destruction in the right rib and vertebra, as well as abnormal adrenal gland thickening suspicious for metastasis. Chest CT with contrast showed a 6.3 cm pleural-based mass and another smaller pleural-based mass with potential malignancy or complicated effusion. A right-sided effusion and adrenal mass were also noted. The patient's pleural fluid analysis revealed white blood cells (21025 with 80% neutrophils), lactate dehydrogenase (>2235), total protein (4.5), pleural/ serum LD ratio (9.2) and both fluid and stool cultures tested positive for Salmonella species. Following treatment with ertapenem 1g daily, his white blood cell counts slightly improved. The patient was scheduled for thoracotomy with VATS procedure. However, given the limited life expectancy and potential of lung metastasis, the patient decided to opt out of surgical treatment and preferred palliative care.

Discussion: Salmonella infections are typically categorized into typhoidal and non-typhoidal serovars, with non-typhoidal salmonellosis being widespread globally. Transmission occurs through contaminated animal-derived products or contact with animals. In immunocompromised individuals, Salmonella can cause focal infections. This case involves a patient with right lung empyema and a Salmonella-positive culture, but the entry route was unclear. The patient denied exposure to reptiles or undercooked foods; however, his grandson has a snake at home. Notably, blood cultures showed no growth after 5 days, an uncommon

finding as few cases of Salmonella empyema without extra-intestinal manifestations, like endocarditis, have been reported.

Poster #105: Hickam's Dictum: A Patient Can Injure His Spinal Cord However He Damn Well Pleases

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Abstract:
Introduction and Background: Spinal cord injuries are a common neurologic condition that can result in severe motor, sensory, and autonomic disability. Delirium Tremens is a serious form of alcohol withdrawal that can mask symptoms of SCI, potentially delaying diagnosis. This case aims to investigate degenerative changes that increase the risk of SCI while also examining the clinical overlap between Delirium Tremens and Spinal cord injury.

Material and Methods: We are presenting a case of a 58 year old male patient admitted to the ED after a fall in his bathroom. The initial trauma workup, including CT head and neck, did not reveal any acute processes beyond soft tissue swelling. The patient was initially managed primarily for Delirium Tremens, and SCI went undetected for 6 days. Persistent neurologic symptoms, including progressive weakness, hyperreflexia, and numbness prompted MR spinal imaging which revealed a cervical spinal cord injury. Patient was treated with dexamethasone and underwent a C4-C7 laminectomy with C2-T2 fusion. This case highlights the possibility of SCI in a ground level fall, even with minimal risk factors, and suggests a role for emergent MR spinal imaging in cases where concerning neurological signs and symptoms are present, even in low risk individuals.

Results and Conclusion: SCI and evaluation with emergent MR should be considered in low trauma cases, even when the patient has minimal risk factors and is without vertebral fractures on XR and CT imaging. Early recognition of neurological signs of SCI, specifically upper motor neuron signs, can improve outcomes for future cases, especially when SCI symptoms are masked by alternate diagnoses or are otherwise obscured. This will allow us to increase detection of occult SCIs and achieve a faster time-to-intervention.

Poster #106: Alien Hand Syndrome: A Rare Ictal Manifestation of Focal Seizure

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Abstract:
Introduction and Background: Alien Hand Syndrome (AHS) is a rare neurological disorder caused by lesions in the frontal lobe, corpus callosum, or parietal lobe, leading to a disconnect between motor control, sensory input, and body awareness. It manifests as involuntary limb movements, in which a patient performs task-driven movements without intentionally initiating them. Based on the lesion's location, the disorder can co-occur with asomatognosia, in which patients do not recognize their limbs as their own, despite no physical detachment. Most documented cases of AHS and asomatognosia are caused by ischemic and hemorrhagic strokes, traumatic brain injury, or neurodegenerative diseases. In this study, a 73-year-old female with a history of left parietal lobe hemicraniectomy for metastatic renal cell carcinoma presented with difficulty recognizing her right upper and lower extremities, and numbness in the right upper and lower extremities, one month postoperatively. Diagnostic imaging and subsequent treatment confirmed an atypical case of AHS and asomatognosia precipitated by seizures, as opposed to the more common etiologies of stroke, TBI, and neurodegeneration.

Methods and Materials: EEG showed left temporoparietal epileptiform discharges, confirming focal seizure. TI, T2, and FLAIR pre- and post-contrast MRI sequences confirmed no other acute pathology, including stroke. Primary intervention was a loading dose of levetiracetam 3000 mg, and maintenance dose of 750 mg and then 1000 mg levetiracetam twice daily until discharge.

Results: At the time of discharge, the patient remained seizure-free, had normal muscle strength and movements in all four extremities, and was able to recognize her right upper and lower extremities as part of her own body. At her 6-month follow-up, the patient denied focal weakness and on physical examination, she exhibited no evidence of asomatognosia or decreased muscle strength in all four extremities.

Conclusions: Focal seizures can be an overlooked cause of AHS and asomatognosia, particularly in patients with brain lesions or post-surgical changes. EEG was a key diagnostic tool in this case that helped to include focal epileptic seizure in the differential diagnoses, underlining the need to include EEG in the routine workup for patients presenting with AHS or asomatognosia in addition to the standard CT and MRI.

Poster #107: Navigating Diagnostic Complexities: Membranous Nephropathy in a Patient with Rheu matoid Arthritis and Systemic Lupus Erythematosus

Swetha Annam, MD, Maheshwari Nallur Siddaraju, MD, Puneet Khela, MD, Faculty Advisor: Dhayanithi Dhayalan,MD (Nephrology), Shirisha Avadhanula, MD (PD- IM Residency), Jerald Pelayo, MD (APD- IM Residency)

Abstract:
Introduction: Membranous nephropathy (MN) is a leading cause of adult-onset nephrotic syndrome and is characterized histologically by thickening of the glomerular basement membrane due to subepithelial immune complex deposition. MN can occur as a primary (idiopathic) condition or as a secondary manifestation associated with systemic diseases, infections, malignancies, or medications. Among systemic autoimmune diseases, Systemic Lupus Erythematosus (SLE) is well-known to involve kidneys, most commonly manifesting as lupus nephritis, with Class V lupus nephritis representing a membranous pattern. Rheumatoid arthritis (RA), a chronic autoimmune inflammatory arthropathy, is less frequently associated with glomerular involvement, though secondary renal disease may occur due to chronic inflammation, amyloidosis, or drug-induced nephrotoxicity. The coexistence of SLE and RA—sometimes termed “rhupus syndrome”—is rare but documented, and renal involvement in such overlap syndromes is not well understood.
We present a case of membranous nephropathy in a patient with concurrent SLE and RA, highlighting the diagnostic complexity and therapeutic challenges associated with overlapping autoimmune disorders affecting the kidney.

Case Report: A 40-year-old female with a past medical history of rheumatoid arthritis (RA) presented to the renal clinic for management of chronic kidney disease (CKD) stage 2. She was on methotrexate and hydroxychloroquine (HCQ) for RA. The patient exhibited nephrotic range proteinuria, prompting a renal biopsy that revealed membranous nephropathy with focal tubulointerstitial calcium phosphate deposits. However, the sample was insufficient for electron microscopy (EM) and PLA2R staining.
Initially, her renal parameters were within normal limits, with serum creatinine levels ranging from 0.5 to 0.7 mg/dL and proteinuria levels between 150 mg and 6536 mg. Workup for secondary causes of membranous nephropathy, including ANA and dsDNA, returned negative results. Laboratory studies showed normal serum PLA2R and complement levels, posing a diagnostic challenge in distinguishing between primary and secondary membranous nephropathy, as treatment strategies differ based on the type.
Given that the patient was not taking medications such as penicillamine, gold salts, or NSAIDs, which could induce secondary membranous nephropathy, no other secondary causes were identified. Initially, the membranous nephropathy was attributed to RA, as secondary causes remained uncertain. Despite treatment with HCQ and methotrexate, her renal proteinuria did not improve, although her arthritis symptoms were well controlled.
Due to worsening renal proteinuria, reaching approximately 6.5 g/dL, a repeat renal biopsy was performed, confirming membranous nephropathy and the PLAR2R stain was negative. Further workup revealed positive dsDNA and ANA (1:80), although the patient did not exhibit other symptoms of systemic lupus erythematosus (SLE). Considering lupus nephritis as a potential secondary cause of membranous nephropathy, she was started on mycophenolate mofetil and steroids.
The follow-up showed significant improvement in her renal proteinuria and complete resolution at her previous visit. She was advised to continue mycophenolate mofetil and steroids for SLE management, avoid nephrotoxic agents and NSAIDs, and maintain good hydration.

Poster #108: Don’t Fall for the FOBT Fib - An Observational Study

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Sierra View Medical Center - Internal Medicine Residency

Abstract:
Background: Patients presenting to the emergency department with chief complaints of bloody stool or emesis are frequently assessed with a fecal occult blood test. Fecal occult blood tests are not standard of care as outlined by the article, Use of Fecal Occult Blood Testing as a Diagnostic Tool for Clinical Indications: A Systematic Review and Meta-Analysis.

Objective: The following retrospective observational study outlines how the use of FOBT is not conclusive to a diagnosis of GI bleed as portrayed by the endoscopic review of seventy patients admitted for suspicion of GI bleed.

Methods: Data analysis of the EMR was conducted to filter patients who were admitted with an initial diagnosis of GI bleed or a diagnosis which was similar from 2022-2024. All patients had a positive FOBT test prior to admission in the hospital. Chart review was completed to assess for physical exam findings, hemoglobin trend, need for transfusion, and finally endoscopic intervention.

Results: Of the 70 patients who underwent endoscopic evaluation, only 11 (15.71%) patients had interventions for an acute bleeding source. Additionally, patients who required endoscopic intervention were roughly 10% more likely to have documented physical exam findings in comparison to their counterparts.

Conclusion: Data analysis of 70 patients at Sierra View Medical Center with positive FOBT results admitted for GI bleed (or similar diagnosis) confirmed the established evidence which outlines that FOBT is not a test which should be used as a diagnostic tool to either diagnose or admit a patient for GI bleed.

Poster #109: Effects of Glucagon-Like Peptide-1 Receptor Agonists on the Reproductive System: Benefits vs Risks

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[2]Noorda College of Osteopathic Medicine, Provo, USA

Abstract:
Introduction & background: Glucagon like peptide 1- receptor agonists (GLP-1 RAs) are currently experiencing an explosion in popularity largely due to social media trends encouraging use of GLP-1 RAs as weight loss medication. Thus, it is important to thoroughly study the role of GLP-1 RAs in various health conditions so that patients and physicians can make informed decisions. This systematic review was conducted to assess the benefits and complications of GLP-1 RAs on several body systems including cardiovascular, gastrointestinal, endocrine, integumentary and neurological. This presentation will emphasize the male and female reproductive system.

Materials & methods: This study's methods followed the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) protocol guidelines. Many studies were sourced from databases such as PubMed, Science Direct, Web of Science, SCOPUS, and Google Scholar, with the reproductive system primarily sourced from PubMed. The selection criteria for the reproductive system included human and animal studies published between 2005 and 2024, with a focus on Polycystic Ovarian Syndrome (PCOS) and infertility in the male and female reproductive systems.

Results: GLP-1 RAs have shown potential as a treatment in patients with PCOS and infertility. For instance, GLP-1 RAs can stabilize LH and FSH, two hormones which play an integral role in PCOS symptoms. Weight reduction through GLP-1 RA usage can also improve PCOS symptoms while increasing fertility. GLP 1-RAs have been shown to increase testosterone levels and sperm motility, which also helps increase fertility. Integrating GLP-1 RAs into current treatment methodologies can restore functional issues and the ability to conceive by regulating the HPA axis.

Conclusions: While this new research appears promising, many challenges remain, including further defining risks of GLP-1 in the reproductive system and refining specific dosages and exploring the role of clinical presentations not limited to diabetes and obesity. Exploring the overlap between infertility and the use of other hormone-based medications in contexts such as thyroid disease, gender-affirming treatments, and osteoporosis in the context of GLP-1 RAs can provide further insight into potential reproductive mechanisms.

Poster #110: Pediatric Acute-Onset Neuropsychiatric Syndrome: A Case Report

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Abstract:
PANDAS is an acronym for 'pediatric autoimmune neuropsychiatric disorders associated with streptococcal infections' and is defined as a subgroup of PANS, 'Pediatric acute-onset neuropsychiatric syndrome'. PANS is a clinical diagnosis given to children who have a dramatic – sometimes overnight – onset of neuropsychiatric symptoms and the cause is thought to be triggered by infections, metabolic disturbances, and other inflammatory reactions. PANDAS is considered an autoimmune disease based on a streptococcal infection with a verified immune response. Like PANS, the onset is often dramatic, with both psychological symptoms and physical symptoms happening within 48 to 72 hours. This case describes a 13 - year old male with no pertinent medical history with sudden, abrupt onset of OCD, tics and jerky movements, handwriting changes, deterioration in school performance, irritability and uncontrollable emotions, and sleep disturbances within a few days of recently testing positive for group A streptococcus. These behavioral changes were extreme and not present at prior psychosocial baseline. These noted neuropsychiatric disorders present a sudden, seemingly inexplicable change in children, so in getting an accurate diagnosis, this case highlights the necessity for integrated treatment approaches that can make a profound difference for patient and family well-being and provide tailored care based on continued research discoveries and personal patient needs.

Poster #111: Review of calcium administration in cardiac arrest: To give or not to give?

Tyarah Trias, BS; Sonam Sehdev, BS; James Sagaser, BA; Holly Nguyen, BS; Michelle Park, BA; Chelsey Nguy, BA; Lavanya Sankaran, BA; Alexandra Naicker, BA; Francisco Ibarra, PharmD
California Health Sciences University College of Osteopathic Medicine

Abstract:
Background: Calcium is commonly administered during cardiac arrest; however, recent studies have questioned its routine use in both out-of-hospital (OHCA) and in-hospital cardiac arrest (IHCA) scenarios.

Objective: To evaluate the impact of calcium administration on outcomes such as return of spontaneous circulation (ROSC), survival, and neurologic function in adult and pediatric cardiac arrest cases.

Methods: A literature review was conducted analyzing randomized controlled trials, registry studies, and retrospective chart reviews involving calcium administration during cardiac arrest. Key studies included the COCA trial and data from the GWTG-Resuscitation registry.

Results: Across multiple studies, calcium administration was not associated with improved ROSC or survival outcomes. In the COCA trial, patients receiving calcium had lower rates of ROSC and long-term favorable neurological outcomes compared to placebo. Subgroup analyses showed similar trends, with some indicating significantly worse outcomes in calcium recipients. Retrospective data from IHCA cases also failed to show benefit and, in some cases, suggested potential harm.

Conclusion: Current evidence does not support routine calcium administration during cardiac arrest in the absence of clear clinical indications (e.g., severe hyperkalemia or hypocalcemia). The use of calcium should be carefully considered, as it may be associated with worse outcomes. Further studies are needed to clarify its role in specific patient subgroups.

Poster #112: The Role of Recall Simulation As A Teaching Modality To Improve Learning And Short-Term Memory (STM) Retention In Medical Students

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Kern Medical Simulation Center
Kern Medical Psychiatry Department

Abstract:
Introduction/Background: Simulation-based education is increasingly used in psychiatric training to strengthen diagnostic reasoning, communication, and clinical interview skills. It offers a controlled, risk-free environment for students to practice key interactions before encountering real patients. Studies have shown that simulation improves diagnostic accuracy, enhances crisis management, and fosters empathy among learners.1 Additionally, structured simulation exercises have been associated with improved cognitive, psychomotor, and affective outcomes in clinical education.2
In recent years, there have been innovative techniques in simulations including recall simulations where learners define and teach clinical terms without using the term itself to reinforce memory retention. This study aims to see how recall simulation improves short term memory retention and learning in medical students through a simulation exercise conducted during their psychiatry rotation.

Methods: A descriptive, cross-sectional design was employed with 60 medical students participating in the study during their psychiatry rotation. Students were given pre- and post-quizzes to assess their knowledge of psychiatric terms and clinical decision making before and after they experienced a simulation. Participants also completed surveys capturing demographics (age, year in school, clinical experience, specialty interest, and prior simulation exposure) and attitudes toward simulated learning. The simulation included a pre-brief describing the study, simulation in which one student asked questions to a standardized patient while others observed, and a case discussion. A recall simulation exercise was also performed.

Results and Conclusion: The difference between pre- and post-quiz scores (mean = 1.42, p-value = 0.0000) shows a statistically significant improvement after the intervention. Survey data indicated 63% of students reported discomfort with simulated learning and 62% indicated they did not view it as important. However, the recall simulation intervention led to statistically significant improvements in quiz scores, suggesting that simulation-based learning, especially those incorporating active recall, can be effective for knowledge retention. Although medical students did not view the simulated learning as important, the statistically significant difference between the pre and post-quiz scores suggests that recall simulations can be effective in learning.

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Poster #113: The role of HSF1 in the response to PARP inhibition in BRCA-mutant Breast Cancer

Vrushabh Ulhaskumar[1], Richard Carpenter[1,2,4], Ken Nephew[1,3,4]
[1]Medical Sciences Program, Indiana University School of Medicine-Bloomington, [2]Department of Biochemistry and Molecular Biology, [3]Department of Cellular and Integrative Physiology, [4]Simon Cancer Center, Indiana University School of Medicine

Abstract:
Breast Cancer, the most common type of cancer in women, is the second leading cause of cancer deaths in women. Furthermore, 1 in 8 women, about 12%, will develop invasive breast cancer over the course of her lifetime. In the case of Triple Negative Breast Cancer (TNBC), the three most common receptor variants to promulgate most breast cancer growth- estrogen, progesterone, and HER-2- are not present. TNBC has a dismal prognosis compared to other breast cancer subtypes. Additionally, BRCA mutations are associated with an increased risk for developing breast cancer and occurs more frequently in Triple Negative Breast Cancer (TNBC). Cancer patients with BRCA mutations are commonly treated with PARP inhibitors, as the cells become reliant on the PARP enzyme to repair the damaged DNA that was once repaired by the functional BRCA gene. Interestingly, combination therapy with the DNMT inhibitor guadecitabine and the PARP inhibitor Talazoparib enhanced PARP efficacy in BRCA-mutant and BRCA normal breast cancer cells. Still, however, breast cancer patients develop resistance to PARP inhibitors, and the molecular mechanisms are unknown. Our lab previously observed evidence of increased activity of the stress response transcription factor heat shock factor 1 (HSF1) in response to PARP inhibitors, but its role in the killing efficacy of PARP inhibitors remains unknown. To analyze the heat shock factor response to talazoparib exposure, cell viability assays and western blotting were conducted. Using HCC 1395 and HCC 1937 breast cancer cells, with both lines being BRCA mutants, we observed the IC50, dose at which 50% of cells are alive after treatment, of talazoparib, a PARP inhibitor in clinical trials for breast cancer, to be approximately 90 nM in HCC 1395 and 21 μM in HCC 1937 cells. Interestingly, the HCC 1395 cells were found to have significantly lower protein levels and protein activity of HSF1 compared to HCC 1937 cells. Additionally, treatment of HCC1395 cells with talazoparib led to increased activation of HSF1. Lastly, in HCC 1395 cells, which have low HSF1 levels and activity, a significant increase in the IC50 was observed when HSF1 was exogenously expressed. Taken together, these data strongly suggest that HSF1 is activated in response to PARP inhibition, and HSF1 can mitigate the effectiveness of PARP inhibitors. These results may indicate that HSF1 can potentially contribute to PARP inhibitor resistance. For future directions, we aim to assess whether DNMT inhibition can enhance the response of PARP inhibitors in the context of high HSF1 activity.

Poster #114: Conjunctival blue nevus in a child – Case report and review of literature

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Abstract:

Purpose: To report a rare case of a conjunctival blue nevus in a child.

Observations: A 10-year-old girl underwent an excisional biopsy for an atypical growing melanocytic conjunctival lesion. The diagnosis of a conjunctival blue nevus was confirmed on histopathology. We describe the histopathology and the anterior segment optical coherence tomography features of a blue nevus in a 10-year-old child along with a review of literature.

Conclusion and importance: Conjunctival blue nevus is rare and has rarely been reported in a child. Multimodal imaging may help document lesion progression. This condition should remain in the differential for a growing, pigmented conjunctival lesion.

Poster #115: A Needs-Based Assessment of Health Disparities in Fresno County: Making a Case for the Implementation of a Novel Community Health Worker (CHW) Program

Ynez Nguyen[1], Valeria Gomez[1], Maria Nguyen Fricko[1], Marian Badriyha[1], Tatyana Opalko[1], Senuri Boralessa[1], Sarjinder Kaur[1], Harjas Jassal[1], Dr. Rosa Manzo, Dr. Mohammad Rahman

[1]California Health Sciences University College of Osteopathic Medicine

Abstract:

Community Health Worker (CHW) Programs are the training and implementation of community health workers (CHWs) into the community to lessen health disparities and increase healthcare access in underserved populations. CHWs share the language and experiences of their fellow community members and work alongside the healthcare system to provide many healthcare services. CHW programs are shaped by the communities they serve. To implement a new CHW program in Fresno County, we must first understand the needs and health disparities specific to Fresno County's underserved populations, specifically Asian and Latino populations. What are the most prevalent health disparities in Fresno County, and how can the novel implementation of a CHW program lessen said health disparities by increasing healthcare access and promoting disease prevention within underserved Latino and Asian populations in Fresno County? To assess Fresno County's population demographics and needs, we will screen for healthcare-specific parameters in public databases and websites to collect information on existing healthcare infrastructure and patient demographic information of Fresno County. Assessment of Fresno County's demographics yielded that 54.23% of Fresno County residents identified as Hispanic/Latino, while 10.72% identified as Asian. These will be our targeted populations. It is important to note that education levels among ethnicities showed significantly lower education levels in Fresno County compared to California as a whole. Among the top needs of the community in a Central Valley Community survey in 2023 were safe places for physical activity, access to healthy food, and mental health/substance use disorder programs for parents. We identified the most significant chronic health issues prevalent in Fresno County through our community needs assessment: high blood pressure, diabetes, obesity, and poor mental health. A lack of cancer screenings results in a disproportionate incidence of cancers in communities of color. Fresno County is a significantly underserved community that would greatly benefit from implementing a CHW program to address the specific needs of the community and lower barriers to access to equitable healthcare.

Poster #116: AORTIC DISSECTION STANFORD TYPE B WITH RIGHT HEART FAILURE AND PULMONARY ARTERIAL HYPERTENSION IN THE SETTING OF METHAMPHETAMINE USE DISORDER

Zaragoza L. MD , Limvalencia S. MD , Wasiq K. MD, Lau K . MD
Sierra View Medical Center, GME Internal Medicine

Abstract:
Use of psychostimulants with methamphetamine has steadily increased since 2011. According to the CDC, overdose deaths related to psychostimulants "increased more than 300% from 1.2 per 100,000 in 2013 to 5.0 per 100,000 in 2019" (Jones). Rural communities, including Tulare County, California have also been impacted; Tulare reported 8.17 per 100,000 deaths with psychostimulants (California Overdose Surveillance Dashboard). Rural locations face additional barriers related to social determinants of health, including access to primary health care, social services, and annual income less than fifty thousand (Jones). The complexity of this disorder is further compounded by its health effects, such as hypertension, cardiomyopathy, aortic dissection, and pulmonary arterial hypertension (PAH).

Case Report: A 55-year-old male with a past medical history of hypertension, chronic kidney disease, diastolic heart failure, and methamphetamine use, who presented to the emergency department with dyspnea and worsening bilateral lower extremity edema. Initial vitals showed hypertension (271/126), tachycardic, and SpO2 92% on room air. Elevated troponin of 0.287 sinus tachycardia, unmeasurable BNP, and D-Dimer of 1450. Chest-x ray showed vascular congestion. Urine toxicology was positive for methamphetamine. After receiving multiple antihypertensives, the patient's blood pressure dropped, and he became obtunded. Transferred to ICU for pressors for one day then transitioned to high flow nasal cannula.
CT head showed multiple embolic infarcts in the left temporal and bilateral parietal lobes. Incidental finding on CTA head/neck showed partially visualized descending aortic aneurysm with an extensive thrombus. CT angiogram of the chest/ abdomen revealed a Stanford Type B aortic dissection extending from the subclavian artery to the celiac and superior mesenteric axis, and a psoas hematoma. No pulmonary embolism was visualized. The Echocardiogram revealed a severely dilated right atria and ventricle with an estimated right ventricular systolic pressure (RSVP) of 60mmHg.
The patient was treated with aggressive diuresis for heart failure and weaned off HFNC. Additionally, the patient recalled an episode of sudden back pain and syncope months prior. This pointed to an aortic dissection that was chronic at the time of discovery, thus he was medically managed with a strict anti-hypertensive regimen, including Nifedipine. Discharged after 12 days on dual-antiplatelet and restarted heart failure medication.

Discussion: Long-term use of methamphetamine predisposes individuals to significant cardiovascular pathologies as demonstrated in this case. Chronic methamphetamine use led to pulmonary arterial hypertension, right heart failure, and eventually thrombosed Stanford Type B Aortic Dissection. The aortic dissection was complicated by embolic strokes from the thrombus at the descending artery. It is important to keep thrombosis and aortic dissection high on the differential in patients with elevated D-dimers and hypertension with methamphetamine use. First-line treatment for Stanford Type B aortic dissection typically involves blood pressure control with beta blockers, but calcium channel blockers may also be considered if recent methamphetamine use is suspected within less than ten hours given its half-life.

Conclusion: Methamphetamine abuse is a rising national healthcare burden that causes a multitude of cardiovascular pathologies impacting even rural communities with already limited resources.

Poster #117: Addressing Food Insecurity Among Medical Students: Evaluating the Impact of a Student-Run Food Pantry at CHSU-COM

Lakshyaa Balakrishnan, Shayan Moghisaei, Ikroop Miglani, Brian Tran, Natalie Pardo, Nurit Hirsh, Fahad Molla, Vishal Kumar Gupta, Jessica McCune, Sara Goldgraben MD, MPH, MBA.
[1]California Health Sciences University, College of Osteopathic Medicine

Abstract:

Background: Medical students face high levels of stress and financial strain, both of which can contribute to food insecurity. Preliminary reports at California Health Sciences University College of Osteopathic Medicine (CHSU-COM) suggested that up to 1 in 2 students experienced some degree of food insecurity, consistent with national data. In response, the CHSU-COM Student Government Association (SGA) established a student-run food pantry to support peers facing food access challenges.

Objective: To evaluate the effectiveness of the CHSU-COM food pantry in addressing student food insecurity and its perceived impact on food access, stress, and academic performance.

Methods: A post-intervention survey was distributed to CHSU-COM students who were aware of or had utilized the food pantry. Questions assessed changes in food security, ability to afford balanced meals, frequency of meal skipping, and overall impressions of the pantry's usefulness. Responses were analyzed descriptively to identify trends in perceived impact.

Results: Out of 7 survey respondents, 57% reported that food purchased did not last and they lacked funds to buy more ("sometimes true"). Additionally, 43% reported they could not afford balanced meals "sometimes" or "often." One respondent (14%) reported cutting or skipping meals due to financial limitations. Following the launch of the food pantry, 71% of students stated that the pantry helped them in times of food insecurity. All respondents (100%) agreed that the pantry is an important addition to campus and would recommend it to other students experiencing food insecurity.

Conclusion: The CHSU-COM student-run food pantry has demonstrated early success in mitigating food insecurity and providing a valued resource for students. Most respondents experienced at least some degree of food-related hardship, and the pantry was widely viewed as helpful and necessary. These results support continued operation and potential expansion of the pantry to further address student wellness and academic sustainability.

Poster #118: Advancing Health Access for Afghan Refugees: A Collaborative Community Initiative

Sahar Ahmadi (Project Specialist), Pa Houa Vang (Staff Analyst).
[1] California State University Fresno

Abstract:
This project investigates healthcare access challenges and social service needs among newly resettled Afghan refugees in Fresno County. Through a mixed-methods approach—including surveys, focus groups, and stakeholder engagement—we identified key barriers such as language access, transportation limitations, and mental health stigma. Findings highlight the need for culturally responsive care, improved interpretation services, and tailored community outreach. The study informed strategic planning with local partners and led to the development of practical solutions, including ESL support, DMV prep workshops, and Afghan Health Forums. Our work emphasizes the importance of community-led models in reducing disparities and guiding refugee health policy.

Poster #119: Phenotypic Comparison of Wild-Type and Chalcone-Resistant C. elegans mutants Using Worm Tracker & Morphological Observations

Sahar Ahmadi, Uriel Plascencia and Alejandro Calderón-Urrea

[1] California State University Fresno, Department of Biology

Abstract:
Chalcones are bioactive compounds with nematocidal properties, yet the mechanisms underlying chalcone resistance in Caenorhabditis elegans remain unclear. Understanding the physiological consequences of chalcone resistance, observed in chalcone resistant mutant nematodes generated in our lab (10 lines of Chalcone 25 mutant nematodes), can provide insight into genetic pathways affected by these compounds. This study will determine the genetic status of these mutants, that is, whether they are dominant or recessive. To do this, male nematodes of the wild-type strain VC2010 will be crossed to sperm depleted hermaphrodites mutants, and the F2 will be analyzed for the segregation of the resistant phenotype: 75% resistant nematodes will indicate the mutation is dominant, and 25% of resistant nematodes will indicate that the mutation is recessive. We prepared all the strain stocks we need and recently generated the first cross with the fist mutant; we will be reporting on the results of this first cross. Additionally, this study employs Worm Tracker, an image-processing plugin for Fiji/ImageJ, to analyze movement patterns, speed, path trajectories, and behavioral interactions between wild-type (VC2010) and Chalcone 25-resistant mutants of C. elegans. Using Worm Tracker, locomotion will be tracked by analyzing successive frames and detecting object movement based on threshold parameters. The software will assess speed, movement trajectories, and potential motility defects, providing a quantitative comparison between resistant and wild-type nematodes. Additional manual observations of developmental timing and body morphology will supplement computational tracking data. This project aims to determine whether chalcone resistance mutations impact motility, behavioral interactions, or physical characteristics of C. elegans. We have established baseline locomotion profiles for wild-type nematodes and a dpy-10 mutant stain, which is the first step of this part of the project. This study contributes to a broader understanding of chalcone resistance mechanisms and their potential physiological trade-offs.

The worm tracker is a plugin that works with Fiji or ImageJ applications. It is a free plugin allowing us to analyze the c elegans movement, speed, path, and behavior. This information can be used to analyze behavioral interactions or movement patterns between the wild types and the mutants. This is done by the worm tracker automatically detecting the c elegans movement. This is done by analyzing each frame and tracking them across successive frames. It does this by determining which objects in successive frames are closest together based on the threshold or parameters set on it. If multiple objects fall within the same range, the closest one is selected and flagged in the output. The wrMTrck adds additional functionality to MTrack2, enhancing its tracking capabilities if wanted.

Poster #120: Insights and Follow-up to a Skin Cancer Screening Event for Central Valley Community Members

Gigi Thao[1], Emily Uyen Thai[1], Felicia Hung, MPH1, Gregory Simpson, MD[2], Carleen de Leon, MD[1]
[1]California Health Sciences University College of Osteopathic Medicine, Clovis, CA
[2]Department of Dermatology, University of California, Fresno, CA

Abstract:
Skin cancer, particularly melanoma, is a growing health concern. Early detection is crucial for improving outcomes; however, incidence rates are rising in minority populations, particularly among Black, Hispanic, and Asian/Pacific Islander individuals, and these groups often present with melanoma at later stages. Studies have shown that, even at the local stage, the survival rates for these groups are lower compared to White individuals. A free skin cancer screening event was organized in Clovis, California, to address the barriers to dermatological care within the diverse community of Fresno County, which includes significant Hispanic, Asian/Pacific Islander, and Hmong populations. The event aimed to enhance early detection of melanoma and improve health outcomes for these underserved populations. The event was planned over six months, adhering to the National Asian Pacific American Medical Student Association (APAMSA) Skin Cancer Screening Toolkit and with logistical support from California Health Sciences University, College of Osteopathic Medicine (CHSU-COM). Key resources included multi-language educational materials, screening tools, and volunteer training. A local dermatologist oversaw the screening portion of the event. Funding was secured through the CHSU Student Government Association and National APAMSA grants. Community outreach efforts targeted Asian/Pacific Islander and immigrant communities through flyers and social media, leading to 17 participants ranging in age from 18 to 65. Future events could also benefit from collaborating with organizations from the local community to reach a broader audience. This event demonstrates the potential for free skin cancer screenings to improve early detection and health outcomes in underserved communities.

Selected Podium Presentations for 2025 Research Day

(10 min Talks, 2 min for Questions)

Evaluating the Impact of BMI on Surgical Outcomes in Transgender and Cisgender Patients Undergoing Total Laparoscopic Hysterectomy (TLH): A Comparative Study

Julie Nicole, MD, and Brian Tran, OMS-III
California Health Sciences University College of Osteopathic Medicine, Clovis, CA

Abstract:
Total laparoscopic hysterectomy (TLH) is a standard minimally invasive surgical procedure. While the impact of body mass index (BMI) on TLH outcomes in cisgender women is well-documented, data on transgender men remain limited. This knowledge gap is clinically relevant, as obesity and testosterone-based gender-affirming hormone therapy (GAHT) may affect surgical outcomes and histopathological findings in transgender patients. We aim to provide critical insights into the impact of BMI on TLH outcomes in transgender men in comparison to cisgender women and to highlight the effects of GAHT on BMI and uterine histopathology and the impact on surgical outcomes between groups. We conducted a retrospective chart review of 35 transgender male and 28 cisgender female patients who underwent TLH by a single surgeon at a community hospital. Key variables included BMI, estimated blood loss (EBL), and uterine histopathological findings. Transgender male patients (mean age 27.6 ± 6.2 years, BMI 30.4 ± 8.9) had a mean EBL was 41 ± 40.4 cc's and uterine weight (71.9 ± 30.4 grams). The most prevalent histopathological findings were weakly proliferative (51.4%) and inactive/atrophic (40%) endometrium. Cisgender female patients (mean age 42.6 ± 5.7 years, BMI 32.3 ± 5.6) had a higher mean EBL 85.7 ± 132.8 cc's and uterine weight (139.5 ± 69.2 grams). The most prevalent histopathological findings included leiomyomata (53.6%) and adenomyosis (46.4%). Statistically significant differences were found in BMI ($p=0.033$) and uterine weight ($p = <0.001$) between groups, but not in EBL. Although slightly positive, correlations between BMI and EBL or uterine weight were not statistically significant in either group. While our study did not find statistically significant differences, trends suggest that BMI may influence surgical complexity and histopathologic variability in transgender male patients undergoing TLH. These findings support the need for individualized surgical planning and further research to better understand the interplay between GAHT, BMI, and surgical outcomes in this patient population.

Unmasking Malignant Hyperthermia: A Rapid Response to a Hypermetabolic Crisis

Nalchajyan H., BS[1]; Chang E., BS[1]; Lee C., DO[1]; Cintron L., MD[2]; Nathan N., MD[2].

Abstract:

Background: Malignant hyperthermia (MH) is a rare, life-threatening pharmacogenetic disorder triggered by exposure to certain volatile anesthetics and depolarizing neuromuscular junction (NMJ) blockers. The timely recognition and treatment of MH are essential in preventing serious complications, including rhabdomyolysis, hyperkalemia, and multi-organ failure. This abstract presents the case of an 18-year-old male who developed MH during orthopedic surgery, emphasizing diagnostic challenges, management strategies, and the importance of early intervention.

Case presentation: An 18-year-old male with a past medical history of asthma presented for open reduction and internal fixation (ORIF) of right femur and tibia fractures sustained in a motor vehicle accident. He had no prior surgical history and denied any family history of anesthesia complications. General anesthesia was induced with midazolam, fentanyl, etomidate, and succinylcholine, and maintained with sevoflurane. Approximately three hours into the procedure, the patient developed hyperthermia (103F), hypercarbia (ETCO2= 58.5 mmHg), and tachycardia (HR 120-130 bpm). MH was promptly suspected, and the MH protocol was initiated, including: discontinuation of sevoflurane, cleaning out the anesthesia machine, administration of IV dantrolene (2.5 mg/kg, total dose 260 mg), and external cooling measures. Within 15 minutes, the patient's temperature and ETCO2 normalized. Postoperatively, the patient was transported to the ICU intubated and sedated for continued monitoring and received additional doses of dantrolene. Laboratory findings revealed an elevated creatine kinase (CK) of 6,397 U/L, consistent with rhabdomyolysis, but no evidence of acute kidney injury (AKI). The patient recovered uneventfully and underwent a second surgery three days later under alternative anesthetic techniques without recurrence of MH.

Discussion: This case highlights the diagnostic challenges of hypermetabolic crises in perioperative settings, which require differentiation from similar conditions such as neuroleptic malignant syndrome, thyroid storm, paroxysmal sympathetic hyperactivity, and drug-induced rhabdomyolysis. Early recognition, adherence to established protocols, and timely dantrolene administration were critical to achieving a favorable outcome. Although the patient had no surgical or family history of MH, this case underscores the importance of vigilance, as de novo mutations in the RYR1 or CACNA1S genes can independently lead to MH susceptibility. The discussion also emphasizes the need for enhanced global data collection and reporting systems to better understand MH's epidemiology and optimize preparedness.

Conclusion: MH is a rare yet critical condition requiring prompt diagnosis and intervention. This case underscores the necessity for perioperative preparedness, including team training, protocol adherence, and access to dantrolene, to mitigate risks and improve patient outcomes.

Nutritious and Delicious! Improving Nutritional Awareness and Access in a Rural Health Hospital in California

Pinches Y., Pinches J., Edun A., Khan M.
Adventist Health Tulare Family Medicine Residency Program

Abstract:
Patients, their families, and health care workers are a critical population for the achievement of optimal health and well-being. Nutrition is a critical component of preventive health care for all people, especially patients who are hospitalized yet nutritional awareness and options in rural areas remains low. This can lead to increased morbidity and mortality from preventable diseases and increased health care costs.

To address this issue, this study aims to implement a quality improvement project to increase nutritional awareness and coverage in rural health care systems. Methodology: The research was conducted as a two part study. The first was assessment and intervention to improve nutritional awareness as it results in disease process through a test of knowledge performed before and after a 4 week intervention where items were labelled with either their health benefits or detrimental effects on health. The second was offering a whole new nutrition rich option to see if the combination of labels and access to nutrient rich foods would actually impact the nutritional choices health care staff and patients in the community made for their food choices.

Results: Nutritional awareness increased by 17% . Patients and their community members as well as health care staff decreased their nutrient poor choices 12% and increased their choices for nutritional choices by 12%.

Conclusion: Increasing nutritional awareness through labeling and choices have led to real changes for nutrition rich foods as well as nutritional knowledge. Therefore, at a physician-patient level, making specific connections between food and disease will increase their nutritional awareness. At a health system level, increasing nutrient rich food choices may lead to increased healthy choices, and their health in the community at large. At a community level, this also means that restaurants that offer healthy, nutritious options have the opportunity to increase the health choices of the community members they serve.

Fatigue Analysis and Validation of a Deep-Learning-Enhanced Finite Element Model for Acetabular Cup Screw Fixation in Total Hip Arthroplasty

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Abstract:
Total hip arthroplasty (THA) commonly utilizes press-fit fixation, but screws are often required for suboptimal bone quality. This study integrates finite element analysis (FEA) and deep learning (DL) to optimize screw placement, improving implant stability, load distribution, and fatigue resistance while reducing computational time. FEA simulations evaluated stress, strain, deformation, and fatigue failure risk, while fatigue analysis identified high-risk regions under cyclic loading, emphasizing optimized screw positioning. A design optimization process refined implant parameter, and a non-linear regression algorithm trained a DL surrogate model for stress prediction. The fatigue analysis revealed stress concentrations at the screw-bone interface, highlighting potential failure zones. The DL-FEA model successfully replicated deformation and fatigue life predictions, achieving MSE = 0.11%, with R^2 = 0.93 and Pearson coefficient = 0.97, confirming strong agreement with traditional FEA. Additionally, DL-FEA significantly reduced computational time, enabling faster preoperative planning and more efficient implant evaluation. Future work will focus on expanding datasets, improving fatigue life estimation, and validating with clinical and experimental data. Incorporating adaptive AI-driven predictive modeling can further refine the accuracy of implant performance simulations, ultimately enhancing personalized orthopedic treatment strategies. Incorporating dynamic motion analysis and patient-specific modeling will further enhance prediction accuracy. This study provides a computational framework for personalized implant design, potentially reducing revision rates and improving long-term outcomes for THA patients.

Nanoparticle Delivery Systems for Skin-Localized Chemotherapy in Non-Melanoma Skin Cancers

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Abstract:

Nanoparticle delivery systems are innovative platforms for skin-localized chemotherapy in the treatment of non-melanoma skin cancers (NMSCs), including basal cell carcinoma (BCC) and cutaneous squamous cell carcinoma (cSCC). These common cancers often require localized treatment approaches to minimize systemic toxicity and preserve healthy skin. Nanoparticles, engineered at the nanoscale, offer unique advantages in delivering chemotherapeutic agents directly to tumor sites through enhanced skin penetration, sustained drug release, and selective targeting of cancer cells. Liposomes, polymeric nanoparticles, solid lipid nanoparticles, and dendrimers have demonstrated high efficacy in encapsulating drugs such as 5-fluorouracil, doxorubicin, and cisplatin, improving their bioavailability and therapeutic outcomes. Nanoparticle-based systems leverage passive targeting through enhanced permeability and retention (EPR) effects and can be further functionalized with ligands to achieve active targeting of overexpressed receptors on NMSC cells. These systems have shown potential in reducing off-target effects, minimizing drug degradation, and improving patient compliance compared to traditional topical or systemic therapies. Preclinical studies have highlighted the ability of nanoparticles to penetrate the stratum corneum and accumulate in tumor tissue without significant systemic absorption, emphasizing their role in localized treatment. Furthermore, the integration of nanoparticles with photodynamic and immunotherapy agents offers synergistic effects, enhancing tumor eradication and immune activation. Through utilizing localized drug delivery in NMSCs, nanoparticle-based therapies represent a promising avenue for effective, targeted treatment while minimizing adverse effects, ultimately improving outcomes for patients with these skin cancers.

CHSU CALIFORNIA HEALTH SCIENCES UNIVERSITY