ACP American College of Physicians
Leading Internal Medicine, Improving Lives | Hawaii Chapter

2022 Hawai'i Chapter

Scientific Meeting

Transitions: Changes in Life

"Ho'ololi i ka wā"

Saturday, February 26, 2022

Virtually via Zoom

- *This activity has been designated for 5.5 CME credits and 5.5 MOC points*

American College of Physicians

2021
ACP Chapter
Excellence
Gold Award

Presented to the

Hawaii Chapter

for meeting the standards determined by the
Chapters Subcommittee to be a truly extraordinary chapter that
surpasses excellence in chapter management.

Chair, Chapters Subcommittee
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Learning Objectives

At the conclusion of this activity, the participant will be able to:

- Understand Updates to COVID-19
- Gain insight on Post-acute and Long-Term COVID-19
- Understand Transgender: Female/Male and Male/Female

CME Accreditation and MOC Points

The American College of Physicians is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

The American College of Physicians designates this live activity for a maximum of **5.5** ***AMA PRA Category 1 Credit(s)*** ***TM***. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Successful completion of this CME activity, which includes participation in the evaluation component, enables the participant to earn up to 5.5 medical knowledge MOC points in the American Board of Internal Medicine's (ABIM) Maintenance of Certification (MOC) program. Participants will earn MOC points equivalent to the amount of CME credit claimed for the activity. It is the CME activity provider's responsibility to submit participant completion information to ACCME for the purpose of granting ABIM MOC credit.

Your Opinion Counts

At the conclusion of the meeting, please take a moment to complete the meeting survey form and verification of attendance form in your packet and return it to the registration desk. We value your opinion and use the surveys in planning future meetings.

Chapter Excellence Award

We are pleased to announce that our chapter is in receipt of the 2021 Chapter Excellence Award. The Chapter Excellence Award recognizes those chapters that excel in reaching the standards for managing a chapter, such as communicating to members, instituting Medical Students' and Resident/Fellow Members' activities and advancing and recruiting members.

Resident/Fellows' and Medical Students' Activities

Clinical vignettes, posters, and research papers prepared by Resident/Fellow Members and Medical Students will be presented at the meeting. Winners will receive a cash prize and be eligible for entrance into the national competition held during the ACP Internal Medicine National Meeting 2021.

Pathways to Fellowships

Attendance at chapter meetings can help all ACP members meet the qualifications for advancement to Fellowship. It is especially important for those applying under the pathway that calls for five years of activity as a member.

Governor

Samuel Evans, MD, FACP - Assistant Clinical Professor, Department of Medicine, University of Hawai'i and Hawai'i Pacific Health, Honolulu, HI
ACP Governor, Hawai'i Chapter
Email: samevansmd@gmail.com

Program Committee

Co-Chairs:
Kuo-Chiang Lian, MD, Assistant Professor, Department of Medicine, University of Hawai'i and Queen's Medical Center, Honolulu, HI
Serene Del Mundo, MD, Assistant Clinical Professor, Department of Medicine, University of Hawai'i and Queen's Medical Center, Honolulu, HI

Committee:
Michael Abdo, MD, Chief Medical Resident, Tripler Army Medical Center, Honolulu, HI
Mary Ann Antonelli, MD, FACP, Clinical Professor, Department of Medicine, University of Hawai'i and Veterans Affairs, Honolulu, HI
S. Kalani Brady, MD, MACP, Associate Clinical Professor, Department of Native Hawaiian Health, University of Hawai'i, Honolulu, HI
Joel Brown, MD, FACP, Clinical Professor, Department of Medicine, University of Hawai'i, Honolulu, HI
Matthew Byrne, MD, Chief Medical Resident, Tripler Army Medical Center, Honolulu, HI
Lisa Camara, MD, FACP, Assistant Clinical Professor, Department of Medicine, University of Hawai'i and Physician at Kaiser Permanente, Honolulu, HI
Serene Del Mundo, MD, Assistant Clinical Professor, Department of Medicine, University of Hawai'i and Queen's Medical Center, Honolulu, HI
James Epure, MD, FACP, Associate Clinical Professor, Department of Geriatrics, University of Hawai'i and Kuakini Medical Center, Honolulu, HI
Yue Fang, MD – Chief Medical Resident, Kaiser Permanente, Honolulu, HI
Alvin Furuike, MD, FACP, Clinical Professor, Department of Medicine, University of Hawai'i and Queen's Medical Center, Honolulu, HI
Donald Helman, MD, FACP, Associate Clinical Professor, Department of Medicine, University of Hawai'i and Kaiser Permanente, Honolulu, HI
Win Kanitsoraphan, MD, Chief Medical Resident, UH Internal Medicine Residency Program, Honolulu, HI
Jennifer Katada, MD, Assistant Clinical Professor, Department of Medicine, University of Hawai'i and Kaiser Permanente, Honolulu, HI
Stephen Kemble, MD, **FACP,** Assistant Clinical Professor, Department of Medicine, University of Hawai'i and Retired, Honolulu, HI
Diana Kim, MD, Chief Medical Resident, Kaiser Permanente, Honolulu, HI
Dane Kurohara, MD, Chief Medical Resident, UH Internal Medicine Residency Program, Honolulu, HI
Kuo Lian, MD, FACP - Assistant Professor, Department of Medicine, University of Hawai'i and Queen's Medical Center, Honolulu, HI
Janet Onopa, MD, FACP – Assistant Clinical Professor, Department of Medicine, University of Hawai'i and Retired, Honolulu, HI
Abby Pandula, MD, - Assistant Clinical Professor, Department of Medicine, University of Hawai'i and Kaiser Permanente, Honolulu, HI

Jason Sapp, MD, FACP – LTC United States Army, Tripler Army Medical Center, Honolulu, HI
Florian Sattlemachier, MD, FACP – Assistant Clinical Professor, Department of Medicine, University of Hawai‘i , Honolulu, HI
Jarren Takaki, MS3, 3rd year Medical Student, John A. Burns School of Medicine, University of Hawai‘i, Honolulu, HI
Malu Tang, MS3, 3rd year Medical Student, John A. Burns School of Medicine, University of Hawai‘i, Honolulu, HI
Elizabeth K. Tam, MD, FACP, Professor Department of Medicine, University of Hawai‘i, Honolulu, HI
Eric Wein, MD, Chief Medical Resident, UH Internal Medicine Residency Program, Honolulu, HI
Philip Verhoef, MD, FACP – Assistant Clinical Professor, University of Hawai‘i and Kaiser Permanente, Honolulu, HI
James Yess, MD, FACP – Assistant Professor, Department of Medicine, University of Hawai‘i, Honolulu, HI

Faculty

Brita Aramaki, MD – Dr. Aramaki was born in Hawaii, but grew up on the mainland. She returned to Hawaii to attend medical school at JABSOM and have remained here since, completing Internal Medicine residency and Geriatric Medicine Fellowship at UH. She has been at Queen’s Medical Center since 2015, practicing as an inpatient geriatrician, and recently became Medical Director for Geriatrics Services in 2021.

Ajay Bhatt, MD – Dr. Bhatt did his medical education at Rosalind Franklin University. Afterward he did his residency training at Emory University School of Medicine in Emergency Medicine. He went on to do a fellowship in Medical Education at the John A Burns School of Medicine. Dr. Bhatt currently works at The Queen’s Medical Center specializing in Wound Care.

Monica Cheung-Katz, MD – Like many of my esteemed colleagues, I am a proud graduate of the University of Hawai‘i at Mānoa John A. Burns School of Medicine. I completed my medical education as well as my residency and fellowship here in Hawai‘i. As a board certified Geriatric and Family Medicine physician, I serve as a member of the Queen’s Geriatrics House Call Program.

Elisa Choi, MD, FACP – Dr. Choi is the Governor of the Massachusetts Chapter of the American College of Physicians (ACP) and current Chair-Elect of the Board of Governors of ACP national, and will step into the Board of Governors Chair role in 2022. Dr. Choi is a member of the Executive Committee of the ACP Board of Regents (the fiduciary oversight body of the ACP). She is a member of ACP's delegation to the American Medical Association House of Delegates. She sits on numerous national ACP committees. Dr. Choi is Board Certified in Internal Medicine and Infectious Diseases, is a Fellow (FACP) of ACP, is a Fellow (FIDSA) of the Infectious Disease Society of America, and practices in community-based medicine as an Internist, and as an Infectious Disease, HIV, and Hepatitis infection specialist. Dr. Choi is the Chief of the Internal Medicine department of her practice. She has a particular interest in healthcare disparities, and in providing culturally competent care of health issues affecting Asian-Pacific Islander and other minoritized populations and communities. She has published articles, has written book chapters, and has been invited to lecture regionally, nationally, and internationally, on various Infectious Disease, HIV, and healthcare and health policy

topics. Dr. Choi has been on the faculty at Harvard Medical School for many years. Dr. Choi is the first woman, and only Asian American female, to serve as Governor, in the history of the MA ACP chapter. In addition to her professional efforts, Dr. Choi has been active in the Asian American & Pacific Islander (AAPI) community statewide and nationally, for many years. She is the recipient of the MA ACP Chapter's Leadership Award in 2014, the 2019 Massachusetts Asian American Pacific Islander Civil Rights Forum Unsung Hero Award, and several other awards distinctions.

Dominic Chow, MD, PhD, MPH - Dr. Dominic Chow completed medical school at the State University of New York Health Science Center at Brooklyn and a Combined Internal Medicine and Pediatric Residency at the Yale Medical School Affiliated Bridgeport Hospital, where he was Chief Resident. He subsequently studied Preventive Medicine at the Johns Hopkins School of Hygiene and Public Health where he earned his Master of Public Health in International Health. Eager to reduce childhood mortality and morbidity, he worked in Guyana, South America as short-term consultant under the Expanded Programme for Immunization at the Pan American Health Organization (PAHO). He helped curb a Yellow Fever outbreak in Guyana during the late 1990's.

Scott Denny, MSPA, PA-C - Scott is Medical Director of Gender Health Services and Medical Director of HIV Services for Kaiser Permanente Hawaii. Scott established "Care Pathway Center" for Kaiser Permanente Hawaii. Care Pathway Center provides specialized care in three distinct areas: HIV medical management; HIV prevention (PrEP); and gender affirming healthcare for transgender and gender diverse people. Scott is on faculty for the Kaiser Permanente Internal Medicine Residency program and guest lectures at JABSOM. In 2019, Scott received the Pacific Business News "Business of Pride Award" - recognized as an outstanding leader and advocate, advancing LGBTQ leadership and equality in the state of Hawaii.

Marina Hitosugi-Levesque, MD - Marina was born and raised on Oahu, completed her MD at JABSOM, residency at Olive View- UCLA and geriatrics fellowship at UH. She works in the Queen's geriatrics clinic

Fritzie Igno, MD – Dr. Fritzie Igno is the Medical Director of Queen Emma Clinics (QEC) at Queen's Medical Center. She completed her Internal Medicine Residency training at St. Joseph's Mercy Hospital in Pontiac, Michigan and Fellowship in Medical Education at the John A. Burns School of Medicine, University of Hawaii where she is also an Assistant Professor in the Department of Medicine. She completed an Advanced Quality Training Program in Healthcare Delivery Improvement under Dr. Brent James, a world renowned leader for his work involving patient safety and quality improvement. She is Board Certified in Internal Medicine

Elizabeth Kiefer, MD – Dr. Elizabeth Kiefer completed a residency in Internal Medicine at the Mount Sinai Hospital in New York City, followed by a fellowship in general internal medicine and epidemiology at Columbia University. Her previous research has focused on global women's health in HIV. She is an assistant clinical professor of medicine in the department of internal medicine at JABSOM.

Jennifer Nakamatsu, MD - I was born and raised in Hawaii. I attended JABSOM for medical school, UHIMRP for internal medicine residency and UH Geriatric fellowship. I knew from the

beginning that I wanted to practice and serve the community of Hawaii, so I am thrilled to be working at Queen's Medical Center as one of the inpatient geriatricians.

Craig Nakatsuka, MD – Dr. Nakatsuka was an internist at the Kaiser Hawaii Permanente Medical Group for 34 years. He then was an associate hospice medical director for 4 years at Navian Hawaii. He currently is the medical director for the Institute of Human Services. He has actively been involved in providing volunteer medical services for the underserved. He founded the Olakino Medical Clinic at the Salvation Army Adult Rehabilitation Center, a residential treatment program for men facing the challenges of substance abuse, and the Seafarers Ministry that has been in operation for about 35 years. He also established the Seafarers Ministry, a clinic serving the medical and dental needs of migrant commercial longline fishermen at Honolulu Harbor.

Cody Takenaka, MD, MS, CMD - is a graduate of the University of Hawai'i John A. Burns School of Medicine, Alumni of the UH Internal Medicine Residency & Geriatric Fellowship Program. She currently practices Geriatric Medicine in the Nursing Home setting, serves as an Assistant Professor at the University of Hawai'i Department of Geriatrics and Associate Program Director for the UH Geriatric Fellowship Program. Dr. Takenaka is passionate about teaching and works to train the next generation of medical professionals the joy and nuances of caring for elderly patients.

Nadine Tenn-Salle, MD – Dr. Nadine Tenn Salle obtained her medical degree from University of Southern California School of Medicine, and then completed a combined Med-Peds residency at UH JABSOM. She is board certified in both Internal Medicine and Pediatrics. She is currently in practice at the Queen's Medical Center, where she also serves as a member of the Board of Trustees. She is actively involved in teaching medical students and has also served as the QMC Chief of Pediatrics in the past.

Doctor's Dilemma -

Michael Abdo, MD - Chief Medical Resident, Tripler Army Medical Center, Honolulu, HI
Matthew Byrne, MD – Chief Medical Resident, Tripler Army Medical Center, Honolulu, HI
Yue Fang, MD – Chief Medical Resident, Kaiser Permanente, Honolulu, HI
Win Kanitsoraphan, MD - Chief Medical Resident, UHIMRP, Honolulu, HI
Diana Kim, MD - Chief Medical Resident, Kaiser Permanente, Honolulu, HI
Dane Kurohara, MD – Chief Medical Resident, UHIMRP, Honolulu, HI
Eric Wien, MD – Chief Medical Resident, UHIMRP, Honolulu, HI

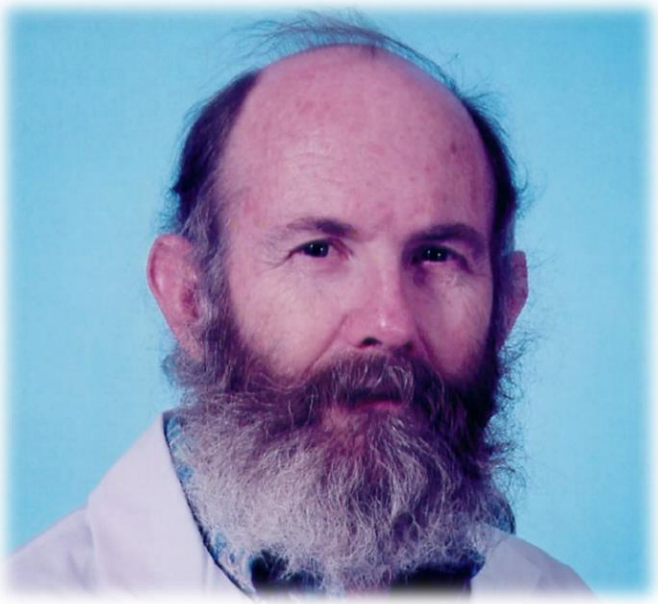
New Fellows -

Kuo Chiang Lian, MD, FACP

Members Retired/Pending Retirement -

S. Kalani Brady, MD, FACP - December 31, 2021
John S. Melish, MD, FACP – August 31, 2021
Janet K. Onopa, MD, FACP – June 30, 2021

In Memoriam



Richard I. Frankel, MD, FACP

February 1, 2022

Elizabeth K. Tam, MD, FACP

October 8, 2021

2022 ACP Meeting Schedule

7:50 a.m. (10 minutes)
Governor's Welcome
Samuel J. Evans, MD, FACP

Program Co-Chairs
Kuo-Chiang Lian, MD, FACP/Serena Del Mundo, MD

8:00 a.m. (45 minutes)
Session #1 – "Transition in Care to Geriatrics" - Brita Aramaki, MD, Monica Cheung-Katz, MD, Marina Hitosugi-Levesque, MD, Jennifer Nakamatsu, MD, and Cody Takenaka, MD

8:45 a.m. (30 minutes)
Podium Presentations (2)

8:45 a.m. – **"Genetic Profile of Metastatic Breast Cancer Patients Using Liquid Biopsy"** – Edward Nguyen, BA

9:00 a.m. – **"Pretreatment monocyte-lymphocyte ratio predicts overall survival in patients with advanced biliary tract cancer"** – Horyun Choi, MD

9:15 - 10:00 a.m. (45 minutes)
Session #2 – "Post-Acute/Long-Term COVID"
Dominic Chow, MD, MPH and Fritzie, Igno, MD

10:00 a.m. – 10:15 a.m. (15 minutes)
Break/Poster Viewing online

10:15 a.m.
Podium Presentation (2)

10:15 a.m. – **"Screening for Cognitive Impairment in the Emergency Department" –** Chloe Asato, BA

10:30 a.m. – **"Healthcare Costs and Utilization Associated with Delirium among Medicare Beneficiaries in a Nationally Representative Cohort"** – Katyi Luu, BS

10:45 a.m. (30 minutes)
Session #3 - "ChinaTown Wound Team"
Ajay Bhatt, MD and Craig Nakatsuka, MD

11:15 a.m. (30 minutes)**Session #4 – "Transition in Gender: Male/Female and Female/Male"**
Scott A. Denny, **MSPA, PA-C**

11:45 p.m. (45 minutes)
Session #5 - Dr. Irwin J. Schatz, MD, MACP Lectureship – **" Transition in Climate"**
Elizabeth Kiefer, MD

12:30 a.m. – 1:15 p.m. **(**15 minutes)
Business Meeting/Lunch/Poster Viewing online

1:15 p.m. (30 minutes)
Podium Presentation (2)

1:15 p.m. **- "Tea is the Key! Green Tea Consumption and All-Cause Mortality Over Five Decades in Japanese-American Men: The Kuakini Honolulu"** – Angelo Lo, MD

1:30 p.m. – **"Self-Reported health and Risk of Ten-Year Incident Disability: The Kuakini Honolulu Heart Program" –** Susan Christensen, MD

1:45 p.m. (30 minutes)
Session #6 – "Transition from Pediatrics to IM"
Nadine Tenn-Salle, MD

2:15 p.m. – 2:30 p.m. (15 minutes)
Break/Poster Viewing online

2:30 p.m. (30 minutes)
Podium Presentation (2)

2:30 p.m. – **"PDGFRα as an Inflammatory Mediator in the Process of Cardiac Fibrosis"** – Anson Lee, BA

2:45 p.m. **– "Aspirin use and hepatic fibrosis in NASH (non-alcoholic steatohepatitis) patients in Hawai'i" –** Eric Wien, MD

3:00 p.m. – (45 minutes)
Session #7: - "Diversity Advocacy"
Elisa Choi, MD

3:45 p.m. – 4:15 p.m.
Break/Poster Viewing Online

4:15 p.m. (30 minutes)
Abstract Winners/Awards Presentation/Networking

5:00 p.m. – Doctor's Delimna
Chief Medical Residents

THANK YOU
HEALTHCARE HEROES

Last year, we posted a page entitled “Healthcare Heroes” in our Scientific Program meeting brochure.

It was February 2021, and although the world was exhausted and devastated by the COVID pandemic, the vaccine had just become widely available.

The vaccine would, if not end the pandemic, at least minimize its reach and allow all of us to return to “normal”.

Now, a year later, gratitude for healthcare workers has worn thin.
No longer are people banging pots or providing free meals to the hospitals.
And yet, we work on as we always have – taking care of those whose lives rest in our hands.

ACP national and our Hawaii Chapter want you to know:

WE SEE YOU … We know the work you are doing.
WE APPRECIATE YOU … Thank you for saving lives every day, in the clinic and in the hospital.

WE SUPPORT YOU!

THANK YOU, HEALTHCARE HEROES!

PODIUM PRESENTATIONS

8:45 am Podium

GENETIC PROFILE OF PATIENTS WITH METASTATIC BREAST CANCER USING LIQUID BIOPSY

Edward Nguyen, BA[1], Shirley Cheng, BS[1], Ian Pagano, PhD[2], and Jami Aya Fukui, MD[2],
[1]John A. Burns School of Medicine at the University of Hawai'i, Honolulu, Hawaii
[2]University of Hawai'i Cancer Center, Honolulu, Hawaii

BACKGROUND: Breast cancer is the most prevalent cancer and the second leading cause of cancer deaths among women in the United States. Once the primary breast cancer has metastasized to other locations in the body, it becomes an incurable disease despite treatment. The metastasized tumor sites often have different mutational profiles that are not represented in the initial biopsy. Liquid biopsy is becoming a more commonly accepted method in clinical practice to determine the heterogeneity of metastatic tumors by analyzing circulating tumor DNA (ctDNA). Several studies have demonstrated that ctDNA can be utilized as an effective tool to predict therapy response and can reveal multiple clinically targetable alterations in metastatic breast cancer (mBC).

PURPOSE: The purpose of this study is to characterize the genomic landscape of ctDNA in a diverse patient population and across the different subtypes of mBC. Additionally, we want to evaluate the significance of ctDNA in mBC.

METHODS: We characterized the genomic landscape of ctDNA in a diverse patient population and across different subtypes of mBC. We performed a retrospective chart review in patients (n=45) with metastatic breast cancer from a medical oncology clinic within the Hawaii Pacific Health system. Patients who had at least one ctDNA testing by Guardant360 were evaluated. Patient demographics, age at diagnosis, race, subtype and mutations were reviewed along with treatment information.

RESULTS: We found statistically significant differences in tumor genomics according to age and subtype. The majority of patients (86.7%) had at least one gene alteration detected in their liquid biopsy. Postmenopausal patients were more likely to have detectable disease on liquid biopsy compared to premenopausal patients (p=0.001). Consistent with subtype, mutations in ESR1 (n=10) and PIK3CA (n=8) were more commonly seen in hormone positive (HR+) mBC where known tailored treatment options are available (ie. fulvestrant and alpelisib respectively). The proportion of ERBB2 mutations was higher in HER2+ and triple positive cancers than those who did not (p=0.02). In terms of the top alterations detected, nearly half of our patients (n=23) had TP53 mutations, followed by PIK3CA (n=8), ESR1 (n=10), CCND1 (n=7) and ERBB2 (n=6).

CONCLUSION: We evaluated 45 unique cases of mBC and correlated them with their genomic profiles. We plan to further investigate genomic changes according to treatment with subsequent repeat liquid biopsies. We hope to utilize these findings to help guide future treatment options.

9:00 am Podium

Pretreatment Monocyte-lymphocyte Ratio Predicts Overall Survival in Patients with Advanced Biliary Tract Cancer Treated with Chemotherapy

Horyun Choi[1], Marci Chock[1], Todd Nagamine[1], Jihun Yeo[1], Chanavuth Kanitsoraphan[1], Jared Acoba[2, 3],
[1]University of Hawaii Internal Medicine Residency Program, Honolulu, Hawaii
[2]University of Hawaii Cancer Center, Honolulu, Hawaii
[3]Queen's Medical Center, Honolulu, Hawaii

Background:

Inflammation is known as one of the carcinogenic mechanisms in biliary tract cancer. Hematologic components including neutrophil, monocyte, lymphocyte, and platelet could be used as surrogates of systemic inflammation. We evaluated the use of systemic inflammatory surrogate markers including monocyte-lymphocyte ratio (MLR) to predict survival outcomes in advanced BTC patients.

Methods:

From 2015 to 2019, 189 patients with advanced biliary tract were recruited and 82 patients who underwent chemotherapy were included in the present study. Clinicopathological features, pretreatment neutrophil, monocyte, lymphocyte, and platelet counts were collected. The optimal cutoff values for MLR, neutrophil-lymphocyte ratio (NLR), and platelet-lymphocyte ratio (PLR) were obtained by using ROC curve analysis. The Cox regression model was used to assess the relationships between overall survival and various variables including MLR, NLR, and PLR.

Results:

The ROC cut-off values of pre-NLR, MLR, and PLR for OS were 4.66, 0.67, and 326.67, respectively. In Kaplan-Meier curve analysis, patient with low NLR (< 4.66), MLR (< 0.67), and PLR (< 326.67) showed better overall survival (median overall survival, 22.59 months vs. 8.32 months, log-rank test, P=0.006; 22.2 vs. 6.9, P=0.005; 19.1 vs. 10.2 P=0.02). In multivariate Cox analysis, patients with low MLR (< 1.16) showed better overall survival (OS; HR, 0.2217; 95% CI, 0.069-0.714; P<0.011) along with surgery.

Conclusion:

MLR was an independent prognostic factor in advanced BTC receiving chemotherapy. MLR may be used as a readily available biomarker if validated in prospective studies.

10:15 am Podium

Screening for Cognitive Impairment in the Emergency Department

Chloe Asato, BA, BS[1], Rosie Ferris, MPH[2], Frank Messina, MD[3],
Corita Grudzen, MD[2] Nicole Fowler, PhD[3], Joshua Chodosh, MD, MSHS, FACP[2]
[1]University of Hawaii School of Medicine, Honolulu, Hawaii
[2]NYU School of Medicine
[3]Indiana University School of Medicine

Background:
Clinical trials are important to improve evidence-based care for persons living with dementia (PLWD) and for their care partners (dyads). Barriers to research recruitment are numerous, including care partners concerns' of ill health, cognitive impairment (CI) severity, and denial of need. The aim of this study is to determine whether a performance- or informant-based screening test for CI is associated with trial enrollment and whether mode of administration influences one's decision to participate.

Methods:
We used cross-sectional data from patients and caregivers who visited the EDs of New York University (NYU) and Indianapolis University (IU) during screening for the Program of Intensive Support in Emergency Departments (ED) for Care Partners of Cognitively Impaired Patients (POISED), which is testing a care management intervention. We offered CI screening to patients >75 years using the Mini-Cog and if unable to do this, we offered their care partners the Short Portable Informant Questionnaire of Cognitive Decline (IQ-CODE). We used chi-square tests and logistic regression to determine whether likelihood of enrollment differed between screening tests and mode of administration: in-person versus telephone.

Results:
We screened 8860 patients or care partners (dyads) between 3/3/2018-4/1/2021, of which n=2840 at NYU and n=660 at IU had positive screens. Of these 3500 dyads, 2142 had a positive Mini-Cog (<2) and 1358 had a positive IQ-CODE (>3.40). We enrolled 13.9% (n=297) of positive Mini-Cogs and 14.5% (n=309) of positive in-person IQ-CODEs. During the pandemic we conducted all IQCODEs by phone and enrolled 34% (n=196) of those who screened positive. Adjusting for age, sex, and gender, compared to Mini-Cog screening, only those having positive IQCODES by phone were more likely to enroll (adjusted odds ratio (AOR): 3.75 (95% CI: 2.76, 5.11).

Conclusions:
Higher enrollment using informant-based telephone screening after discharge suggests that care partner recognition of a problem and perhaps having less distraction from the ED visit may increase trial enrollment. Whether the pandemic was the predomant factor encouraging enrollment is unknown

10:30 am Podium

HEALTHCARE COSTS AND UTILIZATION ASSOCIATED WITH DELIRIUM AMONG HOSPITALIZED MEDICARE BENEFICIARIES IN A NATIONALLY REPRESENTATIVE COHORT

Kayti Luu, BS[1], Emmanuel Garcia Morales, PhD[2],
Esther S. Oh, MD, PhD[2], and Nicholas Reed, AuD[2],
[1]University of Hawaii, John A. Burns School of Medicine, Honolulu, Hawaii
[2]Johns Hopkins University School of Medicine, Cochlear Center for Hearing and Public Health

Background:

Delirium, an acute decline in cognition and attention, is a prevalent condition among hospitalized older adults and is associated with poorer health outcomes, long term cognitive and functional decline, and higher healthcare costs. Few studies have looked at the costs of delirium on a population-based scale. This study aims to estimate healthcare cost utilization associated with delirium in a nationally represented sample of Medicare beneficiaries.

Methods:

Claims-linked data from the 2016-2017 Current Medicare Beneficiary Survey (MCBS) was used to identify Medicare beneficiaries with who experienced delirium during hospitalization based on a validated claims algorithm with mild sensitivity and moderate specificity1. Participants were categorized as either having delirium or no delirium. Linear and logistic regression models were used to characterize the association of delirium during hospitalization with outcome variables including the amount paid by Medicare, length of hospitalization in days, and risk of 30- day readmission. Models were adjusted for presence of stroke, Alzheimer's disease or dementia, Charlson Comorbidity Index, age, sex, race, education, and Medicaid support.

Results:

Of the 6,407 hospitalized Medicare beneficiaries, the claims algorithm identified 387 participants as having experienced delirium in adjusted models, delirium was associated with an extra cost of $5,178.653 per hospitalization paid by Medicare (95%CI: $2534.876, $7822.431, SE: 1348.89), a 3.34 days longer hospitalization (95% CI: 2.086, 4.601, SE: 0.641), and a 1.785 odds of experiencing a 30 day readmission (95% CI:1.353, 2.356, SE: 0.253).

Conclusions:

In a nationally-representative analytic dataset of hospitalized Medicare Beneficiaries, delirium was associated with increased cost, longer length of hospital stay, and higher 30 day readmission rates. Prevention of delirium could have implications for cost-savings to Medicare. This data supports the need for further population-based analyses to better characterize the health economics of delirium.

1:15 pm Podium

Tea is the Key! Green Tea Consumption and All-Cause Mortality Over Five Decades in Japanese-American Men: The Kuakini Honolulu Heart Program.

Shivani Chaudhary, MD;[1] Angela Lo, MD;[1] Bradley Willcox, MD;[1,2]
Randi Chen, MS;[2] Aida Wen, MD;[1] Cody Takenaka, MD;[1]
Karen Lubimir, MD;[1] Samina Ahsan, MD;[1] Kamal Masaki, MD.[1,2]

[1] Department of Geriatric Medicine, John A. Burns School of Medicine, University of Hawaii
[2] Kuakini Medical Center, Honolulu, Hawaii

Introduction: Previous studies have found that green tea intake is commonly associated with various health benefits. However, there are conflicting data on the relationship between the consumption of green tea and reduced all-cause mortality, and studies have had limited follow-up. We examined the association between green tea consumption and all-cause mortality over a long follow-up period of 49 years in Japanese-American men.

Methods: The Kuakini Honolulu Heart Program is a population-based, prospective cohort study amongst 8,006 Japanese-American men living on the Hawaiian island of Oahu that began in 1965. Self-reported green tea consumption was obtained as part of a Food Frequency Questionnaire during exam 3 (1971-74), when 6,860 men participated. After excluding subjects with missing data on green tea consumption, our analytic sample was N=5,944. Subjects were divided into 4 groups based on green tea consumption: None (0 oz/week), Low (1-29 oz/week), Intermediate (30-59 oz/week), and high consumption (>60 oz/week). Follow-up for all-cause mortality was complete through December 2020, for up to 49 years of follow-up.

Results: Age-adjusted 49-year mortality rates significantly decreased from 46.40, to 44.94, to 44.31, to 44.16 per 1,000 person-years follow-up, in the none, low, intermediate and high green team consumption groups respectively (p for trend=0.0060). Multivariate Cox proportional hazards models adjusting for age, BMI, physical activity index, pack-years smoking, cholesterol, alcohol use, and prevalent hypertension, diabetes, coronary heart disease, stroke, cancer and lung disease, showed a decreased risk of all-cause mortality by increasing green tea consumption: Low group HR=0.94, 95% CI=0.88-1.01, p=0.0965; Intermediate group HR=0.93, 95% CI=0.86-1.00, p=0.0657, High group HR=0.91, 95% CI=0.85-0.99, p=0.0197, using No tea drinking as reference, p for trend across groups=0.0069. In contrast, consumption of black tea was not significantly associated with all-cause mortality.

Conclusions: Green tea consumption was associated with decreased all-cause mortality in Japanese-American men. There was a significant dose-response relationship, with lowest risk in the group who drank the most green tea (>60 ounces/week, which is equivalent to at least a standard U.S. cup/day). The extremely long follow-up period of almost 5 decades makes this study unique.

Funding Sources: National Institute on Aging (NIA), National Heart, Blood and Lung Institute (NHBLI), National Institute of General Medical Sciences (NIGMS), Kuakini Medical Center.

1:30 pm Podium

SELF-REPORTED HEALTH AND RISK OF TEN-YEAR INCIDENT DISABILITY: THE KUAKINI HONOLULU HEART PROGRAM

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INTRODUCTION:
Studies have found self-reported health (SRH) is a predictor of posthospital recovery, chronic disease management, and mortality. There are few studies on the association between SRH and incident disability. We evaluated SRH as an independent risk factor for 10-year incident disability in older men.

METHODS:
The Kuakini Honolulu Heart Program is a longitudinal cohort study of cardiovascular diseases in Japanese-American men in Hawaii. At exam 4 (1991–93), 3,741 men ages 71-93 years participated. Baseline perception of overall health was self-reported as excellent, good, fair, or poor. Disability was defined by self-reported deficits in any of 6 ADL questions, or in any of 5 IADL questions. After excluding those with prevalent disability and missing SRH data, our analytic sample was 2,572 men, who were prospectively followed for incident disability at 3 and 10 years of follow-up.

RESULTS:
Baseline SRH was reported as excellent in 293 (11.4%), good in 1,527 (59.4%), fair in 701 (27.2%), and poor in 51 (2%) men. Age-adjusted incident disability increased significantly with worse SRH: 3-year ADL disability 5.2%, 7.1% 11.7% and 31.7% respectively, p for trend<0.0001; 3-year IADL disability 17.1%, 15.9%, 23.7% and 49.0%, p for trend<0.0001; 10-year ADL disability 15.6%, 15.9%, 19.4% and 51.8%, p for trend=0.0055; and 10-year IADL disability 20.5%, 26.5%, 28.6% and 70.7%, p for trend=0.0017. Using multivariate logistic regression adjusting for baseline age, education, marital status, BMI, physical activity, smoking, depressive symptoms and grip strength, men with fair and poor SRH had significantly higher odds of 3-year incident ADL disability (OR=2.20, 95%CI=1.19-4.07, p=0.0122; and OR=7.49, 95%CI=2.74-20.4, p<0.0001; respectively), using excellent SRH as reference. Men with poor SRH had significantly higher odds of 3-year incident IADL disability (OR=4.0 0, 95%CI=1.75-9.15, p=0.0010), as well as 10-year incident ADL and IADL disability (OR=7.13, 95%CI=1.89-26.90, p=0.0038; and OR=10.6, 95%CI=2.47- 45.90, p=0.0015; respectively).

CONCLUSION:
Among older Japanese-American men in Hawaii, poor SRH was an independent and useful predictor of incident disability in ADLs and IADLs over 10 years of follow-up. SRH may be a useful tool to identify geriatric patients at risk for functional decline.

2:30 pm Podium

PDGFRα as an Inflammatory Mediator in the Process of Cardiac Fibrosis

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Cardiac fibrosis, also known as remodeling, is a pathological condition that accompanies most cardiovascular diseases. While remodeling can have cardioprotective effects by safeguarding against ventricular free wall rupture, long-term fibrosis often precipitates a decrease in cardiac function. As the processes through which fibroblasts augment cardiac fibrosis are not fully understood, the identification and inhibition of fibrogenic signaling pathways are attractive as a therapeutic intervention. PDGFRα, a receptor tyrosine kinase, is one potential target as it is expressed by almost all cardiac fibroblasts in animal models and humans. The goal of this project is to define the actions of PDGFRα signaling in quiescent and activated fibroblasts.

To elucidate the role of PDGFRα signaling in fibroblasts, we have engineered mice with a constitutively active PDGFRα that is expressed predominantly in cardiac fibroblasts. Using echocardiography, western blotting, gene expression profiling, and immunohistochemistry, we evaluated the impact of increased PDGFRα activity on heart function, replacement fibrosis, and inflammation in quiescent fibroblasts and fibroblasts responding to myocardial infarction (MI).

Using echocardiography, we identified no differences between mice with fibroblasts with enhanced PDGFRα signaling and mice with wild-type fibroblasts in the absence of injury. In contrast, the ejection fraction of PDGFRα mutant mice after MI was reduced compared to control mice with MI. Using EdU to identify proliferating fibroblasts, we found that increased PDGFRα signaling did not result in increased proliferation either at baseline or after MI when compared to control animals. Gene expression profiling comparing mutant and control fibroblasts revealed that increased PDGFRα signaling altered inflammatory gene expression, including asporin, C3, C4b, CCL2, CCL5, and Irf1. Further analyses will be described regarding how the changes in inflammatory mediators impact immune cell populations after MI.

Our results demonstrate that increased PDGFRα signal transduction leads to worse outcomes after MI, but this result is not due to increased proliferation of cardiac fibroblasts. Instead, we found that fibroblasts with increased PDGFRα signaling exhibited a gene expression profile consistent with pro-inflammatory responses. Further investigation into the actions of PDGFRα in cardiac fibroblasts may elucidate its potential as a therapeutic target in reducing the adverse effects of cardiac fibrosis.

2:45 pm Podium

Aspirin use and hepatic fibrosis in NASH (non-alcoholic steatohepatitis) patients in Hawai‘i

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INTRODUCTION: Aspirin has recently been associated with inhibiting the progression of hepatic fibrosis in an ethnically homogeneous cohort with (NASH), which is rapidly becoming the leading cause of liver transplantation and cancer.

AIM: To examine the effect of aspirin in hepatic fibrosis in an ethnically diverse population.

METHODS: The Fibroscan (transient elastography of the liver) database at QMC was analyzed from January-May 2020 for all patients referred for NASH under an IRB protocol. Patients with alcohol abuse or other causes of chronic liver disease (HBV, HCV, hereditary liver diseases) were excluded. Documentation of aspirin use was collected. The F-scores (liver stiffness as an estimate of fibrosis range from F0 = normal liver → 4 = cirrhosis) were compared with aspirin use. Data analysis used non-parametric statistics and test of proportions.

RESULTS: 164 NASH patients were analyzed with the following baseline patient characteristics: average age 55.8yo (female) and 53.9yo (male); 48.1% Female; average BMI 29.04. Of 118 patients with documentation of aspirin use, 29.4% White, 33.3% Asian, 23.5% Chinese or Taiwanese, 23.1% Filipino, 21.7% Japanese, and 14.3% Native Hawaiians were on chronic aspirin therapy. There were no significant differences for aspirin use by ethnicity. Patients were stratified for aspirin use by F-score:

F0 (n=77) = 81.8% (no ASA) and 18.2% (+ASA); $p<0.0001$
(F1 = too few to compare)
F2 (n=21) = 80.8% (no ASA) and 19.2% (+ASA); $p<0.001$
F3 (n=10) = 67.7% (no ASA) and 33.3% (+ASA); $p=0.008$
F4 (n=14) = 73.7% (no ASA) and 26.3% (+ASA); $p=0.0035$
There was more ASA use in F2-F4 patients than F0 patients.

CONCLUSIONS: There was more aspirin use in F2-F4 patients than in F0 patients. These results contradict previous studies. Prospective studies will need to be performed in our multiethnic patient population to assess the efficacy of aspirin.

POSTER PRESENTATIONS

Poster #1

Leptomeningeal Carcinomatosis: A Rare Complication of CLL

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Introduction: Chronic lymphocytic leukemia (CLL) is the most common leukemia in adults in Western countries, accounting for 25-30% of all leukemias. While usually a slowly progressive and indolent disease, patients with 17p deletion develop more rapidly progressive and resistant disease. In this case, we highlight an extremely rate complication of an aggressive form of CLL.

Case: We present a case of a 69-year-old woman with a history of CLL with 17p deletion diagnosed 4 years prior who presents with headaches, blurred vision, diplopia, and left facial weakness for two weeks. She initially had an excellent response to ibrutinib but has since developed resistance with progression of disease. Physical exam revealed left sided facial weakness but was otherwise normal. Her brain MRI showed diffuse leptomeningeal thickening and enhancement as well as multiple enhancing dural based nodules. CSF fluid analysis showed cell count of 372 cells/mL with lymphocytic predominance. Protein was greatly elevated at 166 mg/dL while glucose levels were within normal range. Viral and bacterial PCR, adenosine deaminase and AFB smear were negative. Flow cytometry revealed a monoclonal proliferation of B lymphocytes with similar immunophenotype to patient's peripheral flow cytometry. She was diagnosed with leptomeningeal carcinomatosis secondary to CLL. She had relief of he r headache following lumbar puncture and was subsequentially started on acetazolamide. Plans were made for placement of an intraventricular catheter (Ommaya reservoir) for intrathecal chemotherapy, however the patient elected to travel to the mainland for treatment.

Discussion: Leptomeningeal carcinomatosis, while found occasionally in other hematological malignancy, is an extremely rare complication of CLL. The prevalence amongst patients with clinically evident neurological disease is as low as 0.4%. Overall survival (OS) varies, but is estimated at 9-12 months, interestingly much longer than OS for CNS infiltration by other cancers. Symptoms are almost always due to obstructive hydrocephalus and meningeal irritation, leading to headache, nausea, diplopia and altered mental status. Symptoms improve rapidly with treatment, even with only partial CNS clearance, however complete CSF clearance is associated with increased OS.

Review of prior literature reveals that the most commonly used treatment in the past was intrathecal methotrexate, however recent case studies show higher rates of clearance with systemic ibrutinib and intrathecal rituximab. Unfortunately, many of these prior case studies did not report molecular subtypes of CLL. In the example of our patient, she had already developed resistance to ibrutinib as is expected in the case of 17p deletion, an aggressive subtype of CLL with poor prognosis. As a result, a combination of rituximab and intrathecal methotrexate may be the most effective treatment option for her, however data regarding these treatments is extremely limited due to the rare nature of this disease.

Learning Objectives:
- Recognize the presentation of leptomeningeal carcinomatosis as a complication of CLL
- Understand novel treatment options for CNS clearance of leptomeningeal CLL

Poster #2

Chylous Ascites: A Rare Complication of Cirrhosis

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Introduction: Chylous ascites (CA) is a rare condition, with a reported incidence of 1 in 20,000 in 19921, although this has likely increased in the past 20 years2. The mortality for this condition is high and approaches 40 – 70% within one year based on etiology2. In this case we explore the etiology and workup of CA as well as its rare association with cirrhosis.

Case: We present a case of a 62-year-old woman with a history of cirrhosis secondary to hepatitis C virus status-post viral treatment. Her history included refractory ascites and spontaneous bacterial peritonitis. She presented to hospital with complaints of abdominal pain and swelling. One month ago, she had presented to the emergency department four liters of peritoneal fluid were removed which was described as milky in appearance. Physical exam showed a significantly distended abdomen with diffuse tenderness, as well as positive fluid wave and shifting dullness. Paracentesis removed nine liters of white milky fluid. Fluid analysis showed peritoneal protein of 1.4 gm/dL, SAAG of 1.9, PMNs < 250 cells/ml, and triglycerides of 718 mg/dL. Further testing showed negative amylase and lipase, negative adenosine deaminase and AFB smear, negative gram stain and bacterial cultures, and negative cytology. CT of the chest, abdomen and pelvis was performed to assess for evidence of malignan cy or lymphatic obstruction but were negative. In addition, lymphangiography was performed to rule out lymphatic malformation or leak which was negative as well. Given the high SAAG, low total protein, and extensive workup to rule out other causes, the patient was diagnosed with CA secondary to cirrhosis. She required frequent paracentesis for symptomatic relief over the next several days. She was started on diuretics with reduction in need for paracentesis to once weekly. In the outpatient setting, patient had a Denver (peritoneovenous) shunt placed with further improvement in control of her ascites.

Discussion:
In adults with atraumatic CA the most common causes are malignancy (25%), the majority of which is lymphoma, cirrhosis (16%), tuberculous (15%) and other less common causes (pancreatitis, congenital, cardiac)4. While cirrhosis accounts for a significant number of cases, CA only occurs in 0.5 – 1.0% of cirrhotic patients4. Evaluation of CA should include fluid analysis with assessment for portal hypertension and ruling out of infectious and malignant causes2,3. Imaging with CT abdomen will reveal traumatic causes as well as masses or lymphadenopathy causing obstruction2,3. Lymphangiography is the gold standard for diagnosis of lymphatic leaks and malformations and has the benefit of providing possible intervention2,3. If the above work-up is negative in a patient with known cirrhosis, the diagnosis of CA due to cirrhosis can confidently be made.

Learning objectives:
- Understand the etiologies and workup of chylous ascites
- Recognize chylous ascites as a rare complication of cirrhosis

Poster #3

Ocular Manifestation in Gout: An Unusual Presentation of Gout

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Introduction:
Gout is a known risk factor for episcleritis, but most commonly occurs among the elderly with a previously established chronic diagnosis. We present a rare case of a 39-year-old active duty male with new presentation of episcleritis with elevated uric acid level as his initial presentation for gout.

Case Presentation:
A 39-year-old male with past medical history significant for gastroesophageal reflux disease (GERD), urticaria, low back pain, and nephrolithiasis, presented with a chief complaint of left ocular erythema, irritation, scleral injection, and nasal-labial pressure for 2 months. He denied eyelid pain, pain with ocular rotation, changes in vision, or visual debris. He endorsed intermittent general joint pain, including at the left ankle and midfoot. These episodes were associated with skin erythema and difficulty walking. Patient does not use contacts and denied recent illness, or ocular injection in other family members. Surgical history was negative for ocular surgery. Medications included omeprazole daily. Physical exam revealed an injected left eye, with normal fundus exam, normal visual acuity, clear cornea, and no superficial punctate keratitis. There was no fluorescein uptake, slit lamp exam and optical coherence tomography were unrevealing. Visual acuity was 20/10 in both eyes. Joints were without erythema or fluctuance to suggest effusion. Lab workup revealed a negative RF, Normal C3, C4, and complement CH50, nonreactive treponemal antibody, negative nuclear antibody, neutrophil cytoplasmic antibody, myeloperoxidase antibody, proteinase 3 ab, c-anca, P-ANCA, and CBC were within normal limits. An elevated uric acid was present at 7.6 mg/dL (up from 7.2 mg/dL). The diagnosis of gout was made based on 8 points on the ACR/EULAR gout criteria. Therapy was started with indomethacin 50mg TID for five days, followed by a course of 25mg TID for 10 days, which significantly improved his ocular symptoms with complete resolution within a few days.

Discussion:
Episcleritis is a common complaint in the clinic and is often symptomatically treated with no further laboratory workup completed. This case demonstrates the importance of working up a non-resolving and recurrent episcleritis for possible autoimmune causes and treat appropriately. Gouty attack is a rare cause of episcleritis but should be considered in patients with strong supporting history.

Poster # 4

A Functional Mitochondrial Unfolded Protein Response Regulates Mitochondrial Biology and Promotes Tumorigenesis in Melanoma

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Background:

Melanoma is an aggressive form of skin cancer and is the most common life-threatening dermatological disease. It is a major public health concern as incidence rates of melanoma are rising with a greater concern for the older population. Studies have shown that mitochondria are essential in melanoma initiation, progression and treatment. The mitochondrial unfolded protein response (mtUPR) is a stress response pathway that is activated when there are perturbations in proteostasis. It is induced and conserved across the different stages of melanoma progression and high levels of mtUPR transcription factors (CHOP, ATF4, ATF5) predict worse patient survival outcomes. This study aims to further investigate the role of the mtUPR in mitochondrial function and tumor growth.

Methods:

Cell lines: YUMM 5.2, BrafV600E/wt, p53-/-, male cells were used to perform loss-of-function studies. The cell lines generated include empty vector (pLKO) and shAtf5.
In vitro experiments: mitochondrial respiratory function was assessed using the Seahorse MitoStress assay. Characterization of cells and mitochondria was evaluated with flow cytometry, immunofluorescence microscopy, and a proliferation assay.
In vivo experiment: cells were intradermally injected into immunocompetent mice (C57BL6) and tumor growth was evaluated over 20 days.

Results:

Atf5 silencing disrupted mitochondrial bioenergetics by decreasing mitochondrial respiratory function, mass, and membrane potential indicating an important role in maintaining mitochondrial function. It was also found that Atf5 maintains normal mitochondrial biology. Deficient Atf5 signalling promoted a shift from a tubular to a more fragmented mitochondrial morphology. Atf5 silencing also led to decreased tumor volume in an immunocompetent mouse model of melanoma. Interestingly though, cells deficient in Atf5 proliferated at a greater rate than the control.

Conclusion:

Atf5 maintains proper mitochondrial function and supports tumor growth in melanoma. Future studies include exploring how ATF5 shapes the tumor microenvironment in melanoma and investigating ATF5 regulation to identify points of intervention with therapeutic potential.

Poster # 5

Utilizing Liquid Biopsy for Treatment Management in Bone Dominant Metastatic Breast Cancer

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Breast cancer is the most commonly diagnosed cancer and the second leading cause of cancer death among women in the United States. In clinical practice, the standard method to confirm metastatic disease and tailor treatment is to biopsy a metastatic site. Bone is the most common metastatic site, occurring in up to 70% of patients with advanced breast cancer. Standard-of-care management includes a needle biopsy with histopathological analysis to confirm tumor status and to evaluate for mutations. However, bone biopsies can be technically challenging and are oftentimes painful for patients. Given the challenges in acquisition and analysis of bone samples in metastatic breast cancer (mBC), a liquid biopsy is a less invasive alternative that can reveal clinically relevant alterations. Here, we report two cases of bone-dominant HR+ mBC, in which circulating tumor DNA (ctDNA) was extracted from blood samples using two different next generation sequencing (NGS) platforms to identify molecular targets for FDA approved treatment. In both patients, PIK3CA mutations were detected and subsequently started on alpelisib. These cases demonstrate a feasible real-world clinical application to liquid biopsies. Although tissue biopsy is recommended when there are no actionable mutations detected in the blood, liquid biopsies have utility in community practice and should be considered especially at disease progression and/or when tissue biopsies are difficult to obtain. This report provides an example of precision medicine in breast cancer oncology and how genomic characterization using liquid biopsies can help clinicians tailor treatment.

Poster # 6

Trouble With the Heart: Recurrent Malignant Pericardial Effusion in a Breast Cancer Patient

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Learning Objectives:
1. Review the clinical presentation of malignant pericardial effusion
2. Discuss the management of malignant pericardial effusion

Case Description: An 83-year-old woman with estrogen receptor (ER) and progesterone receptor (PR) positive breast cancer with metastasis to the pericardium presented with one month of progressive dyspnea on exertion. She had a known history of malignant pericardial effusion complicated by cardiac tamponade, which was first diagnosed four years ago and managed with a pericardial window. Her breast cancer was treated with right mastectomy and anastrozole, without adjuvant chemotherapy or radiation therapy, and she had done well in the interval period.

On the current presentation, the patient was asymptomatic other than her exertional dyspnea, and denied chest pain or discomfort. The physical exam was benign overall but notable for the presence of a pericardial friction rub. A contrast-enhanced CT scan of the chest showed a pericardial lesion adjacent to the left atrium and esophagus measuring 3.8 cm with a moderate pericardial effusion, as well as further metastasis to her spinal cord and right lung apex. Subsequent transthoracic echocardiogram (TTE) demonstrated a moderate-sized nearly circumferential pericardial effusion with a 2.7 cm pocket. There was no echocardiographic evidence of tamponade physiology.

After extensive multidisciplinary discussion involving interventional cardiology and cardiothoracic surgery, a decision was made to perform a TTE-guided pericardiocentesis drainage. This allowed for a less invasive procedure without compromising recurrence and survival outcomes. Cytology of the pericardial fluid confirmed malignant cells. The patient's symptoms were significantly improved following the procedure, and she remained stable thereafter. She was discharged on oral colchicine with close follow-up with her outpatient cardiologist and oncologist.

Discussion: Breast cancer is the second leading cause of malignant pericardial effusion (MPE), a rare complication of advanced malignancy that is often associated with high morbidity and mortality. As it is uncurable, rapid and effective treatment is required for symptom relief and to prevent recurrence and further complications such as cardiac tamponade and sudden death if uncontrolled. Here, we discuss a case of recurrent MPE despite surgical drainage after an initial episode years prior. MPE with long-term recurrence-free interval is especially rare and most patients do not survive past their first episode. As a result, the optimal management of MPE is not well-defined. This case illustrates one potentially effective option for those with recurrent MPE, while highlighting the importance of a multidisciplinary approach to management that should be individualized on a case-by-case basis.

Poster # 7

SYNDROME OF INAPPROPRIATE ANTIDIURESIS (SIAD) DUE TO RESET OSMOSTAT IN SMALL CELL LUNG CANCER (SCLC)

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A 61-year old woman with medical history significant for a 30 pack-year smoking history presented with a history of nausea, vomiting, and diarrhea one month prior to admission. At home, patient developed shortness of breath on exertion, orthopnea, and leg swelling one week prior to admission. On exam, BP was 218/117, and the patient was in no distress with moist mucus membranes. A S3 heart sound was present. She had crackles bilaterally and edematous extremities. Labs were remarkable for serum sodium 115, serum hypotonicity 243 mOsm/kg, urine Osm 216, urine sodium 44, FeUA 11%, and FeNa <1%. AM cortisol was 17.8 mcg/dl, and TSH was 2.27 uIU/ml. CT chest revealed a mediastinal mass. Pleural effusion was diagnostic for SCLC. Further imaging revealed stage IV SCLC with superior vena cava syndrome, left frontal lesion, and liver metastases. The patient was treated with chemotherapy- carboplatin and etoposide. In the following months, she remained mildly hyponatremic 133, 126, 125. Seven months later, the patient developed nausea and vomiting with hyponatremia 116. She was admitted, and following improvement in serum sodium from 115 to 133 mmol/L, her urine osmolality increased from 143 mOsm/kg to 771 mOsm/kg. The patient was diagnosed with SIAD with reset osmostat due to SCLC. The low urine osmolality was evidence of ability to dilute at very low levels of serum sodium, and yet the urine osmolality increased to very high levels when still mildly hyponatremic. Reset osmostat may not be as benign as discussed in the literature when due to malignancy. A possible mechanism for SIAD due to lung cancer is discussed.

Poster # 8

THE IMPORTANCE OF PROMPT INTERVENTION: UNEXPECTED ACETAMINOPHEN AND NSAID-INDUCED LIVER INJURY

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Acetaminophen-related ingestion is accountable for approximately 26,000 hospitalizations and 450 deaths per year with acetaminophen-induced liver injury being the most common cause of acute liver failure and second most common cause of liver failure transplantation. Additionally, NSAID-related liver injury can result in elevated liver function tests in approximately 15% of cases. Prompt diagnosis and management of acetaminophen and NSAID toxicity is important in preventing hepatic injury.

An 81-year-old female with past medical history notable for hypertension, type 2 diabetes mellitus, hepatitis B, dementia and osteoarthritis presented to the emergency department with concerns of lower mandible pain and melena. History was limited due to the patient's history of severe dementia. On admission, the patient appeared encephalopathic however was able to answer questions. Further history revealed that patient took approximately 10-15g of acetaminophen in the last 2 days, aspirin and naproxen. Per family, the patient had potentially taken many pain medications at home for new onset tooth pain however the number and type of medications taken was unknown. Lab values on admission were notable for AST of 2502 U/L and ALT of 3729 U/L. Hepatitis B core antigen was positive however Hepatitis B DNA was undetectable. Labs were notable for a urine drug toxin screen that was negative. Tylenol level was 7 mcg/mL, without concomitant metabolic acidosis. INR was elevated at 1.7. Live r ultrasound demonstrated normal echotexture of liver parenchyma without hepatic mass. Given concern for acetaminophen ingestion, the patient received N-Acetylcysteine, continuous intravenous pantoprazole, one-liter bolus of normal saline, and vitamin K. Esophagogastroduodenoscopy revealed LA Grade A esophagitis, a non-bleeding linear gastric ulcer and diffuse inflammation. She was managed with maintenance pantoprazole therapy for a total of six weeks. AST downtrended to 28 IU/L and ALT decreased to 62 IU/L one week following presentation.

When acetaminophen ingestion is suspected, emergent evaluation and intervention via N-acetylcysteine and activated charcoal has the potential to halt biochemical damage. In our patient, elevated liver function tests were thought to be multifactorial in etiology. Negative acetaminophen level was attributed to acetaminophen's rapid half-life. We urge providers to be vigilant regarding suspicion for acetaminophen and NSAID-related over ingestion in patients presenting with pain concerns. This case highlights the importance of eliciting a thorough history in patients with dementia and recognizing the clinical variability in presentation with the acknowledgement that following rapid ingestions, patients may be asymptomatic.

Poster # 9

Critical Consequences: A Case of Pancreatic Pseudoaneurysm

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Introduction: Acute pancreatitis is a diagnosis with a wide diversity of complications, due in part to the many etiologies it encompasses. The 2012 revised Atlanta classification of acute pancreatitis categorizes the diagnosis into two main subgroups based on radiographic findings either interstitial edematous or necrotizing with classifications further divided by chronicity (early versus late). Due to the pancreas' proximity to nearby structures multiple complications can result including mass effect, causing complications such as biliary compression and gastric outlet obstruction, or disruption of local vasculature leading to hemorrhage. Although a rare complication, bleeding most commonly occurs when a vessel comes into contact with a pancreatic pseudocyst, resulting in autodigestion and pseudoaneurysm formation. In contrast, we discuss a case of intraperitoneal hemorrhage secondary to pseudoaneurysm in the setting of necrotizing pancreatitis.

Body: A 27-year old male presented to the emergency department with worsening epigastric pain and abdominal bloating. The patient had two previous admissions for alcoholic pancreatitis within the past six weeks and was discharged three days prior to this presentation. The patient denied alcohol consumption since discharge, but noted consuming a pint of vodka daily for six months before stopping six weeks prior. Initial workup was notable for elevated lipase greater than 2,400 and CT of the abdomen demonstrated necrotizing pancreatitis with a large intra-abdominal fluid collection concerning for ruptured peripancreatic pseudoaneurysm with lesser sac hematoma and extravasation near the liver. The patient was taken to the interventional radiology suite, where he was found to have aneurysmal dilation of the left gastric artery with active bleeding from the left gastroduodenal artery requiring coil embolization of both arteries. Nineteen days after admission, a rapid response was called for tac hycardia and hypotension with increased abdominal distension. A CT scan was ordered to assess for evidence of a bleed but he became unresponsive requiring advanced cardiac life support due to asystole. ROSC was obtained and the patient was transferred to the ICU. Bedside ultrasound demonstrated increased peritoneal abdominal fluid thought to be secondary to acute bleeding, and a CBC revealed an acute 3 point drop in his hemoglobin compared to his morning labs. Despite aggressive resuscitation, the patient was too unstable for advanced imaging or intervention by either interventional radiology or surgery. Following discussions with his family, the decision was made to withdraw vasopressor support and the patient expired.

Discussion: This case demonstrates a rare and, in this case, fatal complication of necrotizing pancreatitis. Although both his pseudoaneurysm and GDA were embolized, the patient remained at high risk for recurrent bleeding. The free intra-abdominal fluid seen prior to his demise was believed to be secondary to hemorrhage. Fluid resuscitation, massive transfusion protocol, and vasopressors were unable to stabilize him for confirmatory imaging or invasive intervention.

Poster # 10

A CASE REPORT OF ACUTE PULMONARY EMBOLISM IN AIDS WITH DISSEMINATED MYCOBACTERIUM AVIUM COMPLEX INFECTION

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A 33-year-old male with a past medical history of Acquired Immunodeficiency Disorder (AIDS) who came in for shortness of breath.

He was diagnosed with AIDS four months prior to admission, initially with a viral load of 249,000 Copies/mL and a CD4 count of 22 cells/mm^3. At that time, he was started on Darunavir-Cobicistat-Emtricitabine-Tenofovir and pneumocystis carinii pneumonia prophylaxis. His condition was complicated by pancytopenia with evaluation revealing extensive mesenteric lymphadenopathy and massive splenomegaly on computed tomography imaging of the abdomen. Bone marrow biopsy and flow cytometry were negative for monoclonal B cell expansion, however, bone marrow and blood cultures eventually yielded Mycobacterium avium (MAC).

He presented to the emergency department for new-onset shortness of breath accompanied by generalized weakness, and unintended weight loss of 33 lbs in less than a year. Vital signs pertinent were blood pressure of 89/55 mmHg, heart rate of 101 beats/min, and tachypnea of 30 respirations/min. Physical examination revealed cachexia and generalized pallor, but normal heart and lung sounds. Initial investigation showed hemoglobin of 5.6 g/dL, white blood cell count of 21.3 10^9/L, and a normal platelet count. Chest x-ray showed mild retrocardiac opacities. Despite resuscitation with normal saline and blood transfusions, he required norepinephrine for hemodynamic support. Vancomycin and ceftriaxone were prescribed for sepsis of an unknown source, as well as clarithromycin and ethambutol for his disseminated MAC infection. Further evaluation with CT chest angiography showed pulmonary emboli (PE) within the segmental branches of the right upper and lower lobes and left lower lobe which prompted the initiation of heparin drip.

Discussion: PE in the human immunodeficiency virus (HIV) infected population is rare, with recent literature describing an incidence of 0.26% to 7.6%. AIDS, CD4 count <200 cells/mm^3, and active opportunistic infections like disseminated MAC put patients at higher risk. Management includes anticoagulation in combination with Highly Active Antiretroviral Therapy (HAART) and concomitant treatment of other HIV-related complications. PE has significant mortality, as high as 30 % if left untreated. While an association between Mycobacterium tuberculosis and thrombosis is known, possibly due to increased expression of tissue factor, to our knowledge this relationship has not been explored in non-tuberculous mycobacterial disease. It is possible that similar mechanisms exist in this population that may explain our patient's presentation. Clinicians should always keep PE in mind in patients who have shortness of breath unexplained by pneumonia or other common etiologies.

Poster # 11

A Rare Case of Rapid Onset Multi-Organ Injury from Anti-Tuberculosis Medications

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A 46-year-old woman with a history of incompletely treated latent tuberculosis was found to have reactivated infection on endoscopic ultrasound-guided biopsy of a paraesophageal lymph node. She was prescribed rifampin, isoniazid, pyrazinamide, and ethambutol. Later, she was thought to have potential resistance to isoniazid and levofloxacin was added. Approximately six weeks into the treatment, she developed subjective fever and generalized weakness. Her oral intake was poor and associated with nausea, non-bloody, non-bilious emesis, and worsening abdominal pain. One day prior to admission, her primary care physician ordered blood tests, which were drawn on the day of admission. Upon reviewing the results, her primary care physician directed her to the Emergency Department. On evaluation, the patient was afebrile, normotensive, and breathing comfortably with 100% oxygen saturation on room air. There was a faint, pruritic, raised, papular rash with ill-defined borders along her abdomen and bilateral axilla. Her abdomen was soft and nontender. Cervical, supraclavicular, axillary, and inguinal lymphadenopathy were absent. Labs suggested acute renal and liver injury: Creatinine 8.3 mg/dL, BUN 38 mg/dL, eGFR 6 mL/min/1.73m2, Aspartate Transaminase 159 U/L, Alanine Transaminase 936 U/L, Alkaline Phosphatase 160 U/L, and Total Bilirubin 3 g/dL. She had moderate eosinophilia on admission with a white blood count of 13790 cells/uL and an absolute eosinophil count of 1213.5 cells/uL. An acute viral hepatitis serology panel was negative. Autoimmune workup with ANCA, Anti-DNA, Anti-GBM, and ANA was also negative. C3 complement protein was slightly decreased, 84 mg/dL. Kappa/Lambda ratio and C4 complement protein was within normal ranges. Urinalysis was normal except for trace protein, occasional bacteria, and many squamous epithelial cells. Liver ultrasonography demonstrated normal liver echogenicity and cholelithiasis but no bile duct dilation. Renal ultrasonography was ne gative for renal cysts and hydronephrosis. Throughout her hospital course, her anti-tuberculosis medications were held and she received intravenous hydration. She had been urinating well. A renal biopsy was not performed due to improvement of her renal and liver function labs. However, she continued to have moderate eosinophilia with a white blood count of 12100 cells/uL and an absolute eosinophil count of 1778.7 cells/uL on the day of discharge six days later. Her new tuberculosis regimen has yet to be determined.

This case illustrates a complex multi-organ injury secondary to anti-tuberculosis medications. Isoniazid, ethambutol, and pyrazinamide can all cause liver injury. Rarely, anti-tuberculosis medications can also cause acute renal injury, namely acute interstitial nephritis. There has been literature reporting the use of steroids to treat acute interstitial nephritis while continuing the tuberculosis regimen. The most effective clinical management following these drug-induced multi-organ injuries has yet to be determined.

Poster # 12

To Pulse or Not to Pulse? When Medical Decisions are not just Medical

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Introduction: Systemic lupus erythematous (SLE) is an autoimmune disease with worse outcomes in socioeconomically disadvantaged patients. Lupus often progresses unpredictably, with multi-organ manifestations requiring extensive workup. The nonspecific, multifactorial nature of SLE makes treatment especially difficult in those without financial and psychosocial means of support. We present a case of a woman with SLE complicated with lupus nephritis and new cardiac involvement who is strained by her changing social situation and imminent health insurance loss.

Case Presentation: 49-year-old military-dependent female, with history of SLE complicated by lupus nephritis stage III/IV previously requiring temporary dialysis, presents 3 months after arrival from Mainland US with severe edema and dyspnea on exertion, worsening since onset 2 months ago. She is now unable to walk more than a block without dyspnea, having stopped Bumex and Lasix since her move. She denies angina, palpitations, cough, or rash. Her SLE treatment history includes Plaquenil, CellCept, oral Cytoxan, Rituxan, Imuran, and chronic steroids that were discontinued due to intolerance. There was concern for expedient establishment of disease progression with impending loss of health insurance due to recent divorce. Physical exam revealed regular heart rhythm without murmur, jugular venous distension, crackles in left lower lung lobe, 3+ UE and LE pitting edema. Initial SLE workup showed decreased C3, normal C4, and high titer dsDNA. Diuresis was restarted with referral to nephrology for uncontrol led lupus nephritis. After nephrology consultation, she was admitted for expedited renal biopsy to re-stage her lupus nephritis and guide treatment of potential reversible disease. Echocardiogram for evaluation of dyspnea revealed pericardial effusion; 900mL aspirated with pericardiocentesis. She was started on empiric pulse-dose steroids for potential lupus flare while awaiting renal biopsy results. Biopsy was consistent with irreversible Stage IV/V lupus nephritis and effusion analysis indicated renal etiology. She is now expected to undergo dialysis, renal transplant, and will require follow up with rheumatology, nephrology, ophthalmology, psychology, and endocrinology for SLE treatment.

Discussion: Poor healthcare outcomes are often experienced in SLE management among those with social risk factors: people of color, underinsured or uninsured, low income, or education. Frequent follow-ups, extensive testing, and expensive treatments can produce excess financial and psychosocial burden, leading to possible uncontrolled disease and complications. Our case demonstrates that the decision to practice individualized care outside of corporate mandate norms may result in improved outcomes for both patient and healthcare system through reduction in emergency care and clarification of treatment. We posit that social determinants of health are an important consideration in patient evaluation and treatment, which may not always align with guideline-based treatment.

Poster # 13

Weak at the Knees: A Case of Transverse Myelitis After Starting Pembrolizumab

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INTRODUCTION: The development of immune checkpoint inhibitors (ICIs) has revolutionized cancer therapy over the past decade. However, these therapies do not come without their own set of adverse effects and complications. Immune-related adverse events (iRAEs) comprise a spectrum of autoimmune reactions, which appear to affect multiple organ systems; notably, dermatologic, endocrine, gastrointestinal, musculoskeletal, ocular, pulmonary, renal, and nervous systems. The exact mechanism of iRAEs is not yet clear, but is proposed to involve T-cell activation following recognition of self-antigens due to either CTLA-4 or PD-1 blockade. Pembrolizumab is a PD-1 receptor inhibitor, which has been most highly associated with hypothyroidism. Other common iRAEs associated with pembrolizumab include colitis and pneumonitis, but neurologic iRAEs have not frequently been reported. Notably, few cases in the literature report transverse myelitis as a result of pembrolizumab.

CASE PRESENTATION: We present an 87- year old male with past medical history significant for low-grade transitional cell carcinoma of the left renal pelvis and bladder status post intravesicular mitomycin C. Three weeks prior to admission, the patient was initiated on pembrolizumab by his oncologist. The patient had been tolerating the new therapy well, except one week prior to admission, he had noted sudden onset lower extremity weakness with no other neurologic symptoms. He had not experienced any spinal trauma nor was he aware of any precipitating event. Physical exam was significant for decreased motor strength and brisk reflexes Serum laboratory studies were unremarkable with the exception of an elevated erythrocyte sedimentation rate. Cerebrospinal fluid studies were significant for lymphocytic pleocytosis. Magnetic resonance imaging of the cervical spinal cord revealed an abnormal T2 signal at the C6 vertebral level. Given these findings, the patient was thought to have transverse myelitis as a r esult of pembrolizumab. The patient was started on pulse methylprednisolone with rapid improvement in his symptoms. Patient was ultimately discharged after completion of pulse steroids on an oral regimen of prednisone, which patient slowly weaned off of in the outpatient setting.

DISCUSSION: On admission, the differential for the patient's presentation was broad. Considerations included spinal cord compression, leptomeningeal carcinomatosis, and Guillain-Barre syndrome. However, given the patient’s serum, CSF, and imaging findings in the setting of recent ICI use and rapid symptom improvement with steroid therapy without any other apparent precipatory cause, pembrolizumab was thought to be the culprit of the patient’s transverse myelitis. The reported incidence of ICI-induced neurologic iRAE is about 1% with ICI-induced transverse myelitis even more uncommon. However, with the increased frequency of ICI use, the more common iRAEs will be. Clinicians should be cognizant of adverse effects related to ICIs as prompt discontinuation and appropriate treatment is necessary.

Poster # 14

Not Your Usual Statin Intolerance: A Case of Statin-Induced Immune-Mediated Necrotizing Myopathy

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Introduction:

Immune-mediated necrotizing myopathy (INMN) is a rare form of idiopathic inflammatory myopathy that is associated with anti-signal recognition particle (SRP) or anti-3-hydroxy-3-methylglutaryl-coenzyme A reductase (HMGCR) antibody. It usually presents with proximal muscle weakness, particularly in the lower extremities. INMN is sometimes associated with statin use, rheumatologic disease, or malignancy. Treatment options usually include corticosteroids and immunosuppression.

Case Presentation:

We present a 57-year-old male with hypertension, hyperlipidemia, and coronary artery disease status post four drug-eluting stents who presented to his primary care physician for a chief complaint of bilateral thigh pain after starting atorvastatin. It was severe, and he had difficulty getting up out of a chair. Associated with the myalgias was darkening of his urine. Labs were drawn, revealing an elevated creatine kinase (CK) level of 28,398 IU/L and elevated liver enzymes (LFTs) with an AST of 441 IU/L, and an ALT of 412 IU/L, and he was thought to have statin-induced myopathy. Despite discontinuation of his atorvastatin, his CK levels and LFTs remained significantly elevated, and he continued to have difficulty with ambulation. Given the persistent elevation in his CK levels, further work-up was completed, and he was noted to have a positive anti-HMGCR antibody and an elevated aldolase level. He was diagnosed with statin-induced INMN, was started on prednisone, and referred to rheumatology. Rheumatology started the patient on azathioprine, and along with the prednisone, his symptoms gradually improved with normalization of his LFTs, although his CK remains mildly elevated. Because of this diagnosis, it was recommended that the patient not be on any type of statin again in his lifetime. He was started on ezetimibe, and is now being considered for bempedoic acid.

Discussion:

INMN is one of the most severe forms of the idiopathic inflammatory myopathies. Long term symptoms tend to persist and there are high rates of relapse. This diagnosis can certainly be missed, especially since symptoms are similar to statin-induced myopathy. Clinicians should continue to be aware of this rare comorbidity from statins, which are commonly used on a regular basis.

Poster # 15

Take My Breath Away: Pulmonary Tumor Thrombotic Microangiopathy in a Young Woman

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INTRODUCTION: Pulmonary tumor thrombotic microangiopathy (PTTM) is a rare, fatal complication seen in the setting of malignancy secondary to embolization of tumor cells into the pulmonary vasculature resulting in thromboinflammation and stenosis. Subsequent rapid elevations of pulmonary artery pressures propagate hypoxemia, cor pulmonale, and eventual death typically within several days to weeks. PTTM is most highly associated with gastric adenocarcinomas, but has also been described in other malignancies as well, notably breast and lung cancers.

CASE PRESENTATION: We report a 30-year-old female with a history of Li-Fraumeni syndrome complicated by stage IIIc (T3N3bM0), triple-positive, infiltrating ductal carcinoma of the right breast who presented with one month of progressive dyspnea, admitted for acute hypoxemic respiratory failure requiring supplemental oxygen with high flow nasal cannula (HFNC). Physical exam was significant for slight respiratory distress and fine crackles on auscultation to the anterior lung fields. Computed tomography angiography (CTA) chest was performed, which was negative for pulmonary embolism, but showed bilateral lower lobe ground-glass airspace disease with superimposed interstitial prominence, as well as an enlarged right heart and main pulmonary artery. Transthoracic echocardiogram (TTE) revealed a dilated right ventricle (RV) with severely reduced systolic function. Pulmonary artery hypertension (PAH) was present with a pulmonary artery systolic pressure (PASP) of 56mmHg. A small-moderate pericardial effusion was also present, but without signs of tamponade physiology. A previous TTE 2 years prior to admission was unremarkable. CT abdomen and pelvis was negative for distant metastatic disease. Extensive infectious and rheumatologic workup was pursued all of which were negative for any acute abnormality. Extensive hematologic workup was also performed, which was notable for anemia, severe thrombocytopenia, and elevated d-dimer, but a thrombotic microangiopathic (TMA) process was thought to be less likely contributory. The patient was empirically started on antibiotics and pulse steroids but unfortunately had respiratory decline and deterioration, ultimately requiring intubation and mechanical ventilation. Two days following admission, the patient had PEA arrest and ultimately expired. An autopsy was offered, but the family respectfully declined.

DISCUSSION: PTTM is typically associated with distant metastatic disease, but has also been described with localized malignancies as well. Unfortunately, given numerous other clinical mimics such as pulmonary veno-occlusive disease (PVOD) and chronic thromboembolic pulmonary hypertension (CTEPH), the diagnostic rate of PTTM antemortem is low. Furthermore, there are no current specific treatment options for PTTM, although imatinib (PDGF inhibitor) and bevacizumab (VEGF inhibitor) have been shown to have promising results via reduction of vascular remodeling, which tends to propagate the PAH on PTTM. Further studies need to be conducted in order to obtain a greater understanding of this devastating disease.

Poster # 16

Lower Health Care Utilization and Costs in Community-Dwelling Low-Income Seniors Enrolled in the GRACE Program

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Background:

GRACE is an interdisciplinary model that supports primary care of low-income seniors. The original GRACE trial found reductions in acute care utilization, improved quality of life, and was cost-neutral. Until now, GRACE has been implemented within clinical health systems. We present outcomes from GRACE implemented by AlohaCare, a health insurance provider in Hawaii in partnership with a community health center.

Methods:

Between April 2019 and September 2021, 47 high-risk, low-income patients with chronic diseases, aged 50+ years, were enrolled in GRACE. They were screened for geriatric syndromes in their homes by a nurse practitioner and social worker. Individual plans of care were developed with the interdisciplinary support team, and recommendations were given to primary care providers. This analysis focuses on a subset of n=30 patients who had been enrolled in GRACE for at least 6 months. Data were retrieved and verified from AlohaCare's EMR and paid claims information. We used paired t-tests to compare total number of emergency department (ED) visits and hospitalizations, and total cost of healthcare before and after enrollment in GRACE.

Results:

Patient age ranged from 51-94 years (mean=72.2), 18/30 (60%) were female, and 25/30 (83.3%) were of Asian or Pacific Islander ethnicity. Mean cumulative number of ED visits per person decreased by 51% in the 6 months after GRACE compared to before, 0.47 vs. 0.93 respectively, p=0.060. Mean cumulative number of hospitalizations per person decreased by 33% in the 6 months after GRACE compared to before, 0.20 vs. 0.30, p=0.522. Mean total cost of healthcare per person decreased by 19.6% in the 6 months after GRACE compared to before, $12,384 vs. $15,399, p= 0.404. Cost savings over 6 months were $3,015 per patient, or a total cost savings of $90,450.

Conclusions:

We saw reductions in emergency department visits, hospitalizations, and total cost of care after GRACE enrollment. Although none of these differences reached statistical significance (probably due to small sample size), all trends were consistently in the right direction. Patient recruitment was delayed due to public health emergency restrictions. A larger sample size and longer follow-up is planned.

Poster # 17

Rupture of Slow Growing Liver Abscess Masquerading as Liver Metastasis

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A 71-year-old male recently diagnosed with pancreatic cancer and "liver metastasis" presented to the emergency department for acute onset abdominal pain, fever and hypotension. Three months prior to presentation, the patient was diagnosed with pancreatic adenocarcinoma complicated by common bile duct obstruction. Sphincterotomy and common bile duct stent placement were performed, and he was started on chemotherapy. One month prior to presentation, a follow up computed tomography(CT) of the abdomen with contrast was obtained which showed a new 13-millimeter low density lesion in the liver. At that time, the patient was in his usual state of health without leukocytosis or transaminitis on routine lab work. A liver biopsy was not obtained due to the size of the lesion and feasibility of procedure. The lesion was presumed to represent metastatic disease. Five days prior to presentation, the patient developed intermittent high-grade fevers and abdominal fullness.

On the day of presentation, the patient came to the emergency department due to the sudden onset of abdominal pain. Laboratory findings revealed leukocytosis, transaminitis and lactic acidosis. CT of the abdomen with contrast showed a large heterogeneous collection of low density and gas, measuring approximately 11.8 by 7.6 centimeters in addition to pneumoperitoneum. He was diagnosed with septic shock secondary to ruptured liver metastasis leading to peritonitis. Due to the patient's poor prognosis and impaired functional status, the family and medical team decided to proceed with comfort care. Patient died the following day and a family agreed to an autopsy. On histologic analysis, there was no evidence of liver metastasis, but instead large ruptured liver abscess and peritoneal abscess.

In retrospect, the 13-millimeter liver lesion that was identified one month prior to presentation, was likely a liver abscess that grew and ultimately ruptured. Liver masses in the setting of pancreatic cancer often represent metastatic disease. This case emphasizes the clinical importance of obtaining a biopsy, when possible, to evaluate the origin of the nodule. If biopsy is not feasible, as it was in this case presentation, it may be prudent to monitor for symptoms or signs of infection through repeat laboratory workup, such as inflammatory markers, and serial imaging of nodule growth. This is a unique case serving as a reminder to not overlook infectious etiologies in the differential diagnosis of a new liver nodule in patients with pancreatic cancer.

Poster # 18

Association between Mineralocorticoid Receptor Antagonist Use and Mortality in SARS-CoV-2 Patients: A Systematic Review and Meta-Analysis

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Background:

Studies have suggested that the activation of renin-angiotensin-aldosterone system (RAAS) aldosterone can induce pulmonary and systemic vasoconstriction, inflammation, and oxidative organ damage. Mineralocorticoid receptor antagonists (MRA) antagonizes the action of aldosterone and androgens and can potentially serve as a target for reducing infectivity of SARS-CoV-2. In this study, we sought to investigate the association between MRA use and mortality in SARS-CoV-2 patients.

Methods:

A comprehensive literature search in the MEDLINE and EMBASE databases was performed from inception through November 2021. Studies that reported odds ratio (OR), hazard ratio (HR), or the incidence of death in patients with SARS-CoV-2 who received MRA versus those who did not receive MRA therapy were included. The random-effects model was used to evaluate the pooled odds ratio (OR) and the corresponding 95% confidence interval (CI) using STATA 16.1.

Results:

Five studies with a total of 7848 patients (681 patients on MRA) were included in the meta-analysis. Included studies consisted of case-control, non-randomized controlled, and cohort studies. 2 studies involved the use of spironolactone, whereas 1 study involved canrenone, and 2 studies had unspecified type of MRA use. Overall, MRA therapy was not associated with decreased mortality in patients infected with SARS-CoV-2 (OR = 0.387, 95% CI = 0.134-1.117, p = 0.079).

Conclusions:

In conclusion, there was no significant association between the use of MRA therapy and differences in mortality in patients infected with SARS-CoV-2. Future studies with larger-scale, randomized control trials are needed to further elucidate the association of MRA therapy and mortality and morbidity in SARS-CoV-2 patients.

Poster # 19

Social Support, Mental Health, and Vaccine Willingness in Asian American Older Adults During the COVID-19 Pandemic

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Background:
Asian Americans have experienced increased mental health challenges since the onset of the COVID-19 pandemic. Substantial research documents the salubrious effects of social support on mental and overall health among Asian Americans. However, the role of social support in mental health and health behaviors like vaccine willingness for Asian American older adults during the pandemic remains underexplored despite the importance of social support for health and quality of life in this population.

Objective:
This study examines the relationship between social support, mental health, and COVID-19 vaccine willingness among Asian American older adults during the pandemic.
Methods: The Asian American, Native Hawaiian, and Pacific Islander COVID-19 Needs Assessment Survey was a national survey administered between January 18 – April 9, 2021 (n=3,736). Adults aged 50 years and older who self-identified as Asian American were included. Logistic regressions were conducted to analyze associations among depression symptoms, anxiety symptoms, COVID-19 vaccine willingness, and social support types (receiving or providing emotional and instrumental support).

Results:
The sample (n=654) was 59% East Asian, 22% Southeast Asian, 10% South Asian, and 9% Multiethnic/Other. About 12.5% screened positive for depression symptoms, 16.7% for anxiety symptoms, 20.6% for depression or anxiety symptoms, and 75.2% were willing to get the COVID-19 vaccine. Compared to adults not receiving emotional support, adults who received emotional support were less likely to have depression [0.42 (0.25, 0.70)] and anxiety [0.56 (0.35, 0.90)], and they were more likely to get the COVID-19 vaccine [1.63 (1.00, 2.64)]. Adults who provided emotional support to others were also less likely to have depression [0.54 (0.31, 0.95)].

Conclusions:
Receiving emotional support was not only associated with better mental health outcomes but also COVID-19 vaccine willingness. This may have implications for developing supportive programming for this population that not only includes instrumental or practical support, but also emotional support.

Poster # 20

A tale of two valves: Streptococcus gordonii infective endocarditis requiring double valve replacement

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A 33-year-old man underwent extensive dental cleaning, root canal, and extraction of two teeth after not receiving dental care in over a decade. Several months later, he presented to an outside facility with progressively worsening generalized fatigue, was found to have Streptococcus gordonii bacteremia, and was treated with ceftriaxone with clearance of bacteremia. Several weeks later, he presented with progressively worsening leg swelling, dyspnea, and orthopnea.

Physical examination was significant for an early decrescendo diastolic murmur at the left sternal border, lungs with bilateral basilar crackles, and pitting edema of the lower extremities. The exam was also notable for hallmark findings of aortic regurgitation including de Musset sign (head bobbing), Traube sign (pistol shot bruit heard over the femoral arteries), Mueller sign (systolic pulsations of the uvula), and Landolfi sign (constriction and dilation of pupils with each heartbeat). Blood cultures showed no growth, chest x-ray revealed enlarged cardiac silhouette with congestion pattern, and an EKG suggested right ventricular hypertrophy. Transthoracic echocardiogram revealed moderate thickening of aortic cusps with possible early vegetations, severe aortic regurgitation, and mitral valve vegetations. Transesophageal echocardiogram revealed low-normal ejection fraction of 50-55% and confirmed the findings of aortic valve vegetations with severe aortic regurgitation, large complex mitral valve vegetations and severe mitral regurgitation, and moderate tricuspid regurgitation. The patient was diagnosed with subacute infective endocarditis.

The patient was treated with IV antibiotics and goal-directed medical therapy for heart failure. He then underwent mechanical aortic and mitral valve replacements with left atrial clipping. Vegetations were found on the excised aortic and mitral valves, but intraoperative culture and surgical pathology were negative for bacteria. He recovered with no major postoperative complications and was discharged with outpatient follow up.

While certain subgroups of viridans group streptococci (VGS) are common causes of infective endocarditis, the Streptococcus sanguinis subgroup of VGS rarely causes invasive infections, including infective endocarditis. Streptococcus gordonii is a component of oral flora and falls under the Streptococcus sanguinis subgroup. In most cases of the infective endocarditis, the mainstay of treatment is long-term IV antibiotic therapy targeted to the organism isolated in the blood culture. However, surgical intervention is indicated in certain cases, such as valvular dysfunction, complicated perivalvular extension of infection, infection with fungi or multidrug-resistant organisms, and persistent infection despite appropriate antibiotic therapy for greater than 7 days. Surgery is also indicated to prevent serious complications such as progression of heart failure, irreversible structural damage, and systemic embolism.

Poster # 21

A Case of Multiple Sclerosis Mistaken for Spinal Cord Malignancy

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A 51-year-old man presented with left forearm numbness followed by progressive right arm and leg numbness and incoordination over the past three months. Two days prior to admission, he presented to another emergency department, where brain MRI revealed mild scattered gliosis within the periventricular and subcortical white matter suggesting chronic small vessel ischemic disease or possible autoimmune disease. While he was initially planned for outpatient follow up, he was admitted due to worsening symptoms.

At the time, neurologic examination revealed normal cranial nerves, increased right-sided tone, weakness, and decreased sensation to light touch in a C8-T1 distribution on the right. Heel-to-shin and rapid alternating movement tests were abnormal on the right. Hoffman and Babinski testing revealed involuntary flexion of the index finger and thumb and upwards fanning of the toes, respectively, on the right. Cervical spine MRI detected a right paracentral expansile cord lesion at C6-T1 with evidence of mass effect on FLAIR sequence. Initial serum, CSF, and cytologic workup including aquaporin-4 IgG were unremarkable. A follow-up cervical spine MRI revealed increased enhancement of the abnormal cord signal, yet his symptoms had paradoxically improved. He was discharged to outpatient follow-up with consideration for possible biopsy in evaluation of CNS malignancy.

Approximately one month after the initial hospitalization, the patient presented again with a new symptom of left lateral neck paresthesia and resolution of his previous symptoms. Repeat cervical MRI revealed a new enhancing C2-C3 cord signal involving the left posterior lateral cord and decreased enhancement at previously noted C6-T1. Repeat lumbar puncture revealed elevated oligoclonal bands and IgG synthesis rate. He was diagnosed with multiple sclerosis (MS) using the revised Mcdonald Criteria. The patient was initiated on steroid treatment for this disease flare and discharged to outpatient follow up with the neuroimmunology clinic to start disease-modifying immunomodulatory therapy.

Multiple Sclerosis is the most common chronic inflammatory demyelinating disease of the central nervous system. The clinical presentation varies and may include optic neuritis, limb weakness, focal sensory abnormalities, or ataxia. The MS lesions are recognized as focal areas of demyelinating white matter lesions on MRI. The diagnosis of MS is made using the Mcdonald Criteria which involves the correlation of clinical attacks and evidence of at least two CNS lesions disseminated in time and space. Once the diagnosis is confirmed, the goal of early treatment is hastened recovery from the attack with short-term, high-dose steroids, followed by definitive therapy.

Poster # 22

A Tale of Two Tumors: Zollinger-Ellison Syndrome in the setting of MEN1

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Introduction:

Multiple Endocrine Neoplasia 1 (MEN1) syndrome is a rare autosomal dominant condition that most commonly involves the parathyroid, pituitary, and pancreas. However, the duodenum and adrenals are also commonly affected sites. Patients with MEN1 are at high risk of developing Zollinger-Ellison syndrome (ZES) due to the growth of gastrinomas leading to hypersecretion of acid. 90% of gastrinomas arise within the gastrinoma triangle which consists of the area encompassed by the head of the pancreas, cystic/common bile ducts and the second/third portions of the duodenum.

Case Report:

42-year-old female with history of persistent hypercalcemia presented to the ED with right flank pain. Computed tomography (CT) of the abdomen and pelvis showed nephrolithiasis as well as masses in the pancreatic tail and right adrenal gland. She was also found to have hyperparathyroidism. Genetic testing for MEN1 syndrome was positive. Patient underwent distal pancreatectomy and parathyroidectomy. Patient then developed symptoms consistent with gastro-esophageal reflux with elevated gastrin levels. She was trialed on H2 blockers and PPIs with limited success. Chromogranin A and pancreatic polypeptide levels were elevated raising suspicion for a gastrinoma within the head of the pancreas. Lanreotide, sucralfate and misoprostol were added to aid in symptom control. She was referred to GI and found to have esophagitis with multiple gastric and duodenal ulcers on endoscopy. Dotatate positron emission tomography (PET)/CT scan was obtained with showed intense uptake in the second and third portions of the duodenum as well as in the uncinated process of the pancreas with accompanying calcifications raising concern for gastrinoma. This was also supported by a positive secretin stimulation test. The patient underwent endoscopic ultrasound (EUS) with biopsy of the uncinated process which was negative for malignancy and no discrete masses were appreciated.

Discussion:

Roughly 20% of patients with ZES occur in the setting of MEN1. Mainstay management is with acid suppression therapy, prostaglandin and somatostatin analogs to protect the intestinal lining. In patients with severe disease who fail medical therapy, localization and excision of the tumor is indicated. Pain management is often required for these patients. Gastrinomas can be very difficult to localize, EUS is generally recommended to aid in tumor localization when surgical excision is being considered. This is further complicated when masses can’t be appreciated as in our patient. Serial CT scans with repeat EUS is usually recommended to biopsy other suspicious areas found on imaging such as the second and third portions of the duodenum as in our patient. Cure rate of gastrinomas in the gastroma triangle is around 80% as long as metastasis has not occurred.

Poster #24

Disseminated Cryptococcosis without meningitis in a patient with newly diagnosed HIV

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A 44-year-old man with recently diagnosed AIDS was transferred from an outside hospital for further evaluation of a pulmonary cavitary lesion. The patient had persistent cough and fever for two months despite multiple doctor's visits and antibiotic treatment. Two weeks prior to transfer, he was diagnosed with AIDS with a CD4 nadir of 26cells/mm3 as well as a left pulmonary cavitary lesion on CT chest. His cough improved with IV antibiotics and he was started on highly active antiretroviral therapy. However, shortly after discharge, he began to have worsening fevers, chills, night sweats, headache, nausea, and vomiting. During this two-month span, he also noted a 40-pound unintentional weight loss. He had no cough, hemoptysis, recent travel, nor exposures.

Initially upon transfer, he was afebrile with normal vital signs. Physical exam was unremarkable including a normal pulmonary exam and negative Brudzinski sign. Initial laboratory testing showed mildly elevated LFTs and a normocytic anemia with hemoglobin of 10.7gm/dL and MCV of 80.6fL without leukocytosis. The CT chest redemonstrated a 3.6cm x 3.4cm cavitary lesion in the superior left lower lobe with new air-fluid level. Bacterial blood and sputum cultures were negative. Serial acid-fast bacilli sputum staining and Quantiferon Gold were negative. Serum Cryptococcus antigen was positive with a titer of 1:512, along with positive Fungitell assay. Given his persistent fevers, headache, and nausea, lumbar puncture was performed which revealed a normal opening pressure with a negative cryptococcal antigen. He was started on IV amphotericin and flucytosine and improved clinically over the next week. Following two weeks of IV treatment, the serum cryptococcal titer increased to 1:4096, bu t as he was now asymptomatic, the patient was transitioned to fluconazole and discharged to outpatient follow up.

The presentation of disseminated cryptococcosis is varied and depends on the affected anatomical sites. Onset is generally indolent and symptoms may include fevers, malaise, night sweats with cough and dyspnea in pulmonary infections or headache, neck rigidity, and nausea in central nervous system involvement. Non-meningeal infection can be treated with prolonged courses of oral antifungals such as fluconazole while patients with signs of meningoencephalitis require induction therapy with IV Amphotericin B and flucytosine guided by serial lumbar punctures. Notably, patients with severe pulmonary symptoms or signs of dissemination such as antigen titers ≥1:512 should be treated as if central nervous system disease is present even if other clinical signs are absent.

Poster # 25

Bartonella henselae infection: An unusual cause of failure to thrive, Coombs-negative hemolytic anemia, and pancytopenia

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Introduction:
Few cases of Coombs-negative hemolytic anemia associated with Bartonella henselae have been reported in the literature. We present an unusual presentation of Bartonella henselae infection in an elderly immunocompetent male with Coombs-negative hemolytic anemia, pancytopenia, splenomegaly, and native-valve endocarditis.

Case Description:
A 67-year-old male presented to the Infectious Disease clinic with over 1 year of debilitating fatigue, 35-pound weight loss, night sweats, hemolytic anemia, splenomegaly, and pancytopenia. Prior to presentation, the patient had extensive evaluation by his primary care physician, Gastroenterology, and Hematology-Oncology. EGD showed mild gastritis with biopsies negative for H. pylori. Labs showed pancytopenia (WBC 3.4, Hgb 10.9, Plt 122) with elevated LDH, elevated reticulocyte count, low haptoglobin, and negative direct Coombs reflecting a hemolytic process. He underwent bone marrow biopsy revealing hypercellular marrow with tricellular hematopoiesis, and flow cytometry and FISH panel were negative for malignancy. PET CT revealed only diffuse splenomegaly without focal areas of uptake suggestive of malignancy or infection. IR-guided splenic biopsy revealed splenic congestion without evidence of malignancy or granulomatous disease, and he was referred to Infectious Disease for additional evaluation. On exam, he had subcentimeter nontender cervical lymphadenopathy and a grade 2/6 systolic murmur at the left upper sternal border without physical exam evidence of septic emboli. Labs were significant for an elevated Bartonella henselae IgG titer (1:512) with negative Bartonella IgM. Echocardiography showed mild aortic regurgitation with suggestion of aortic valve calcification versus vegetation. Confirmatory transesophageal echocardiography showed a mobile 1.49x0.67cm aortic valve vegetation. He was treated with 2 weeks of azithromycin and rifampin followed by 3 months of doxycycline for presumed disseminated Bartonella infection with endocarditis. On further review of his social history, he reported having 8 cats and 3 kittens at his home. He did not recall any scratches or bites. At the end of the 3 months of doxycycline, follow up blood work demonstrated resolution of pancytopenia (WBC 5.9, Hgb 13.0, Plt 188) with normal LDH and haptoglobi n. He had regained 15lbs and reported significant improvement in his fatigue with resolution of night sweats.

Discussion:
Bartonella henselae is known to cause a lymphocutaneous infection and is a rare cause of culture negative endocarditis. Disseminated disease occurs in an estimated 5-20% of cases. Atypical manifestations of Cat Scratch Disease (CSD) include ocular, hepatosplenic, neurologic, cardiac, and musculoskeletal infection. Case reports and reviews suggest individuals 60 years of age and older are more likely to present with atypical presentations of CSD. Bartonella henselae should be considered in patients with failure to thrive, hemolytic anemia, and pancytopenia.

Poster # 26

Unique Presentation of Thyrotoxic Periodic Paralysis with Urticarial Dermatographia

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Introduction:
Thyrotoxic Periodic Paralysis (TPP) is a rare condition most commonly occurring in males of Asian ancestry from 20-50 years old. TPP presents with marked bilateral lower extremity (BLE) proximal muscle weakness and hypokalemia associated with Graves' disease (GD). Though the mechanism has not been fully elucidated, it thought that patient susceptible to TPP may have an underlying ion channel defect. While TPP is well described in the literature, we present a case that not only had the common presentation, but also manifested with dermatographia that resolved with a short course of anti-histamines while continuing anti-thyroid drug therapy.

Case Presentation:
25-year-old male of Cambodian heritage presents for evaluation of intermittent weakness to BLE. The symptoms started four months ago and he reports multiple episodes of weakness after prolonged sitting or strenuous exercise. This morning he woke up and was unable to move his legs. Episodes began as self-limiting, but progressively become more severe. Family history was negative for familial periodic paralysis (FPP). Denies use of medication, supplements, tobacco, or alcohol. On review of systems, patient also endorses anxiety with invasive thoughts, and hypervigilance. Denies any recent illness, vestibular symptoms, SOB, or saddle numbness. Physical exam was significant for BLE weakness in proximal muscles with persevered sensation to light touch. Upon workup, it was found patient had a potassium of 1.7, TSH of <0.005, and a free t4 of >7.77 (normal 0.93 -1.7). His potassium was corrected and he was initiated on propranolol and methimazole (MMI) for his GD and TTP. He reporte d a progressive rash after two weeks of therapy. Exam revealed an irritating, rapidly occurring, upraised erythematous rash provoked with light pressure consistent with dermatographia. Anti-histamine therapy was started and his MMI was continued. A week of anti-histamine led to complete resolution of the rash. The patient was continued on MMI for additional 6 months before having total thyroidectomy for definitive treatment.

Discussion:
TPP is classically diagnosed in males of Asian descent with GD, proximal muscle weakness, and hypokalemia. The presentation of this case is unique because of the development of urticarial dermatographia in the setting of GD, TPP, and MMI therapy. Anti-thyroid drug related rashes can occur in up to 13% of patients, but dermatographia has not been commonly reported. The presence of this atypical rash may lead to clinicians unnecessarily discontinue anti-thyroid drug therapy which are needed in order to prevent recurrence of a life-threatening condition. Despite the unclear origin of the dermatographia, our case reveals that it can be effectively treated with anti-histamines while continuing MMI.

Poster # 27

Validation of Peguero-Lo Presti LVH EKG Criteria in Elderly Asian Population

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Background:
Left ventricular hypertrophy (LVH) was one of the earliest identifiable risk factors from the Framingham Heart Study for sudden cardiac death. Thirty-seven diagnostic criteria have been previously accepted by the American Heart Association, which suggests a lack of consensus.

Objective:
The recently proposed Peguero-Lo Presti criteria for LVH showed greater sensitivity (57%) than the previously accepted Cornell Criteria for LVH, whose sensitivity ranges from approximately 5% to 40% [1-4]. We seek to investigate the validity of this novel criterion in the elderly Asian population, which was underrepresented in previous studies.

Methods:
We included all patients presenting to our facility with an echocardiogram and EKG from August 2020 to March 2021, regardless of diagnosis (n=261).Exclusion criteria were patients less than 65 years year of age, EKG evidence of left bundle branch block, right bundle branch block, known cardiac amyloidosis, ventricular paced rhythm, or limited echocardiographic windows. As a comparison to existing previously validated criteria, we assessed LVH according to Sokolow-Lyon and Cornell criteria, the amplitude of R wave in aVL greater than 1.1 mV, the amplitude of R wave in lead D1 greater than 1.4 mV, and Cornell criteria. These criteria will be validated with the left ventricular mass index on echocardiogram.

Results:
Of the current data we have collected (n=112). 12/112 (10%) of those subjects had LVH by Peguero-Lo Presti criteria, 3/112((2%) met Cornell criteria, 6/112(5%) met Sokolow-Lyon criteria, 4/112(3.5%) met R in aVL criteria, and 1/112(0.8%) met R in lead I criteria for LVH. As of right now we are unable to calculate the sensitivity and specificity since we have yet to calculate left ventricular mass index and therefore do not have sensitivity and specificity data. It is our goal to have sensitivity, specificity, and results prior to presenting.

Conclusion:
Currently we are unable to draw conclusion's from our data since the data gathering phase is incomplete. We intend to complete those sections prior to presentation day.

Poster # 28

Not all non-caseating granulomas are sarcoid: A case of laryngeal tuberculosis

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A 55-year old female with a history of laryngeal sarcoidosis presents to the emergency department with stridor, dyspnea, and odynophagia. Her laryngeal sarcoidosis was diagnosed via biopsies of supraglottic lesion in 2011, 2012, and 2015 all showing non-caseating granulomas; She had 5 separate laser/excision treatments dating back to 1994 for laryngeal polyps and papillomas. Her current treatment included Atrovent and albuterol inhalers, infliximab infusions every 4 weeks, and periodic direct steroid injections to treat laryngeal inflammation. She had a remote history of latent TB treated with 6 months of INH in 1994 and again in 2002. On exam in the ED, her vital signs were normal; she appeared in respiratory distress with audible stridor and had evidence of oral thrush. She was given 40mg IV solumedrol in the ED with some improvement of her subjective dyspnea. ENT performed a laryngoscopy with showed diffuse mucosal inflammation and edema of the epiglottis, arytenoids, and A-E fold s with significant narrowing of the supraglottic airway and glottic inlet (Figure 1). She was escalated to ICU given her tenuous respiratory status. She was given infliximab and ENT performed an operative balloon dilation and supraglottic debulking which she tolerated well. The supraglottic tissue was biopsied and sent for pathology and culture. Histopathology exam noted large inflammatory infiltrate in the submucosa with foci of necroinflammatory debris (Figures 2 and 3) without histologic features of sarcoidosis. Acid fast bacilli were identified on special stain. The tissue PCR and gram stain returned positive for Mycobacterium tuberculosis and cultures eventually grew the same. Chest CT showed no lymphadenopathy or evidence of active pulmonary disease, but did note right apical scarring. She was started on rifampin, ethambutol, pyrazinamide, and levofloxacin empirically following infectious diseases consultation. Levofloxacin was used due to presumed INH resistance given prior l atent tuberculosis treatment. She followed up with ENT for direct laryngoscopy 2 weeks later which showed improved patency of her airway at the level of the laryngeal inlet/supraglottis with decreased erythema and acute inflammatory changes. The narrowing of the laryngeal inlet improved to approximately >10mm wide (Figure 5). She is now completing treatment under directly observed therapy and contact tracing was performed to identify medical staff who were potentially exposed for appropriate screening and treatment. This case illustrates the importance of keeping laryngeal tuberculosis on the differential diagnosis, as laryngeal lesions in TB have an inconsistent appearance and are often mistaken for ulcers, polyps, or malignancy. It is also important for physicians to realize that latent TB treatment decreases but does not eliminate the risk of reactivation TB.

Poster # 29

Treatment of Extra pulmonary small cell carcinoma with Lurbinectedin

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The incidence of extra pulmonary small cell carcinomas (EPSCC) is rare, making up only 0.1-0.4% of all cancer cases diagnosed in the United States each year. The standard of care for patients with small cell carcinoma of extra pulmonary origin is to treat the tumor as if it was a small cell lung cancer (SCLC) due to the similar histopathologic features between these tumor types. There are not many second-line options for small cell carcinomas that have demonstrated improved survival. Lurbinectedin which was investigated as a novel second-line therapy for recurrence in SCLC and has shown promising early results from phase I and II trials.

A 70-year-old never-smoker male presented with three day history of neck pain and difficulty swallowing. On exam an ulcerative lesion in the right peritonsillar region along with peritonsillar fullness was noted. CT Neck with contrast reported a right-sided tonsillar soft tissue mass with lymphadenopathy. The patient underwent punch biopsy of the ulcerative mucosa which read as invasive poorly differentiated small round blue cell malignant neoplasm consistent with small cell neuroendocrine carcinoma. Initial tumor staging was T3N2cMx. Imaging with PET revealed several bony hyper metabolic foci throughout the axial and proximal appendicular skeleton concerning for metastatic disease. He received four cycles of carboplatin, etoposide and atezolizumab. During follow up PET/ CT after cycle three, significant metabolic and anatomic improvement of FDG foci were noted to be compatible with a positive response to therapy. He was continued on maintenance atezolizumab infusions. Three months following, PET/ CT was obtained and showed interval progression at right tonsil, lymphadenopathy, and skeletal metastases. Lurbinectedin was started over the traditional second-line therapy topotecan. After the completion of two lurbinectedin cycles, CT/PET demonstrated improvement of disease. Radiotherapy to the site of primary disease was then performed. After seven cycles of lurbinectedin, CT Neck with contrast reported no evidence of residual right tonsillar soft tissue mass or cervical lymphadenopathy.

Given the rarity of its presentation, there is limed data to guide the treatment of small cell carcinoma of the head and neck. Although clinically distinct, the pathological similarity to small cell lung cancer has led most clinicians to implement similar treatment to head and neck small cell carcinoma Relapsed or recurrent SCLC have poor responses with second line chemotherapy. In our patient who had refractory disease within three months of initial therapy completion, had seven months of progression free survival while on lurbinectedin. We report lurbinectedin as potential new addition to our current therapeutic armamentarium for metastatic small cell carcinoma of the head and neck.

Poster # 30

IDENTIFYING SEX DIFFERENCES IN AGING WITH DIFFUSION MRI

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Background:

There is no current consensus on sex-related white matter (WM) changes in aging. This study aims to characterize WM microstructure across the lifespan and identify sex differences in the onset of decline.

Methods:

Patients 25-75 years old who underwent brain magnetic resonance imaging (MRI) for clinical indications of headache or dizziness at the NYU Center for Biomedical Imaging from October 2014 to March 2020 were retrospectively enrolled. Diffusion weighted MRI was processed using DESIGNER to extract parametric maps of mean diffusivity (MD), then average over two regions of interest (ROI): genu, splenium, and plot as a function of age. Linear and quadratic regression models were compared with adjusted R2.

Results:

Of all patients (n=878), n=324 were excluded for MRI abnormalities (n=115), lack of data in the electronic health record (n=46), history of neurologic disease (n=125), or poor image quality (n=38). The final sample was age- and sex-matched, resulting in 302 females 45.6±14.2 years old and 151 males 45.6±14.3 years old. In both ROIs, MD initially decreased, then increased with age, and was better described by quadratic than linear curves based on adjusted R2. At younger ages, males had higher MD than females, but the MD-increase with age began about 5 years earlier in females in both genu (minimum at 31.2 years in females, 36.7 years in males) and splenium (minimum at 34.9 years in females, 39.6 years in males).

Conclusion:

The higher MD in males may reflect protective effects of premenopausal female sex hormones on myelination. Interestingly, the earlier increase of MD in females suggests sex-differences in the onset of age-related neurodegeneration.

Poster # 31

A new diagnosis of Crohn's Disease in patient with right lower quadrant pain

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A 33-year-old Caucasian woman with long-standing epigastric pain presented with acute worsening of abdominal pain with fever. The patient reported having chronic epigastric pain since childhood without formal diagnosis. She had taken pantoprazole for worsening epigastric pain three weeks prior without relief. Then she developed a new, progressive right lower quadrant pain, accompanied by fever three days prior to presentation. She denied any association to specific food intake, recent travel or illness. She noted constipation and diarrhea in the past, but denied melena or hematochezia.

Initial vital signs were remarkable for tachycardia and fever. Physical examination revealed a soft abdomen with tenderness to palpation in the right lower quadrant without rebound or guarding, and a BMI of 19.2kg/m2. Remaining exam was unremarkable including skin and musculoskeletal exams without rash or arthropathy. Laboratory tests revealed normal WBC, ESR 33mm/hr, and CRP 84 mg/dL. Quantiferon Gold, stool pathogen multiplex PCR panel, and ova & parasite tests were negative. CT abdomen showed severe submucosal edema with wall thickening and mucosal enhancement involving the terminal ileum. Colonoscopy demonstrated severe inflammation, characterized by congestion, erythema, polypoid tissue and deep ulcerations exclusively in the terminal ileum. A biopsy showed ulceration and neutrophilic infiltration of crypt epithelium consistent with inflammatory bowel disease. Acid-fast and GMS fungal stains were negative. Throughout her hospital course, the patient was treated with anti-eme tics, analgesics, and initially with antibiotics for possible infectious etiology, which were later discontinued. Given the colonoscopy and biopsy results, the patient was diagnosed with Crohn's Disease and initiated on prednisone taper for acute flare with plans to initiate immunologic management as an outpatient. With steroid treatment, the patient had steady improvement over the ensuing days and was discharged.

Most patients with Crohn's Disease have small bowel involvement, with 30% of patients having ileitis. Age of onset is typically between 15 and 30 years. Cardinal symptoms include abdominal pain and diarrhea, with or without hematochezia. Transmural inflammation may result in strictures leading to abdominal pain and small bowel obstructions. Other less common presentations include perianal disease, oral ulcers, esophageal disease, or gastroduodenal involvement with peptic ulcer disease-like symptoms. Patients may experience systemic symptoms like fatigue, weight loss, and fever. This case features a typical presentation of Crohn's disease involving a young Caucasian woman with terminal ileitis. The mainstay of initial treatment is systemic steroids, followed by immunomodulator therapy to suppress flare ups and to achieve eventual remission.

Poster # 32

DECREASING HEALTH DISPARITIES IN TRANSGENDER HEALTHCARE: A CASE OF SCROTAL CELLULITIS IN PATIENT WITH HISTORY OF ORCHIECTOMY AND PENECTOMY

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Transgender health is an important field of medicine with the rise in awareness and increase in the rate of gender reassignment surgeries. Transgender patients face barriers to health care due to a combination of discrimination and lack of appropriate knowledge in the field.

A 49-year-old male-to-female transgender patient with a past medical history significant for morbid obesity and testicular cancer status post right orchiectomy and penectomy presented with scrotal pain and swelling. Three days prior to admission, the patient experienced groin pain. There was no inciting event. She reported a burning sensation with urination without discharge. She was not sexually active and was not on hormone therapy. Vital signs were significant for a temperature of 37.2 °C, blood pressure of 105/78 mmHg, heart rate of 101, and respiratory rate of 22. Physical examination revealed a large body habitus but no acute distress. There was no suprapubic tenderness. Genitourinary examination demonstrated absent right testicle and a warm left scrotal wall with erythema, induration, and tenderness to palpation. There was purulent discharge with no fluctuant mass. The penis was also absent with a urethral opening above the scrotum. Laboratory data showed a white blood cell c ount of 17,570 μL. Urinalysis revealed cloudy urine with leukocyte esterase. Urine culture was positive for Enterococcus faecalis. Wound culture was positive for Gram-positive coccus and Gram-negative bacillus. Scrotal ultrasound showed moderate wall thickening and no testicular mass. Renal ultrasound was negative for hydronephrosis. The patient was suspected to have scrotal cellulitis and was managed with Vancomycin, Ceftriaxone, warm compress, and scrotal elevation. During her hospitalization, the patient's mean arterial pressure dropped to below 65 mmHg. She was transferred to the intensive care unit, where she received intravenous fluids and midodrine before she was downgraded. She later underwent left scrotal incision and debridement, and a foley catheter was placed to keep the area clean. This was followed-up by placement of vacuum-assisted closure (VAC) of the wound. There was clinical improvement, and the patient was discharged with a 5-day course of Cefdinir with follow- up for wound VAC care.

The core procedures in male-to-female gender reassignment surgery include penectomy, orchiectomy, vaginoplasty and clitorolabioplasty. Surgical techniques often result in variations of the standard anatomy, making interpretation and diagnosis of genitourinary diseases complex. Following penectomy, patients may undergo creation of a new urethral opening. However, long-term complications following this procedure remain underreported. Our case highlights a potentially higher risk for cellulitis in patients with unique genitourinary anatomy, specifically full penectomy with partial orchiectomy. The growing incidence of gender reassignment surgery underscores the importance of increased sensitivity when diagnosing genitourinary diseases to reduce misdiagnosis in this underrepresented population.

Poster #33

Autoimmune Diabetes Mellitus after Nivolumab Therapy

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Nivolumab is an immune checkpoint inhibitor that has become increasingly common in the treatment of various cancers including melanoma, non-small cell lung cancer, and renal cell carcinoma. However, with an increase in T cell activity for intended tumor lysis comes increased risk of immune-related adverse events (irAEs) such as autoimmune diabetes mellitus and thyroiditis.

A 57-year-old male with metastatic melanoma on cycle #2 of the checkpoint inhibitor Nivolumab presented to the emergency department with several days of progressive fatigue and intractable vomiting. The patient was found to have a blood glucose of 639 mg/dL, venous blood pH of 7.09, serum HCO3 of 9 mmol/L, and medium serum ketones and was subsequently diagnosed with diabetic ketoacidosis. A continuous infusion of insulin was started and he was admitted to the Intensive Care Unit. After resolution of his anion gap metabolic acidosis he was transitioned to subcutaneous insulin and was eventually discharged on a stable regimen with close endocrinology follow-up. Autoimmune diabetes mellitus was diagnosed based on new elevation of Hemoglobin A1C of 8.3%, elevated glutamic acid decarboxylase antibodies at 27.9 U/mL, and a decreased C-peptide of 0.5 ng/mL. Of note, prior to both initiation of Nivolumab and this admission the patient had a Hemoglobin A1C of 6.2%.

This case illustrates the potential for Nivolumab and other immune checkpoint inhibitors to cause acquired autoimmune diabetes mellitus in patients without pre-existing diabetes. Autoimmune diabetes mellitus can progress rapidly and patients may present in diabetic ketoacidosis, as in this case. Increased recognition of this immune-related adverse event is important as the indications for and use of immune check point inhibitors continues to expand.

Poster # 34

Keep Breathing! A Resiliency Intervention for Internal Medicine Residents

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I. Introduction:

The University of Hawaii Internal Medicine Program previously studied burnout in residents and found that regardless of rotation site or PGY level, emotional exhaustion increased over time and was most prevalent on wards, where residents spend the most time over the course of their training. Environmental factors are difficult to change; however, there is opportunity to cultivate resilience skills to decrease emotional exhaustion through breathing exercises to increase focus, increase alertness, and to calm the mind during stressful situations.

II. Methods:

39 residents attended a peer-led, 25-minute introductory session during protected time, which focused on the evidence for building resilience through breathing and incorporated an introductory breathing exercise. Residents were encouraged to download a free breathing app on their phone. Residents were then offered weekly 10-minute breathing sessions for 8 consecutive weeks during their "break" time between academic lectures. A survey was administered after the initial introductory session and second survey followed the completion of the intervention.

III. Results:

A total of 39 residents responded to the initial survey, which decreased to 21 residents at the end of 8 weeks. In the initial survey, 54% of respondents considered breathing exercises to be moderately important, quite important, or essential to their life as a resident; 57% anticipated "maybe yes" and 31% anticipated "definitely yes" to practicing breathing outside of the structured curriculum. In the post-intervention survey, only 33% of respondents considered breathing exercises to be moderately important, quite important, or essential to their life as a resident; 38% "often" and 33% "sometimes" participated in the weekly breathing exercise curriculum. Of the 21 respondents to the post-intervention survey, 38% reported practicing breathing exercises outside of the offered curriculum. All respondents reported being either moderately (52%), quite (38%), or extremely (10%) satisfied with the curriculum.

IV. Discussion:

Overall, participation decline was as expected, given that only the initial session was during protected time for residents. Initially, over half of the residents felt breathing exercises were at least moderately important to their life as a resident, but this decreased by the end of two months, suggesting that residents would likely benefit from more than one session dedicated to breathing education. Over two-thirds "often" or "sometimes" participated in the weekly breathing sessions, and over one third practiced outside of the curriculum, suggesting residents do appreciate the exercise and that regular, peer-led breathing is a reasonable practice to add to residents' resiliency curriculum. Future directions include incorporation into weekly protected time for residents.

Poster # 35

Heyde's Syndrome: A systematic review of case reports

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Heyde's Syndrome (HS), a rare condition presenting with aortic stenosis (AS) and angiodysplasia, is often diagnosed late increasing the risk for a prolonged hospital course and mortality in the elderly. The leading hypothesis explaining the etiology of HS is Acquired Von Willebrand Syndrome (AVWS) but not all studies support this claim. While individual cases of HS have been reported, here we present the first systematic review of case reports and focus on the prevalence of AVWS. A systematic search was conducted through PubMed/MEDLINE, CINAHL-EBSCO, Web of Science, and Google Scholar since inception. The resulting articles were screened by two independent reviewers based on inclusion criteria that the article must be a case report/series or a letter to the editor in English describing HS in a patient ≥18 years old. Seventy-four articles encompassing 77 cases met the inclusion criteria. The average age was 74.3±9.3 years old with a slight female predominance. The small intestine, especially the jejunum, was the most common location for bleeding origin. Capsule endoscopy and Double balloon enteroscopy were superior at identifying bleeding sources than colonoscopy ($p=0.0027$ and $p=0.0095$, respectively) and esophagogastroduodenoscopy ($p=0.0006$ and $p=0.0036$, respectively). The mean duration from symptom onset to diagnosis/treatment of HS was 23.8±39 months. Only 27/77 cases provided evidence for AVWS. Surgical and transcutaneous aortic valve replacement (AVR) were superior at preventing re-bleeding than non-AVR modalities ($p<0.0001$). Further research is warranted for a stronger understanding and increased awareness of HS, which may allow more timely diagnoses and optimal management.

Poster # 36

Validating Race and Ethnicity EMR Categories in a Large Multicultural, Inpatient/Outpatient Hospital Setting

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Background: Race and ethnicity are key components of a patient's demographic profile, particularly with ongoing interest in social determinants of health. Often distilled into a single category in electronic medical records (EMR), the accuracy of this information is unclear, particularly in a multiracial, majority-minority population. We aimed to determine the accuracy of patient race/ethnicity data in The Queen's Medical Center EMR (EPIC) compared to the 'gold standard' of patient self-reported and most-identified race/ethnicity.

Methods: We surveyed patients at QMC from 2007-20. Trained data collectors visited randomly selected hospital and ambulatory units and asked all available patient if they would participate. We excluded patients who were in ICUs, unable to verbally respond, or declined participation. We included non-English speakers if friends or family were able to interpret. Patients were first asked to list all of their race/ethnicities (maximum 12) and then select the one they most identified with. We compared this self-identified (Self-ID) race/ethnicity with race/ethnicity listed in EPIC. We obtained IRB approval for this study.

Results: Of 847 survey respondents, 373 (44%) listed more than one race/ethnicity. Overall, respondents Self-ID as Asian (33%), Native Hawaiian (NH) (22%), White (21%), Pacific Islander (PI) (18%) Hispanic (3%), Black (2%) and Other (1%). In comparison, race/ethnicity in EPIC was Asian (33%), NH (19%), White (22%), PI (18%), Hispanic (3%), Black (2%), Unknown (3%). The overall agreement between Self-ID and EPIC was 87% (n=737). Of the non-agreements, for 46 (5%) the EPIC race/ethnicity did match one of 12 self-reported options, but was not the one they identified with the most; 65 (8%) were complete mismatches where the EPIC race/ethnicity was not listed by the patient at all. Assuming Self-ID as the gold standard, patients who were multi-racial were more significantly likely to be mis-categorized in EPIC (22% vs. 5.4%, $P<0.05$). Race/ethnicity accuracy was significantly lower for NH (79%) than for Asians (92%), Whites (90%) and PI (91%). This was driven largely by the fact that NH are more likely to be multiracial (93%) than Asians (26%), Whites (44%), and PI (15%). When restricted to only multiracial patients, there no significant difference in accuracy among NH (79%), Asians (78%), Whites (81%), and PI (82%). There was no significant difference in accuracy between in- and out-patient, but it did vary by year without apparent trend (2007: 17.6%, 2008: 12.5%, 2010: 7.9%, 2013: 9.8%, 2020: 14.4%).

Conclusions: In a multicultural, majority-minority population, the accuracy of race/ethnicity in our EMR is similar to our gold-standard of self-reported race/ethnicity (87%). Multiracial patients were significantly more likely to be mis-categorized. Further work is needed to improve the accuracy of our data, including among multiracial patients.

Poster # 37

Antibiotics or Not?: A Rare Case of Systemic Inflammatory Reaction after Coadministration of Pneumococcal and Covid Vaccines

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Introduction:
Pneumococcal vaccination is an important public health measure that significantly reduces the prevalence of pneumococcal illness. The most common local adverse reactions reported are pain, swelling, and erythema at the injection site. Systemic adverse reactions like fevers, headache, fatigue, and myalgia are rare. Here we present a case of systemic inflammatory response after coadministration of the pneumococcal vaccine (PV) with the COVID-19 booster shot.

Case Presentation:
A 75-year-old male with history significant for type 2 diabetes mellitus, hypertension, and presumed primary myelofibrosis presented to the hospital with complaints of dizziness, fever and myalgias. He started having left arm pain and a fever to 39.6 C after he received his PV on that arm. Simultaneously he had received the Moderna Covid booster to the right deltoid. On physical examination, a cellulitis-like reaction was noted over his left deltoid, with a poorly demarcated circular area of erythema and induration approximately 7cm in diameter. In the ED, vitals were significant for tachycardia, tachypnea, and hypotension. Labs were significant for leukocytosis, lactic acidosis, elevated ESR and CRP. He was initially started on empiric antibiotics with cefazolin and clindamycin. However, over the subsequent several days he continued to remain febrile with persistent leukocytosis and worsening left upper arm edema, erythema, and warmth despite broadening antibiotic coverage to vancomycin and zosyn. He had no other signs or symptoms to indicate an overlooked source of infection. Left upper extremity CT revealed edema at the head of the left deltoid and diffuse subcutaneous fat stranding consistent with mild myositis and soft tissue infection without evidence of abscess. Because the local reaction failed to improve as would be expected in a true case of cellulitis, there was concern for the possibility of non-infectious inflammatory response as a contributing factor. On day 4, he turned afebrile, and the swelling improved the next day.

Discussion:
A few case reports of systemic febrile reaction after pneumococcal vaccination have been reported in literature. However, there have been no reports of such reactions following the coadministration of PV along with COVID-19 vaccine. Clinical providers may have difficulties determining how to manage such unusual reactions. Patients experiencing this non-infectious reaction may receive an unnecessarily extended treatment with antibiotics if the diagnosis of inflammatory response to the vaccine is not considered. This case is a reminder to clinicians that systemic inflammatory response to the vaccine can occur and should be considered in the differential in patients with a similar constellation of symptoms following the PV administration, especially when such symptoms persist or worsen despite appropriate antibiotics.

Poster # 38

When The Heart Won't Go On: Case Reports of BRASH Syndrome

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Introduction: BRASH syndrome describes the vicious spiral of events leading to the development of bradycardia, renal failure, hyperkalemia, and shock in the presence of atrioventricular (AV) nodal blocking agents. This syndrome is a new, largely underdiagnosed clinical entity that can lead to catastrophic events if left unrecognized and untreated. Here, we present two cases of BRASH syndrome.

Case Description: Case 1 was a 77-year-old Japanese female with history of type 2 diabetes mellitus, diastolic heart failure, permanent atrial fibrillation, and hypertension, who was brought in after recurrent syncopal episodes. Each episode lasted less than a minute with complete recovery of consciousness. Her medications included verapamil, lisinopril, and furosemide. In the ED, her vital signs were notable for bradycardia to 30s. Electrocardiogram showed atrial fibrillation with slow ventricular response. Laboratory tests revealed elevated BUN, creatinine and potassium, mild leukocytosis, pyuria, and bacteriuria. She received insulin, calcium gluconate, and fluids. Verapamil was held. Throughout her hospitalization, she had no recurrence of syncope, bradycardia resolved, and renal function improved with resolution of UTI.

Case 2 was an 86-year-old man with a history of systolic heart failure, aortic stenosis s/p balloon valvuloplasty, and chronic kidney disease stage IIIb, presented after an out-of-hospital cardiac arrest. Fifteen days prior, he was admitted for a hip fracture secondary to mechanical fall. Notably, he was discharged with mild hyperkalemia and on new medications: metoprolol tartrate and lisinopril. Patient felt palpitations on the day of admission, became pulseless, and had a cardiac arrest. ACLS was initiated by nursing home staff and ROSC was obtained after 2 minutes of CPR with no shockable rhythms reported. In the ED, patient was noted to have a junctional rhythm with heart rate in the 30's and an elevated potassium level. He was treated with calcium gluconate, insulin, furosemide, and Lokelma with improvement in HR and rhythm conversion to sinus rhythm.

Discussion BRASH syndrome usually develops in the elderly on AV blockers when an acute insult occurs, causing kidney injury and hyperkalemia. Its variable presentation proves to be both a diagnostic and therapeutic challenge. Treatment of BRASH Syndrome differs from the standard ACLS bradycardia algorithm and the cornerstone remains treating the hyperkalemia, improving renal function by treating the underlying cause, holding AV nodal blockers, and consideration for dialysis in refractory cases as any single factor could precipitate the vicious cycle of BRASH syndrome again. Clinicians should be more aware of this syndrome. Knowing the pathophysiology of BRASH syndrome can lead to alternate therapy choices when ACLS treatment of bradycardia fails, especially in patients on AV blockers, because existing ACLS algorithms do not account for the necessity for cardiac stabilization with calcium gluconate.

Poster # 39

Preprocedural Weight Loss And Atrial Fibrillation Ablation Outcomes: A Meta-analysis

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Background:
Atrial fibrillation (AF) is the most common cardiac arrhythmia. Catheter ablation remains an effective strategy for restoring and maintaining sinus rhythm in selected patients. Obesity is an important risk factor and also a poor prognosticating factor for AF. Studies have shown that weight management in obese patients may improve outcomes of AF ablation, but the data is conflicting.

Objective:
We conducted a meta-analysis to determine if preprocedural weight loss will lead to improved outcomes in patients undergoing AF ablation.

Methods:
We conducted a comprehensive literature search in PubMed and Google Scholar from inception through December 2021. We included randomized controlled trials, case-control or cohorts that evaluated the effect of weight loss prior to the procedure in patients undergoing AF ablation. Data were combined using the random-effect, generic inverse variance method of DerSimonian and Laird to calculate the weighted mean difference (WMD), odds ratio (OR), and 95% confidence interval (CI).

Results:
Six studies were included in the study (1216 patients, 916 patients underwent weight management). There was no significant association between preprocedural weight loss and recurrence of AF post-ablation. (OR 0.61, 95% CI 0.31-1.19).

Conclusion:
In conclusion, there was no significant association between preprocedural weight loss and AF recurrence after cardiac ablation. Limitations of the study includes the small number of included studies as well as high heterogeneity which may be attributed to different weight loss strategies used, degree of weight loss achieved, types of AF and varied types of studies. Future studies with large-scale, randomized control trials will be needed to further elucidate the association of weight loss management and AF outcomes post catheter ablation.

Poster # 40

A Dilemma Between the Heart and the Eyes: Amiodarone Associated Optic Neuritis

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Introduction: Amiodarone is a highly effective antiarrhythmic drug used to treat ventricular and supraventricular arrhythmias. This medication has been most commonly associated with pulmonary, thyroid, and cardiac adverse effects. Amiodarone-associated optic neuritis (AAON) is an infrequent adverse effect that can progress to permanent blindness. Patients with ocular complaints after initiation of amiodarone remain a controversial diagnostic challenge with significant impacts on vital cardiac therapy decisions. We present a case of bilateral optic neuritis occurring after initiation of amiodarone in a complex cardiac patient.

Case Presentation: A 76-year-old male with a history of heart failure with reduced ejection fraction was admitted to the ICU with septic shock from Group B Streptococcus bacteremia secondary to septic arthritis whose course was complicated by multiple episodes of unstable atrial fibrillation (AF) with rapid ventricular response (RVR) requiring several rounds of synchronized cardioversion. He completed a 10-gram load of amiodarone, and then was sustained on amiodarone. About 5 weeks after initiating therapy, he experienced gradual, bilateral blurred vision and eye pain with extreme lateral gaze over 4 days.

MRI demonstrated bilateral left greater than right diffuse enhancement of the optic nerves. On ophthalmology evaluation, he had worsening visual acuity with bilateral corneal verticillata on exam. After close discussion among the cardiology, ophthalmology, and internal medicine team, his amiodarone was discontinued and rate control for his AF was continued.
His optic symptoms slowly improved over 2 weeks; however, he reverted into AF with RVR with hemodynamic collapse which was refractory to electrical cardioversion. Due to clinical instability, unclear diagnosis of AAON, and prior efficacy of amiodarone, the decision was made to initiate amiodarone load with intention of transitioning to a class III antiarrhythmic when clinically stable.

Discussion: Diagnosing AAON is a controversial clinical diagnosis without clear diagnostic criteria. This is in part due to a lack of causal evidence linking amiodarone use and optic neuropathy, similarity in clinical presentation with non-arteritic ischemic optic neuropathy (NAION), and inconsistent presentation/time course in amiodarone initiation.
While whorl keratopathy (corneal verticillata) is the most common ophthalmologic finding in patients on amiodarone (prevalence >70%) and can be used as a marker ophthalmologic penetrance, there is not a correlation with corneal verticillata or any exam findings with AAON.

It remains unclear whether our patient experienced AAON with quick onset within 2 months (median time to onset in literature is 9-12 months). Management of ocular symptoms with high clinical suspicion of AAON favors attempt at preservation of eyesight via discontinuation of amiodarone, even when antiarrhythmic options are limited. This poses a clinical dilemma especially in difficult clinical cases as above, that requires shared decision-making among ophthalmology, cardiology, and the patient to determine the best course of management.

Poster # 41

Where Have You Been? A Case Study of Pyoderma Misdiagnosum

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Cutaneous Leishmaniasis (CL) is a common manifestation of a parasitic infection transmitted via the bite of sandflies infected with the protozoa Leishmania. Leishmania species are categorized by their geographical location with New World endemic to Central/South America versus Old World localized to Eastern Hemisphere. A patient's travel history is fundamental in both the diagnosis and treatment of Leishmaniasis as it can narrow down likely causative species which guides therapy based on the risk for potential non-response/resistance and complications associated with certain species.

A 30-year-old man presented to his primary care provider for a painful, non-healing wound to his left lower leg. It appeared three months prior, following a trip to his home country of Palau, as two erythematous papules which later coalesced and ulcerated. He denied past medical history, constitutional symptoms, additional travel, or fresh-water exposure. He was diagnosed with cellulitis and started on Bactrim. Two weeks later, he represented for worsening symptoms with wound cultures growing Methicillin-sensitive Staphylococcus aureus. He was prescribed Clindamycin and referred to the Wound Care clinic. Over the next month, his symptoms persisted despite wound care every 2-3 days. A peripheral punch biopsy showed inflammatory changes without identification of parasites, bacteria, or fungi. He was referred to Dermatology and diagnosed with Pyoderma Gangrenosum. Infectious Disease evaluated him, prior to initiation of high dose corticosteroids, and determined infectious etiology, including Leishmaniasis, was unlikely due to negative biopsy and lack of an exposure history. He clinical improved with steroids but over 3 months had clinical regression with attempts to wean. Cyclosporine was added with successful tapering of steroids. A month later, Dermatology noted subcutaneous nodules, some ulcerated, extending up his medial left thigh in a lymphatic pattern. Punch and excisional biopsies were taken. His travel history was readdressed and he acknowledged traveling to Costa Rica, just prior to Palau. His biopsies identified Leishmania amastigotes with visualization of the kinetoplast. The tissue specimen was positive by PCR for spp. An ENT examination excluded mucocutaneous involvement. He was treated with Ambisome with resolution of pain and ulcerations with persistent hypopigmentation and scarring.

The delay in diagnosis of Leishmaniasis for our patient was complicated by an incomplete travel history and initial negative biopsy which resulted in treatment with immunosuppressants allowing progression of disease. Negative biopsies are typically more common when taken from a central region but studies have found PCR to be more sensitive than biopsy in diagnosis of CL. Despite his treatment delay, our patient had no evidence of mucocutaneous spread despite his exposure area, Central America, being endemic with New World CL. This case highlights the importance of taking a good travel history and reassessing both history and the patient when they do not respond as expected to therapy.

Poster # 42

Long Covid or Broken Heart? An Unusual Presentation of Atrial Septal Defect

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Introduction:
Post-Acute Sequelae of SARS-CoV-2 infection, or "Long COVID", is a relatively new condition having global effects and presenting with varied clinical symptoms that may mimic other health conditions. Approximately 36.55% of COVID-19 survivors will continue to experience symptoms in the 3- to 6-months following initial infection. Symptoms can be vague with the most common including dyspnea, fatigue, and chest pain. Atrial septal defect (ASD) is another condition that can present with non-specific symptoms and has a naturally insidious progression. Diagnosis of ASD is important as timely repair improves clinical outcomes. We present a case where COVID-19 infection unmasked an underlying large, hemodynamically significant ostium secundum defect.

Case Presentation:
We report the case of a 36- year-old male with no cardiovascular past medical history who, 5-weeks after infection with COVID-19, presented with recurrent chest discomfort, nausea, and lightheadedness, with no associated dyspnea. At presentation, he was noted to have tachycardia of 125 bpm and an incomplete right bundle branch block on EKG, but an otherwise benign physical examination with no other cardiovascular findings. With suspected post-viral syndrome, a Transthoracic Echocardiogram (TTE) was ordered to screen for recovering peri/myocarditis. The TTE revealed normal left ventricular function and anatomy, enlargement of the right atrium and ventricle with evidence of left to right atrial shunt, and no evidence of pulmonary hypertension. A cardiac MRI was performed, demonstrating marked right-sided chamber enlargement with pulmonary to systemic flow ratio (Qp:Qs) of 2.3, indicative of the presence of a large shunt. A transesophageal echocardiogram (TEE) was performed for more ac curate characterization of the ASD, revealing a 26mm x 19mm ostium secundum. The patient will proceed to have percutaneous closure of the ostium secundum in the immediate future.

Discussion:
ASDs occur in approximately every 1 in 1500 live births and represent 7-10% of congenital heart defects. A large portion of these lesions –30-40%– spontaneously close. However, with larger, persistent lesions, important clinical sequelae may occur making it important to detect and treat these lesions early. Long term, with hemodynamically significant lesions such as this case, ASDs can lead to pulmonary hypertension, atrial arrhythmias, and eventually progression to Eisenmenger syndrome. COVID-19 has many clinical sequelae, but may have the unfortunate effect of obscuring or even intensifying other conditions. It is unclear if our case was a natural progression of his ASD or whether COVID-19 exacerbated the underlying condition. Due to enlargement of the right heart, a Qp:QS ratio of 2.3 on MRI, and absence of pulmonary hypertension, this patient qualifies for primary closure. With prompt recognition and diagnosis, ASDs can be closed reducing their morbidity and mortality.

Poster # 43

Two patterns of pathological changes in ischemic myocardial injury

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Percutaneous coronary intervention and coronary artery bypass grafting have significantly decreased mortality following an acute myocardial infarction (MI). However, post-MI heart failure due to adverse left ventricular (LV) remodeling is a major risk for heart failure. At present, the pathophysiological feature of LV remodeling is not well understood. More research on the mechanism and pattern of cardiomyocyte (CM) cell death following ischemia-reperfusion (I/R) injury is important to the development of specific therapies for post-MI heart failure. Currently, the pattern of cell death following an MI is explained using the wavefront phenomenon, which is based on coronary artery distribution. Our previous studies using mouse models of I/R injury, demonstrated that the initial cluster of CM cell death in the infarct region extended along myofibers in midcardium, rather than following the path of coronary arteries that penetrate the myocardium, indicating that CM injury after transient coronary ligation in mice extends along myofibers. However, the two pathological changes in ischemic myocardial injury are not characterized well in human hearts. In this study, we compared myocardial scarring in two patterns of myocardial injury in cadaveric hearts from individuals who had ischemic injury. Tissue samples were obtained from six cadaveric hearts. Three cases had coronary stents, while the other three did not. Each heart was fixed with formalin and sectioned from base to apex into 4-5 sections. Myocardial scarring was identified as white color in the myocardium. Tissue sections were obtained from the myocardial scar and sectioned into 5-micrometer sections for Masson's trichrome staining, which visualizes fibrotic scarring. In gross views, myocardial scarring in individuals who had coronary stents was located away from the surface of the LV cavity and along myofibers, while in hearts that were supposed to have experienced severe ischemic injury, myocardial scarring started from the subendocardium to the subepicardium—consistent with the wavefront phenomenon. Masson's trichrome staining revealed fibrotic scarring along myofibers in the hearts of individuals who had coronary stents.
These findings suggested that there are two patterns of pathological changes in ischemic myocardial injury: CM injury determined by the wavefront phenomenon and CM injury along myofibers. Hypercontracture, which is characterized by hypercontracted myofibrils, is a typical pathological feature observed in I/R injury, but not permanent occlusion. Consistent with the pathological feature, we observed CM cell death along myofibers in the individuals who had stents. Further research on the mechanisms of cardiomyocyte death and how it spreads provides a new direction for the development of interventional therapies.

Poster # 44

Extramammary Paget's Disease in the Lung: A rare presentation

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Introduction:

Extramammary Paget's Disease (EMPD) is an intraepithelial malignancy that originates from apocrine gland bearing skin which occurs in areas of secondary sexual maturation. EMPD is an exceptionally rare condition and among all forms, EMPD of the penis and scrotum is the least common. We present a case of EMPD of the penis and scrotum with pulmonary and bone metastases.

Case:

A 68-year-old non-smoking male presented with a pruritic erythematous lesion on the dorsum of the penis for several years. Biopsy revealed high-grade squamous intraepithelial lesions with margins positive for dysplasia. He was treated with topical fluorouracil for 6 weeks with minimal response, and a repeat biopsy showed a focus of a poorly differentiated, invasive carcinoma. The patient underwent radical excision of the carcinoma of the penis and bilateral inguinal lymph node dissection. This revealed EMPD in the penile skin mass and scrotal skin with a 0.8 cm focus of moderately differentiated invasive adenocarcinoma and 2/38 positive nodes. Follow-up imaging studies were negative for adenopathy or metastasis. The patient later developed a recurrent lesion, and an excisional biopsy revealed local recurrence of EMPD. The patient underwent wide excision of the cutaneous lesions. Restaging CT chest, abdomen, and pelvis demonstrated multiple mediastinal hypodensities in the right paratracheal, precarinal aortopulmonary window locations. A PET CT scan demonstrated equivocal focal uptake in the posterior mediastinum at the level of the pulmonary veins without FDG-avid lymphadenopathy, however with multiple FDG-avid bone lesions without corresponding sclerotic or lytic lesions. Bone lesion biopsies were undertaken. Pathology was consistent with apocrine adenocarcinoma containing Pagetoid spread.

Discussion:

EMPD is an intraepidermal malignancy that originates from apocrine gland duct cells, which has only been described in several hundred case reports. EMPD typically presents as a painful or pruritic red scaly plaque involving the female genitalia, male genitalia, or perianal area. Disease of the male genitalia is the least common, accounting for only 14% of cases. Only 2.5% of EMPD patients present with metastatic disease, which has been described to bone, lung, liver, and brain. To date, there are no standardized chemotherapy regimens. The overall prognosis of those with metastatic disease is poor, with a median overall survival of 1.5 years. Our case highlights that although rare, EMPD can metastasize to the lungs.

Index:

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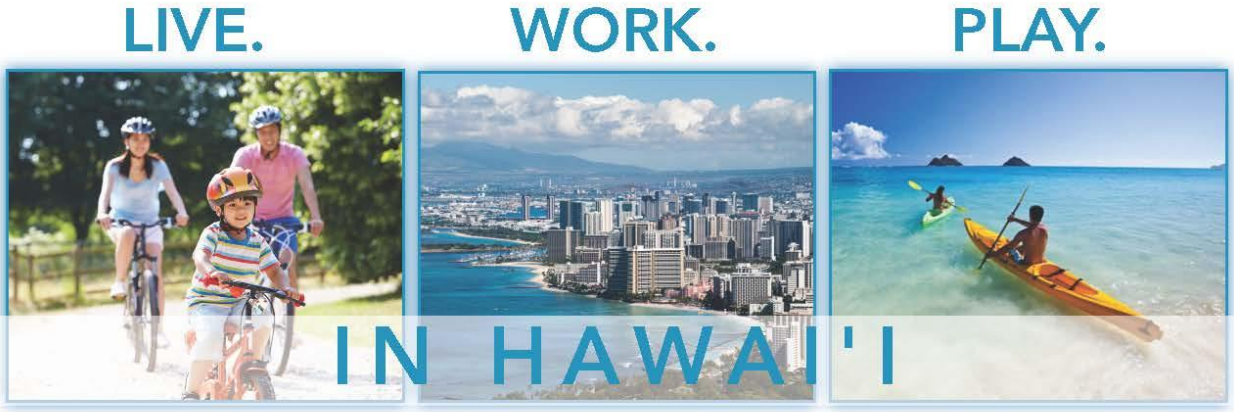

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Email: Thao.Hartford@kp.org
Phone: (808) 432-5679, press option 1
Fax: (808) 432-5827

For Locum Tenens Employment:

Send your Cover Letter and CV to:
Ms. Kristen Yamabe, Recruiter

Email: Kristen.S.Yamabe@kp.org
Phone: (808) 432-5679, press option 4
Fax: (808) 432-5827

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