UPMC Pinnacle

MEDICAL EDUCATION DAY
APRIL 8, 2021

UPMC Pinnacle physicians and healthcare professionals will present case studies, clinical topics of interest and research during medical and surgical track sessions. In addition, the program includes poster presentations, awards ceremony and a keynote address.

KEYNOTE ADDRESS:

David B. Nash, MD MBA

Population Health:
Creating a Culture of Wellness

Dr. Nash will discuss the key limitations inherent in our current healthcare system to better appreciate how it has failed us during the pandemic. Learners will be able to explain the key tenets of population health with a special emphasis on the Triple Aim and consumer connectivity. Our audience will be able to outline the future of remote patient monitoring, AI in healthcare, and digital health as tools to reduce disparities in care.

Thomas Pineo, DO
2021 Chair, Medical Education Day Committee

Ronald Kratz, MD
President, UPMC Pinnacle Medical Staff

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April 8, 2021

Welcome to Medical Education Day 2021!

We would like to thank all of those individuals who submitted abstracts for this year's program. We appreciate the time and effort you put into preparing your abstracts, presentations or posters.

This program is made possible by the generous financial support of the CGOH Foundation and the UPMC Pinnacle Medical Staff.

In addition, we'd like to thank the family of the late Dr. Loucas Tzanis for their generous support. With Dr. Tzanis' passing in 2004, his wife, Helen, established an annual award to recognize an internal medicine resident who has excelled in bedside practice, as nominated by the nursing staff. In 2020, to further recognize Dr. Tzanis' legacy, Helen, her son Evan and daughter in-law, Nia, expanded the program to recognize distinction in research by providing for financial awards to the top oral and poster presentations in the medical track at Medical Education Day. The UPMC Pinnacle Foundation's Dr. Thomas Outland Education Fund provides for the awards for the top oral and poster presentations for the surgical track.

We have organized the morning program into simultaneous presentations of medical and surgical tracks to provide areas of interest for all attendees. At the conclusion of the morning lectures, please join us for the awards ceremony and a keynote address by David B. Nash, MD, MBA who will present *"Population Health: Creating a Culture of Wellness".*

We hope that you will find this program informative and enjoyable.

Sincerely,

Thomas Pineo, DO

Thomas Pineo, DO
Chair, Medical Education Day Committee 2021

CME / DISCLOSURE

Accreditation and Designation Statement

In support of improving patient care, the University of Pittsburgh is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

Physician (CME)
The University of Pittsburgh designates this live activity for a maximum of 5.0 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Nursing (CNE)
The maximum number of hours awarded for this Continuing Nursing Education activity is 5.0 contact hours.

Physician Assistant (AAPA)
The University of Pittsburgh has been authorized by the American Academy of PAs (AAPA) to award AAPA Category 1 CME credit for activities planned in accordance with AAPA CME Criteria. This activity is designated for 5.0 AAPA Category 1 CME credits. PAs should only claim credit commensurate with the extent of their participation.

Other Healthcare Professionals
Other health care professionals will receive a certificate of attendance confirming the number of contact hours commensurate with the extent of participation in this activity.

Faculty Disclosure:

All individuals in a position to control the content of this education activity including members of the planning committee, speakers, presenters, authors, and/or content reviewers have disclosed all relevant financial relationships with any entity producing, marketing, re-selling, or distributing health care goods or services, used on, or consumed by, patients.

The following relevant financial relationships were disclosed:

David B. Nash, MD, MBA is a board member for ANIP: NASDAQ

No other planners, members of the planning committee, speakers, presenters, authors, content reviewers and/or anyone else in a position to control the content of this education activity have relevant financial relationships to disclose.

Disclaimer Statement

The information presented at this CME program represents the views and opinions of the individual presenters, and does not constitute the opinion or endorsement of, or promotion by, the UPMC Center for Continuing Education in the Health Sciences, UPMC / University of Pittsburgh Medical Center or Affiliates and University of Pittsburgh School of Medicine. Reasonable efforts have been taken intending for educational subject matter to be presented in a balanced, unbiased fashion and in compliance with regulatory requirements. However, each program attendee must always use his/her own personal and professional judgment when considering further application of this information, particularly as it may relate to patient diagnostic or treatment decisions including, without limitation, FDA-approved uses and any off-label uses.

PROGRAM OVERVIEW:

The Medical Education Day allows clinical research and scholarly activity opportunities to be presented to our local and regional clinical care providers and GME Training Programs.

TARGET AUDIENCE:

Our local/regional Medical Staff Providers (MD/DO/RN/APPs) and our Graduate Medical Educations Residency Program trainees, Program Directors and teaching faculty.

/updated 4.6.2021

UPMC Pinnacle

MEDICAL EDUCATION DAY – Virtual

(presenters/judges/moderators - on-site)

Thursday, April 8, 2021

AGENDA	
TIME	**EVENT**
7:00 a.m.	Rooms open – AV Testing
7:00- 7:45 am	Poster Authors available for Q&A for Poster Judges
7:15 a.m.	Poster Session Acknowledgment of Work - virtual
7:45 a.m.	Introduction/Welcome – Thomas Pineo, DO - Chair Terri L. Drummond - Remembrance
8:00 a.m.	Medical and Surgical Track Presentations Begin – Moderator Opening Remarks and Instructions Moderator – Surgical – Robert Carman, DO Moderator – Medical – Anas Atrash, MD
9:45-10:15 a.m.	**BREAK**
10:15 a.m.	Medical and Surgical Track Presentations Continue
11:45 a.m.	**BREAK**
12:00 p.m.	**Keynote Speaker** **David B. Nash, MD MBA** **"Population Health: Creating a Culture of Wellness"**
1:00 p.m.	Keynote Q&A – Dr. Pineo
1:15 pm	Tzanis Awards Ceremony Thomas Pineo, DO/Jessica Ritchie, VP Development Guest: Evan Tzanis
1:30 p.m.	Closing Remarks - Conclusion of Program - Thomas Pineo, DO

** Judging for Poster Session will take place April 7, 2021**

MEDICAL EDUCATION DAY COMMITTEE

Thomas Pineo, DO - Committee Chair

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Yijin Wert Research and Biostatistics	

Medical Education Day 2021

JUDGES & MODERATORS

ORAL PRESENTATIONS - MEDICAL TRACK		
Kathryn Palisoc, DO Internal Medicine UPMC Pinnacle	**Kristie Schmidt, DO** Internal Medicine UPMC Pinnacle	**William Kauffman, MD** VP of Medical Affairs UPMC Carlisle

ORAL PRESENTATIONS - SURGICAL TRACK		
Danielle Ladie, MD Transplant Surgery UPMC Pinnacle	**Robert Maurer, MD** Orthopedic Surgery UPMC Pinnacle	**Troy Moritz, DO** Thoracic Surgery UPMC Pinnacle

POSTER PRESENTATIONS – MEDICAL TRACK		
Timothy Boley, MD Maternal Fetal Medicine UPMC Pinnacle	**Faith Matzoni, DO** Medical Director Post Acute Care UPMC Pinnacle	**R. Daniel Bledsoe, MD** EMS Medical Director UPMC Pinnacle

POSTER PRESENTATIONS – SURGICAL TRACK		
Jadd Koury, MD Colon Rectal Surgery UPMC Pinnacle	**Kurtis Childers, DO** General Surgery UPMC Pinnacle	**Ronald Lippe, MD** Orthopedic Surgery Orthopedic Institute of PA

TRACK MODERATORS	
MEDICAL TRACK	**SURGICAL TRACK**
Anas Atrash, MD Internal Medicine UPMC Pinnacle	**Robert Carman, DO** General Surgery CPSA

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Medical Education Day 2021
April 8, 2021
Live Virtual Conference

This is not your official certificate.

How to receive your continuing education credit?

https://cce.upmc.com/medical-education-day-2021

This activity is approved for the following credit: *AMA PRA Category 1 Credit™*, ANCC, and AAPA Category 1 CME. Other health care professionals will receive a certificate of attendance confirming the number of contact hours commensurate with the extent of participation in this activity.

To receive credit, you will be required to login, complete the course evaluation and claim credit within 30 days of the activity. If you are a new user, click "Register" to create a new account. The activity will be added to your Pending Activities and accessible on the first day of the activity. Upon completion, certificates will be available to download and stored for future reference in your Completed Activities.

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To receive credit, login to the UPMC Center for Continuing Education in the Health Sciences (CCEHS) continuing education learning portal, http://cce.upmc.com. If you are a new user, choose "Register" to create an account. **Note, records are matched to users by email address.**

- Go to **My Account, My Courses**
- Choose **Pending Activities**
- Click on the **course title** to complete the course evaluation and claim credit

David Nash MD MBA

Population Health:

Creating a Culture of Wellness

Dr. Nash will discuss the key limitations inherent in our current healthcare system to better appreciate how it has failed us during the pandemic. Learners will be able to explain the key tenets of population health with a special emphasis on the Triple Aim and consumer connectivity. Our audience will be able to outline the future of remote patient monitoring, AI in healthcare, and digital health as tools to reduce disparities in care.

David holds an MBA in Health Administration (with honors) from the Wharton School at the University of Pennsylvania. While at Penn, he was a former Robert Wood Johnson Foundation Clinical Scholar and Medical Director of a nine-physician faculty group practice in general internal medicine. He has received honorary doctorates from Salus University in Philadelphia, GCSOM, and the University of Rochester. He is the Founding Dean Emeritus and the Dr. Raymond C. and Doris N. Grandon Professor of Health Policy at the Jefferson College of Population Health (JCPH). His 10-year tenure as Dean completes nearly 30 years on the University faculty. Dr. Nash has received many awards in recognition of his achievements. He received the top recognition award from the Academy of Managed Care Pharmacy (1995), the Philadelphia Business Journal Healthcare Heroes Award (1997), and was named an honorary distinguished fellow of the American College of Physician Executives (now AAPL) in 1998. In 2006 he received the Elliot Stone Award for leadership in public accountability for health data from NAHDO. Wharton honored Dr. Nash in 2009 with the Wharton Healthcare Alumni Achievement Award and in 2012 with the Joseph Wharton Social Impact Award. Also in 2012, he received the Philadelphia Business Journal award for innovation in medical education.

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Oral Presentations

Medical Track

Medical Education Day 2021
Medical Track - Oral Presentation Schedule

TIME	TYPE	PRESENTERS	TITLE
8:00 AM	Research	Selin Sendil, MD; Alex Garton, MD; Anas Atrash, MD; Renu Joshi, MD	Effect of Glycemic Control on Mortality and Readmission Rates in Hospitalized Non-ST Elevation Myocardial Infarction (NSTEM) patients
8:15 AM	Research	Yi-Ju Chen, MD; Dayawa D. Agoons MD, MPH; Anas Atrash, MD; Joshi Renu, MD	Effect of Appropriate Timing of Insulin on Glycemic Control in Hospitalized Patients
8:30 AM	Research	Dayawa D. Agoons, MD, MPH	Association Between Electronic Cigarette Use and Fragility Fractures: Results from the National Health and Nutrition Examination Survey
8:45 AM	Research	Tejaswi Kanderi, MD; Thomas Pineo, DO; John Goldman, MD; Greg Swartzentruber, MD; Hafiz Qurashi, MD; Christina Dimech, MD	QI Project Investigating the Use of Sublocade and a Tamper Resistant PICC to Administer Outpatient IV Antibiotics in Patients with Serious Infections and Opioid. The STOP OUD Project
9:00 AM	Research	Catherine Baye Easton, MD	Trends in Severe Maternal Morbidity (SMM) at UPMC Pinnacle Harrisburg
9:15 AM	Case	Navya Talluri Patel, DO;	Elevated Liver Enzymes in Teenage Males with Interstitial Pneumonitis Secondary to Vaping
9:25 AM	Case	Jenna Van Dusen, DO	Pediatric Vaginal Ulceration
9:35 AM	Case	Christopher Casagrande, DO	Dilated Cardiomyopathy in an 18 Year Old Male: A Case Report
9:45 AM - 10:15 AM	**-**	**BREAK, VENDORS AND POSTER SESSION**	
10:15 AM	Case	Kyle Brockman, DO	Liver Failure From an Overlooked Source
10:25 AM	Case	Kevin Nowakowski, DO	Neurosyphilis- A Rare Complication of a Common Disease
10:35 AM	Case	James Farrell, DO	The Case of Recurrent Ascites of Unknown Origin
10:45 AM	Case	Rajan Pathak, MD	Rituximab and Romiplostim Combination Therapy in Idiopathic Thrombocytopenic Purpura

Medical Education Day 2021
Medical Track - Oral Presentation Schedule

TIME	TYPE	PRESENTERS	TITLE
10:55 AM	*Case*	*Farrah El-Khatib, DO*	*Rapidly Growing Mass in the Forearm in a 54 Year Old Caucasian Woman: Merkel Cell Carcinoma*
11:05 AM	*Case*	*Hiba O. Malik DO*	*Fever of Unknown Origin*
11:15 AM	*Case*	*Mahaswi Sirangi, MD*	*A Severe Case of Invasive Pulmonary Aspergillosis in an Immunocompetent Patient*
11:25 AM	*Case*	*Arjun Vyas, DO*	*Hemoglobin Variant Complications: A Look Into Diabetic Monitoring*

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Selin Sendil, MD; Alex Garton, MD; Anas Atrash, MD; Renu Joshi, MD.

TITLE: Effect of Glycemic Control on Mortality and Readmission Rates in Hospitalized Non-ST Elevation Myocardial Infarction (NSTEMI) Patients

ABSTRACT

Introduction
Diabetes/hyperglycemia is an important and common occurrence in patients hospitalized with acute coronary syndrome (ACS). Our hypothesis is that uncontrolled hyperglycemia on admission or during their hospital stay and variability in blood glucose (BG) during their hospital stay are associated with worse outcomes.

Study design/methods
Retrospective chart review was conducted in patients who were admitted to UPMC Pinnacle hospitals for NSTEMI between October 2018-January 2020. Data was collected for average BG during hospitalization, BG on admission, HbA1C levels, 7-day and 30-day readmission, length of stay, and mortality at 1 year. Hyperglycemia was defined as BG□180mg/dl, hypoglycemia as <70. BG variability was defined as having at least one hypoglycemic episode along with average BG□180 during hospital stay. Data was collected on other demographic factors and co-morbid conditions. All statistical analysis was done with use of SAS software, and *p-value* of less than 0.05 was considered to be statistically significant.

Results
1186 patients met the inclusion criteria. Patients with average BG□180 mg/dl during hospitalization had significantly higher mortality compared to BG<180 mg/dl group (27.22% vs 13.52%, $p<0.0001$). Patients with hyperglycemia on admission had higher mortality (22% vs 12.9%, $p<0.0001$) and longer LOS (5.7±4 vs 4.5±3, *p=0.001*) compared to the BG<180 mg/dl group. Patients with BG variability had a much higher mortality (46.67%) compared to normoglycemic (13.43%) and hyperglycemic groups (25.45%) (*p<0.0001*). Diabetes was independently identified as a risk for higher mortality compared to pre-diabetes and non-diabetics (20.51% vs 12.83% vs 12.05%, *p=0.0007*). Multivariate analysis also identified older age, congestive heart failure, atrial fibrillation as predictors of mortality.

Discussion/conclusion
Our study results confirm that hyperglycemia and glucose variability are strongly associated with increased LOS and mortality.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Yi-Ju Chen, MD, Dayawa D. Agoons, MD, MPH, Anas Atrash, MD, Joshi Renu, MD

TITLE: Effect of Appropriate Timing of Insulin on Glycemic Control in Hospitalized Patients

ABSTRACT

Background
Existing literature suggests that insulin administration 15-20 minutes before meals provides optimal postprandial glucose control. However, discoordination of sugar measurement and the administration of insulin in the hospital setting due to morning preoccupations could affect inpatient glycemic control.

Objective
To evaluate the current practice of our institute and assess the timing of breakfast insulin administration with its effect on pre-prandial lunch glucose level.

Methods
We retrospectively reviewed the morning and lunch glucose and insulin timing for all patients admitted to the Harrisburg hospital teaching service with diabetes mellitus from January 1st through March 31st, 2019. Each "day" of intervention was classified into three groups based on the time discrepancy between breakfast sugar measurements and insulin administration -- within 30 minutes, 30 to 60 minutes and more than 60 minutes. The differences between the morning glucose and the pre-prandial lunch glucose levels were compared between the three groups.

Results
Among 3198 records included, insulin was administered within 30 minutes post morning glucose measurement on 600 days (18.8%), between 30 to 60 minutes on 762 days (23.8%), and more than 60 minutes on 1836 days (57.4%). The average morning glucose(mg/dL) in three groups were 175.0 [SD: 52.5], 173.3 [SD: 57.5], and 155.1 [SD: 61.2] accordingly, and the average pre-prandial lunch glucose(mg/dL) were 178.5 [SD: 59.1], 183.1 [SD: 63.5], 184.6 [SD: 67.3]. The mean difference in fasting and pre-prandial lunch glucose levels(mg/dL) increased from 3.5, 9.8 to 29.5 in three groups respectively. The elevation in pre-prandial lunch glucose with insulin administration more than 60 minutes after glucose measurement was statistically significant from other two groups($p<0.001$).

Conclusion
The delay of insulin injection by 60 minutes or more could lead to suboptimal pre-prandial lunch glucose readings. It is critical to administer insulin within 1 hour of blood glucose testing to optimize inpatient glycemic control.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Dayawa D. Agoons, MD, MPH

TITLE: Association between electronic cigarette use and fragility fractures: Results from the National Health and Nutrition Examination Survey (NHANES 2017 – 2018).

ABSTRACT

Background
The popularity of electronic cigarette (e-cigarette) use continues to rise in the United States. While combustible cigarette smoking has been associated with deleterious effects on bone health, the effects of e-cigarette use on bone health are unknown.

Objective
To examine the association between e-cigarette use and fragility fractures.

Methods
We pooled 2017-2018 data from the National Health and Nutrition Examination Survey (NHANES). We included men and women with complete information on all key variables. E-cigarette use was categorized as either never or ever user. Ever users were further classified as former and current users. Fragility fracture was defined as a composite of self- reported non trauma-related fracture of the hip, wrist, or spine. We assessed the association between e-cigarette use and fragility fracture using logistic regression models.

Results
Among 2,882 participants (mean age: 65.2 years [SD: 9.2], 50.6% female), 420 (14.6%) had a self-reported fragility fracture. In adjusted models, ever e-cigarette users had higher odds of a fragility fracture compared to never users (OR 2.29 [95% CI: 1.68, 3.13], P<0.001). There was a graded increase in odds of a fragility fracture with current e- cigarette users having higher odds compared to former users (former users, OR: 2.26 [95% CI: 1.61, 3.18], P=0.007; current users, OR: 2.44 [95% CI: 1.28, 4.65], P=0.007). Similar results were observed in subgroup analyses by gender and BMI.

Conclusion
In a sample representative of the US adult population, e-cigarette use was associated with increased odds of a fragility fracture. These findings suggest that e-cigarette use may be harmful to bone health.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Tejaswi Kanderi, MD, Hafiz Muhammad Siddique Qurashi, MD, Christina Dimech, MD

TITLE: QI project investigating the use of *S*ublocade and a *T*amper resistant PICC to administer *O*utpatient IV antibiotics in *P*atients with serious infections and *O*pioid *U*se *D*isorder. The STOP OUD Project.

ABSTRACT

Background
The US opioid crisis is driving up serious infections in Pennsylvania related to intravenous drug use (IVDU).[1] These serious infections require prolonged courses of antibiotics often resulting in prolonged hospital stays. This quality improvement project safely administers IV antibiotics in a monitored outpatient setting while addressing the patient's opioid use disorder (OUD).

Local Problem
Extended hospitalizations for monitored parenteral antibiotics for patients with OUD are challenging for patients, reduce bed capacity, and are associated with significant cost.

Hypothesis
Patients with OUD and serious infections can be safely treated in a monitored outpatient setting using a tamper-resistant PICC and Sublocade.

Methods
Sublocade and a tamper-resistant PICC were used to treat patients with serious infections and OUD as an outpatient to reduce hospital length of stay (LOS).

Results
Hospital LOS for patients participating in the STOP OUD project was reduced by 30.6 days per STOP OUD patient. All STOP OUD patients completed their antibiotic courses as prescribed, there was no evidence of PICC tampering, and they rated their care as 5/5. One patient developed a PICC associated DVT. Institutional savings per STOP OUD patient was $33,000. 6.8 admissions could be accommodated in the vacated bed generating additional revenue of $79,600 per STOP OUD patient. The total financial impact per STOP OUD patient was $112,600.

Conclusion
The STOP OUD project safely reduced hospital LOS for patients with OUD and serious infections. This project also had a favorable financial impact.

Limitation
3 patients have participated in this QI project so far and as additional patients participate our results will be updated.

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[1] Meisner JA, Anesi J, Chen X, et al. Changes in infective endocarditis admissions in Pennsylvania during the opioid epidemic. *CID*. 2019;XX(XX)1-7.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Catherine Baye Easton, MD

TITLE: Trends In Severe Maternal Morbidity (Smm) At Upmc Pinnacle Harrisburg (2016-2020)

ABSTRACT

Objective
To describe the burden of SMM and recognize the trend over the past 4 years.

Overview of the research
SMM also known as "near miss" is defined by a WHO technical working group as "a woman who nearly died but survived a complication that occurred during pregnancy, childbirth or within 42 days of termination of pregnancy".

A recent CDC report on SMM showed that, SMM has been steadily increasing in recent years and affected more than 50,000 women in the United States in 2014. The concept of SMM is become more relevant in small geographic regions and places with a decreased maternal mortality. SMM encompasses various conditions including but not limited to, cardiomyopathy, hemorrhage, organ failure, pregnancy-induced hypertension and embolism, pulmonary embolism sepsis, seizure, severe amniotic fluid embolism, and uterine rupture. Without in-time identification and treatment, these conditions can lead to maternal death. Thus, SMM is utilized as a new indicator of the quality of maternal health.

Design
A retrospective cohort study was conducted to analyze the trends and patterns in severe maternal morbidity in the UPMC Pinnacle Harrisburg hospital for the past 4 years (Oct 1, 2016 - Oct 1, 2020).

Material/methods
Using the CDC updated list of 21 indicators and ICD-9/ICD-10 diagnosis and procedure codes from administrative hospital discharge data, identify delivery hospitalizations with SMM. Descriptive analysis of identified indicators, maternal and fetal outcomes. Rate of severe maternal morbidity calculated. Multivariable logistic regression, controlling for maternal characteristics, and calculated adjusted odds ratios (ORs) and 95% confidence intervals (CIs) for severe morbidity in the 2nd trimester versus the 3rd trimester of pregnancy.

Results/Conclusion
Describe the trend in SMM and provide a comprehensive database for SMM in the past 5 years. Provide a basis to establish goals for a reduction of SMM at UPMC Pinnacle for the next 5 years. Identify the top 3 causes of SMM and recommend priority hospital system-wide quality improvement projects to improve the provision of maternal care.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Navya Talluri Patel, DO; Jenny Ma

TITLE: Elevated liver enzymes in teenage males with interstitial pneumonitis secondary to vaping

ABSTRACT

The use of electronic cigarettes has significantly increased in the past 10 years, with 20.8% of high school students reported using e-cigarettes[1]. E-cigarettes, also known as vapes, are portable devices that heat a liquid/oil mixture with nicotine to produce an inhaled vapor. These liquids contain various chemicals, including artificial flavors, glycerol, benzoic acid, cannabinoids, nicotine, and glycol. On September 27th 2019, The Centers for Disease Control and Prevention (CDC) released a report stating that 46 state health departments, and 1 territorial health department have reported 805 patients with cases of lung injury associated with vaping[2]. 69% of these patients were males and the median age was 23 years. 12 deaths have been confirmed to date with majority using Tetrahydrocannabinol (THC)-containing products.

3 cases of 17 year old males with history of THC oil and nicotine vaping presented to the Emergency-Department with possible community-acquired pneumonia and were discharged on oral prednisone and antibiotics. One day after discharge, symptoms of nausea, vomiting, and fever returned and all were subsequently hospitalized. Atypical, viral, and bacterial pneumonia such as Legionella, Mycoplasma, and HIV were ruled out as the primary cause of illness. Noncontrast Chest Computed Tomography and Pulmonary Function Tests on 2 of the 3 patients confirmed interstitial pneumonitis with both obstructive and restrictive processes. Elevated liver enzymes were present in 2 out of 3 cases with one patient with Aspartate Aminotransferase at 392 and Alanine Aminotransferase greater than 4,490. Stabilization of hypoxia required at least 3 days of continuous pulse oximetry and supplementary oxygen via nasal cannula. Prednisone taper was continued and inflammatory markers were monitored until patients were clinically stable for discharge.

These 3 cases demonstrate the spectrum of illness progression and possibilities of management in a still largely unknown pulmonary disease with secondary organ manifestations.

[1] https://www.cdc.gov/tobacco/data_statistics/fact_sheets/youth_data/tobacco_use/index.htm
[2]Characteristics of a Multistate Outbreak of Lung Injury Associated with E-cigarette Use, or Vaping — United States, 2019. CDC MMWR Early Release / Vol. 68. Cria G. Perrine, PhD1; Cassandra M. Pickens, PhD2; Tegan K. Boehmer, PhD3 et al. September 27 2019.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Jenna Van Dusen, DO

TITLE: Pediatric Vaginal Ulceration

ABSTRACT

Introduction
Acute genital ulceration, or Lipshütz ulcer, is an uncommon, self-limited, non- sexually transmitted condition. It is characterized by a painful, necrotic ulceration of the vulva or vagina. It may be proceeded by flu-like symptoms or a mononucleosis infection. Epstein-barr virus is associated with such ulcerations, but in many cases a true cause is not determined.

Case
12-year-old female presented to the emergency department, accompanied by her mother, for concerns of a vaginal infection. Pain was initial symptom, which was reported to mother three days after onset. Two days later, patient developed fevers greater than 102 degrees Fahrenheit and weeping ulcers erupted over labia. Bactrim was prescribed by pediatrician, which did not improve symptoms. Pain progressively worsened eventually affecting patient's ability to ambulate and sit comfortably.

In the emergency department, patient was interviewed alone. Patient denied being sexually active. She also denied being sexually touched by friend/family/stranger in the past. She did admit to a mild sore throat, which proceeded genital symptoms. Patient was afebrile on presentation to the emergency department. Lab work was within normal limits. Physical exam revealed two weeping ulcers with extensive exudate, edema and tenderness over right labia majora. Culture was negative for sexually transmitted diseases. Patient was seen by gynecologist who diagnosed Lipshütz ulcerations likely secondary to EBV virus.

Discussion
Genital infections in young children often raise concern for sexual abuse. It is important to conduct a thorough history and physical exam to evaluate for such misconduct and protect our pediatric patients. However, it is important to understand uncommon conditions that can result in similar presentations. Lipshütz ulcer is a clinical diagnosis of exclusion. Ninety percent of which occur in patients less than twenty years old. The pathogenesis is unclear, but is hypothesized to be caused by a hypersensitivity reaction to viral infections.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Christopher Casagrande, DO

TITLE: Dilated Cardiomyopathy in an 18 year old male: A Case Report

ABSTRACT

Purpose
To demonstrate the importance of ruling out cardiac causes of shortness of breath

Case
An 18-year-old male presented with chest pain and worsening shortness of breath. He was initially treated for an upper-respiratory infection in the outpatient urgent care facility but was sent to the hospital following a chest x-ray that showed consolidation. In the ED, he was found to have an elevated BNP and a dilated heart on computed-tomography of the chest. Subsequently, the patient had increased oxygen demand and was placed on BIPAP and diuretics. Echocardiography showed an ejection fraction of 20-24 percent. The patient was diuresed during the stay and supplemental oxygen was discontinued. Subsequent treatment included carvedilol, lisinopril, and spironolactone, with plans to follow up in 3-6 months with a repeat echocardiograph and consideration of implantable defibrillator if there was no improvement of systolic function.

Summary
Dilated cardiomyopathy (DCM) causes roughly 10,000 deaths and 46,000 hospitalizations annually in the United States. Patients with DCM can present with a variety of symptoms and signs including atrial or ventricular arrhythmias, acute or chronic heart failure (HF), reduced ejection fraction, and even sometimes sudden death. Echocardiography is used to diagnose this disease; diagnostic parameters include left ventricular ejection fraction of less than 40 percent or dilation in both ventricles. DCM can be ischemic, stress-induced, infectious, toxic and even idiopathic. Treatment of DCM follows the guidelines of treatment of HF, as the symptom profile is generally that of HF. Treatment is focused on symptomatic improvement with diuretics in addition to traditional HF treatment with Beta-blockers, ACE-inhibitors and aldosterone receptor antagonists.

Conclusion
Ruling out cardiac causes of shortness of breath in young patients is important even in patients with no known history of cardiac issues.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Kyle Brockman, DO

TITLE: Liver Failure from an Overlooked Source

ABSTRACT

Purpose
The purpose of this case presentation is to demonstrate that despite the perceived safety of over the counter medications and supplements it is still of utmost importance that providers educate patients as to these medications' possible adverse effects.

Background
Acute liver failure is a known adverse reaction of niacin; however, its incidence has diminished with the use of extended release formulations.

Summary
55-year-old female presented to the emergency department for the evaluation of worsening jaundice. Her medical history was significant for a prior cholecystectomy and bipolar disorder for which she was treated with risperidone 0.5 mg daily and niacin 2,000 mg daily. She had been seen by her hematologist earlier on the day of presentation for follow up of thrombocytopenia. A complete metabolic profile was drawn at that visit and revealed elevated liver enzymes. The patient was encouraged to seek medical attention at the emergency department. Upon arrival, the patient appeared severely jaundiced with a distended abdomen. She appeared to be acutely confused, but did not display classic signs of hepatic encephalopathy including asterixis. The patient was found to have significantly abnormal laboratory values with an internationalized normalized ratio of 2.8 (normal 0.8 - 1.1) and a protime of 32.5 seconds (normal 9.4 - 12.5 seconds). Liver enzymes were elevated with an aspartate transaminase of 269 U/L (normal 13 – 39 U/L), and alanine transaminase of 104 U/L (normal 7 – 52 U/L), a total bilirubin of 31.6 mg/dL (normal 0.3 - 1.0 mg/dL), a direct bilirubin of >10.0 mg/dL (normal 0 – 0.3 mg/dL) and an alkaline phosphatase of 532 U/L (normal 34 – 104 U/L). Other relevant labs obtained were a negative urine drug screen and a negative acetaminophen level. Imaging, which included an abdominal ultrasound and CT of the abdomen and pelvis, was only significant for the presence of ascites.

Gastroenterology was consulted and IV methylprednisolone for suspected hepatitis was initiated. She was also given vitamin K for her coagulopathy. An acute hepatitis panel eventually was found to be negative. A ceruloplasmin level and ammonia level were also normal. The patient was screened for Epstein-Barr virus, cytomegalovirus, herpes simplex virus, and autoimmune disease; all of which were negative. The likely etiology for the patient's acute liver failure was determined to be a drug induced liver injury due to niacin.

The patient underwent paracentesis after her coagulopathy resolved and analysis of the fluid was unremarkable. During the patient's hospitalization she became acutely hypotensive. She ultimately required transfer to the ICU for pressure support. The patient experienced worsening of abdominal pain and was taken to the operating room for an exploratory laparotomy. In the operating room it was noted that both small bowel and liver appeared ischemic. After the surgery the patient's condition continued to decline and she required pressure support and mechanical ventilation. Given the patient's grim prognosis the decision was made by family to discontinue life supporting treatment. The patient was terminally extubated and ultimately expired.

Conclusion
There is a perceived safety profile for medications that do not require a prescription. These medications, including niacin, still have a potential for adverse effects, and on occasion may be life-threatening.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Kevin Nowakowski, DO

TITLE: Neurosyphilis – a rare complication of a common disease

ABSTRACT

Purpose
Syphilis is an infectious organism that, when it presents, can manifest in a multitude of different ways. This can make syphilis a challenging diagnosis to make, and it is something that clinicians always need to consider. Neurosyphilis is a rare presentation of syphilis because it is often caught and treated before it gets to this stage. This case report demonstrates a patient presenting with neurosyphilis and the circumstances involving his care.

Case Description
A 39-year-old male with a medical history of hypertension and hyperlipidemia presented to an outpatient ophthalmology office for vision changes. The ophthalmologist noted both optic nerves to be inflamed, and sent the patient to follow up with an infectious disease specialist. The patient was evaluated by infectious disease, and was directly admitted to Community Osteopathic Hospital for treatment with intravenous penicillin for presumed neurosyphilis. Of note, the patient had no history of sexually transmitted diseases, other than HSV-1. Prior to his presentation, the patient had outpatient STD screening done. He was found to be positive for HSV-1 AB, FTA AB, Syphilis antibody cascading reflex T. Pallidum AB. RPR titer was positive at 1:64. He was negative for HSV-2 AB, HIV, GC, CT, and viral hepatitis. Upon admission to the hospital, the patient was started on Penicillin G, 4 million units IV Q 4 hours for 14 days. He had a brain MRI which demonstrated no acute pathology. Lumbar puncture showed to have increased protein, but no other abnormality, and CSF culture had no growth. He was discharged with a PICC line to finish his course of IV Penicillin outpatient, and to follow up with ophthalmology and infectious disease.

Conclusion
This case presentation demonstrates the importance of catching syphilis at earlier stages in its course and illustrates a unique and rare way in which syphilis can present.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): James Farrell DO

TITLE: The Case of Recurrent Ascites of Unknown Origin

ABSTRACT

Purpose
The purpose of this case study is to shed light on a rare disease in hopes of understanding disease pathogenesis and to help guide clinicians with further workup in cases where there is unknown etiology.

Background
Nodular Regenerative Hepatic Hyperplasia (NRH) is a rare liver disorder that causes nonmalignant hyperplasia in portions of the liver that can lead to non-cirrhotic portal hypertension. It is most commonly associated with autoimmune diseases, hematologic disease, and certain medications such as immunosuppressive drugs or chemotherapies. Symptoms typically resemble those of portal hypertension.

Case
The patient is a 53-year-old male with medical history of Renal Cell Carcinoma in 2014 status-post partial resection with recurrence in 2017 with metastasis to the bone. He presented with abdominal discomfort, bloating, swelling in the face and neck, and shortness of breath while sitting up. Ultrasound of the abdomen found ascites in all 4 quadrants of the abdomen, but no evidence of cirrhosis of the liver. Hospitalization followed with increased shortness of breath caused by large pleural effusions bilaterally. Unclear etiology lead to the patient receiving paracentesis twice weekly and thoracentesis every 1-2 weeks. Later imaging revealed apparent cirrhosis of the liver with ascitic fluid suggesting portal hypertension without an obvious cause. Liver biopsy was negative for cirrhosis but was consistent for NRH.

Summary
NRH is a rare disorder which causes recurrent ascites in absence of liver disease with cure being treatment of the underlying disease associated with NRH.

Conclusion
Nodular regenerative hepatic hyperplasia is a rare disorder which can cause recurrent ascites with no evidence of cirrhosis and should be part of the differential when working up patients with ascites with no known liver disease.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Rajan Pathak, MD

TITLE: Rituximab and romiplostim combination therapy in Idiopathic thrombocytopenic purpura

ABSTRACT

Background
Idiopathic/Immune thrombocytopenic purpura (ITP) is antibody-mediated destruction of platelets. Patients usually present without any symptoms but can have cutaneous and/or mucosal bleeding.

Case Report
The patient is a 49-year-old male who presented with oral bruises and petechiae on extremities. On labs, platelets were 2,000/uL. The coagulation profile, US abdomen, and infectious workup were unremarkable. The platelet count was unresponsive to prednisone and dexamethasone. It briefly improved to 83000/uL after 6 days of intravenous immunoglobulin. Bone marrow biopsy showed normal findings. The patient came to the hospital again after 9 days with platelets of 3,000/uL. He was asymptomatic. Platelet count did not improve with the second cycle of dexamethasone and intravenous immunoglobulin. It responded to 3 doses of rituximab and 2 doses of romiplostim with platelet counts of 105,000/uL.

Conclusion
Most ITP in adults respond to first line therapy and single second-line therapy. Herein, we share our experience of rituximab and romiplostim combination therapy. It can be tried before considering splenectomy. The efficacy of romiplostim, when used alone in raising platelets, is approximately 80% and the effect is temporary. No data is comparing the efficacy of different TPO-RA. Further study is needed to be done to clarify if the combination therapy of rituximab and romiplostim can establish a long term remission before opting for splenectomy.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Farrah El-khatib, DO

TITLE: Rapidly growing mass on the forearm of a 54 year old Caucasian woman: Merkel cell carcinoma

ABSTRACT

Purpose: To raise awareness of the growing incidence of Merkel cell carcinoma.

Background
Merkel cell carcinoma (MCC) is a rare, aggressive skin cancer frequently affecting elderly adults with lighter skin tones. The incidence of MCC has steadily increased in several countries over the last twenty years.

Case
A 54-year-old Caucasian female presented with a small, painless, 0.5cm lesion located on her left dorsal wrist which was initially thought to be a possible ganglion cyst or rheumatoid nodule. The lesion grew rapidly over 6 months and began to darken and become tender and irritated. She had no personal or family history of skin cancer. Seven months after its appearance, the mass had grown to approximately 4cm and had become ulcerated and fungating. A biopsy revealed Merkel cell carcinoma, positive for polyomavirus. Treatment included wide local excision with sentinel node biopsy and placement of integra. The patient will also receive radiation therapy due to the size of the primary lesion.

Summary
Merkel cell carcinoma is associated with poor prognosis due to its recurrence rate and ability to metastasize rapidly. A biopsy is needed to definitively diagnose MCC. First line treatment includes surgical excision and possible radiation therapy depending on location.

Conclusion
We need to be aware of the rising incidence of MCC when we evaluate skin lesions on older patients with fair skin. Prompt treatment is necessary in order to reduce the chance of recurrence or metastasis.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Hiba O. Malik, DO

TITLE: Fever of unknown origin

ABSTRACT

Purpose
To highlight the sensitivity of tuberculosis (TB) testing and to discuss peritoneal tuberculosis

Case
A 53-year-old Nepali male with a medical history of alcohol abuse presented with two months of abdominal pain, and five days of shortness of breath and intermittent fevers. Upon admission, he was afebrile and had no leukocytosis. Imaging revealed cirrhosis, abdominal ascites, and left-sided pleural effusion but no lung consolidation or lesions. On hospital day (HD) two, thoracentesis and paracentesis revealed lymphocytic pleocytosis, but fluids stained negatively for Acid-fast bacilli (AFB). On HD seven, he became febrile without leukocytosis or known infectious source. He was started on ceftriaxone for prophylaxis of possible spontaneous bacterial peritonitis (SBP). Repeat chest x-ray (CXR) HD ten showed concern for pneumonia and his antibiotics were broadened to Vancomycin and Cefepime. A screening for tuberculosis with QuantiFERON-TB Gold plus blood test was negative. Blood, urine, and fluid continued to demonstrate no growth. However, the fever reoccurred despite some improvement in his symptoms and no pneumonia findings on repeat CXR. Lower extremity dopplers were also negative for venous thromboembolism. Antibiotics were continued until HD twenty-two and the patient was discharged the following day. Four days after discharge, initial ascitic fluid AFB culture resulted with growth of mycobacterium tuberculosis. In addition to paracentesis, Lymphatic pump techniques may assist with management of ascites.

Summary
Our patient presented with ascites. He had intermittent fevers during his hospitalization despite empiric antibiotics and negative QuantiFERON-TB testing. However, his ascitic fluid culture ultimately resulted with mycobacterium tuberculosis growth.

Conclusion
Tuberculosis can be a cause of fever of unknown origin and peritoneal TB can manifest in a patient without primary pulmonary symptoms or known history of active or latent TB infection. Furthermore, TB testing with QuantiFERON-TB Gold Plus can be falsely negative despite a sensitivity of 98%.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Mahaswi Sirangi, MD

TITLE: A severe case of invasive pulmonary aspergillosis in an immunocompetent patient

ABSTRACT

Introduction
Pulmonary Aspergillosis is an uncommon infection in the general population. It most commonly is pathological in people with prolonged neutropenia, immunosuppressive treatments, organ transplants, high dose corticosteroids, and immunodeficiency diseases like AIDS (1). Here we present a case of pulmonary aspergillosis in an immunocompetent patient.

Case
A 62-year-old female with past medical history of type 2 diabetes mellitus, hypertension presented with cough, shortness of breath and loss of appetite for two weeks. She was admitted for sepsis and respiratory failure due to right lower lobe pneumonia. She received broad spectrum antibiotics, however was deemed not responsive due to increasing oxygen requirements and worsen respiratory distress, eventually requiring intubation. Computerized tomography (CT) of the chest revealed extensive consolidation and cavitation in the right lung. Bronchoalveolar lavage fluid was positive for aspergillus antigen and cultures grew Aspergillus Niger. She was initially treated with intravenous voriconazole. Repeat CT chest showed worsening airspace disease so intravenous micafungin was added. Immunosuppression workup including HIV, SLE and RA was negative; no history of malignancy or organ transplants.

Discussion
Invasive pulmonary aspergillosis caused by the fungus aspergillus requires a high index of suspicion for prompt diagnosis as delayed treatment could be detrimental (2). Diagnostic workup includes chest x-ray, CT scan, bronchoscopy with biopsy, antigen skin tests, and tissue cultures. Commercially available assays detect galactomannan and β-(1, 3)-d-glucan (BDG), which are components of the fungal cell wall, and are relatively specific for invasive aspergillosis (3).

First line treatment is with oral agents itraconazole or voriconazole. Intravenous therapy is reserved for severely ill patients or with pan-azole-resistant isolates and include voriconazole, Posaconazole, micafungin, and amphotericin B. Symptoms usually improve during the first 6-8 weeks of therapy. Reduction in pleural thickening and residual thin-walled empty cavities on chest x-ray are reliable parameters for response to treatment.

References

(1)&(2) https://rarediseases.org/rare-diseases/aspergillosis/

(3) Mohammed AP, Dhunputh P, Chiluka R, Umakanth S. An unusual case of invasive aspergillosis in an immunocompetent individual. BMJ Case Rep. 2015;2015:bcr2015210381. Published 2015 Jun 29. doi:10.1136/bcr-2015-210381

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Arjun Vyas DO

TITLE: Hemoglobin Variant Complications: A look into Diabetic Monitoring

ABSTRACT

Hemoglobinopathies, abnormally structured hemoglobin, cause impaired function and a wide array of complications, including increased infection, splenomegaly, symptomatic anemia and fatigue. Devastating complications of hemoglobinopathies are well known, but they also present clinical obstacles, like unreliability when interpreting hemoglobin A1c (hgA1c).

Hemoglobin H disease (HbH) is a form of alpha thalassemia from the loss of three of four a-chains, due to deletion (Asian or African heritage associated) or mutation (Mediterranean heritage associated). HbH's structure is readily oxidized and easily damaged by oxidant stress, which can result in a variety of presentations clinically, from fetal hydrops, transfusion dependence or even asymptomatically. Complications later in life include hepatosplenomegaly, arrhythmias, thrombosis, etc. Diagnosis is made with high-performance liquid chromatography (HPLC) or hemoglobin electrophoresis. Confirmation is based on globin gene testing.

K.K., a 70-year-old Laos-native female, presented after having not received medical care in many years. A complete metabolic panel was obtained as part of general screening and resulted in an elevated glucose of 144. An hgA1c was ordered but did not result due to hemoglobin variant. Repeated glucose levels remained elevated, confirming type 2 diabetes mellitus (DM II). Without hgA1c as a monitoring option, endocrinology was consulted and K.K. was treated based on fasting blood glucose (FBG) levels. K.K. was started on metformin followed by glipizide, secondary to cost. Subsequent zone electrophoresis showed a diagnosis of HbH. At last visit, K.K.'s FBGs were to goal and she has been compliant with medications, FBG monitoring and specialist follow-ups.

Proper adaptation to surveillance is key in diabetic patients with known hemoglobinopathy. With hgA1c's being unusable, special emphasis must be placed on monitoring of FBGs, as well as close follow up on common diabetic complications. This case demonstrates the importance of atypical monitoring when staples of surveillance are not an option.

UPMC Pinnacle

Oral Presentations

Surgical Track

Medical Education Day 2021
Surgical Track - Oral Presentation Schedule

Time	Type	Presenters	Title
8:00 AM	*Topic*	*Alex Yevtukh, DO*	*Review of Literature - Tourniquets in Total Knee Arthroplasty*
8:10 AM	*Topic*	*Christopher Fan, DO*	*Closure Methods Following Fasciotomy*
8:20 AM	*Case*	*Omar Fareedi, DO; Robyn Daiber, DO*	*Cervical Epidural Hematoma after Cervical Epidural Injection: Case Report*
8:30 AM	*Case*	*Anthony Kamson, DO*	*Anterior Cervical Spine Osteophytes as a Cause for Dysphagia*
8:40 AM	*Case*	*Isaac Nivar, DO*	*A Curious Case of Forearm Compartment Syndrome Following Percutaneous Coronary Intervention*
8:50 AM	*Case*	*Isaac Nivar, DO*	*Acrometastasis of Squamous Cell Lung Cancer: A Case Report*
9:00 AM	*Case*	*Alexander Yevtukh, DO Sunny Parekh, DO; Christopher Folau, DO; Tyson Maugle, DO;*	*Anterior or Vertebral Body Avulsion Fractures After Extreme Lateral Interbody Fusion and Minimally Invasive Posterior Lumbar Instrumentation and Fusion*
9:10 AM	*Case*	*David Phillips, DO*	*Bilateral Foot Drop in the Setting of a Rare Disseminated Aspergillus Spinal Epidural Abscess*
9:20 AM	*Case*	*Krupa Patel, DPM*	*Onychomatricoma: Surgical Excision of a Rare and Often Misdiagnosed Tumor*
9:30 AM	*Case*	*Elizabeth Price, DO*	*Biliary Obstruction Secondary to Blood Clot Following Endoscopic Retrograde Cholangiopancreatography*
9:45 AM - 10:15 AM		***BREAK, VENDORS AND POSTER SESSION***	
10:15 AM	*Research*	*Leighann Panico, DO; Joshua Harman, DO*	*Discharge to Rehabilitation Among the Most Significant Risks for Ninety-Day Readmission after Geriatric Hip Fractures in a Community Hospital: A Case Controlled Retrospective Analysis*
10:30 AM	*Research*	*Diana Jodeh, MD*	*Current Epidemiological Trends of Benign and Malignant Head and Neck Tumors Undergoing Surgical Management in the US Pediatric Population*
10:45 AM	*Research*	*Leighann Panico, DO; Matthew Kelly, MD*	*Primary Outcomes of Reverse Total Shoulder Arthroplasty In a Community Hospital*

Medical Education Day 2021
Surgical Track - Oral Presentation Schedule

Time	Type	Presenters	Title
11:00 AM	*Research*	*Christopher Ferguson, DO*	*Effects of a GI Prophylaxis Protocol on Postoperative GI Bleed Rates FollowingTotal Joint Arthroplasty*
11:15 AM	*Research*	*Adrian Lowenfeld, DO; Dawn Cox, DO; Brynn Wolff, MD, FACS; Naomi Kalliath, DO;*	*Risk Factors Related to BioZorb Removal: A Single Institution's Experience*
11:30	*Research*	*Chance Benner, DO; William Kurtis Childers, DO*	*Pre-Operative Anemia is a Risk Factor for Poor Perioperative Outcomes in Ventral Hernia Repair*

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MEDICAL EDUCATION DAY – ABSTRACT SUBMISSION FORM

PRIMARY AUTHOR(S): Alex Yevtukh DO

TITLE: Review of Literature – Tourniquets in Total Knee Arthroplasty

ABSTRACT

Purpose
To evaluate the benefits, drawbacks, and clinical outcomes of tourniquet use in the setting of total knee arthroplasty (TKA).

Background
Total knee arthroplasties are one of the most commonly performed orthopaedic surgeries. The use of an intraoperative tourniquet is a frequent practice in TKA, yet there remains controversy amongst its use. Previous studies on this topic have not provided objective data that allows for a clear-cut advantage. The choice between tourniquet versus no-tourniquet is not straight-forward and requires the consideration of many different factors.

Summary
Benefits of tourniquet use include reduced blood loss, decreased operative times, improved antibiotic delivery, better implant and cement incorporation, and improved intra-operative visualization. Disadvantages include increased rates of post-operative pain, neuromuscular injuries, wound complications, patellar maltracking, and delayed rehabilitation. A surgeon planning for a TKA must be cognizant of all these dynamics while taking into consideration high risk patient-specific demographics, such as obesity, pulmonary embolism, or vascular disease. Furthermore, there have been novel methods developed that could provide alternatives to tourniquet use. These include the use of the tourniquet during specific portions of the surgery or the administration of tranxemic acid.

Conclusion
An understanding of all the benefits and detriments of tourniquet use in a TKA is important. By doing so, an orthopaedic surgeon planning a TKA will be able to make a more well-informed decision on whether or not to use a tourniquet, which will ultimately lead to improved surgical outcomes and patient satisfaction.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Christopher R. Fan, DO

TITLE: Closure Methods Following Fasciotomy

ABSTRACT

Compartment syndrome is a surgical emergency caused by an increase in the intracompartmental pressure within a muscle group with surrounding fascia. Fasciotomy is the treatment of choice for compartment syndrome which requires a large incision to open the underlying fascia, which can be difficult to close once pressures decrease. Complications such as delayed healing, infection, and osteomyelitis may also arise leading to increased rates of amputation and mortality. Various methods for closure such as gradual approximation, wound vacs, and skin grafting can be used to close these wounds, but there are compromises with each method and care needs to be taken in choosing the appropriate approach.

Closures can be categorized in an early or delayed method. Early closure of a fasciotomy is not a recommended approach due to multiple factors such as edema of the affected tissue and the possibility of recurrent compartment syndrome. Delayed closure involves protecting the wound to allow edema to decrease and approximation once the tissue has been able to heal. Methods for delayed closure include use of a wound vac, gradual approximation of the incision, use of traction or tension devices, or split thickness skin grafting. Closure by secondary intention is not recommended for fasciotomy wounds.

There is currently no gold standard for closure of fasciotomy wounds, but negative pressure wound vac has been shown to have lower complication rates versus other methods. The time to heal, cosmetic outcomes, and a patient's risk of complications needs to be considered on a case by case basis. It is important for a surgeon to understand the various options available and choose the best course of therapy for their patient.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Omar Fareedi, DO, Robyn Daiber, DO

TITLE: Cervical Epidural Hematoma after Cervical Epidural Steroid Injection: Case Report

ABSTRACT

Introduction
Cervical epidural hematoma is a rare complication following cervical epidural steroid injections with sparse literature aside from case reports. High doses of Vitamin E place patients at increased risk of bleeding. We present a case report of a cervical epidural hematoma following a cervical epidural steroid injection in a 63 year-old male in the setting of an unreported use of a medication for macular degeneration that contained a high dose of Vitamin E. Patient subsequently developed a repeat cervical epidural hematoma ten days postoperatively.

Case Presentation
63 year-old male presented with bilateral lower extremity weakness and paresthesias several hours after undergoing cervical epidural steroid injections. Clinical exam revealed motor and sensory deficits of the left lower extremity. Magnetic resonance imaging demonstrated a complex fluid collection causing severe mass effect from C7 to T2-3. Patient underwent an emergent posterior cervical decompression with complete resolution of left lower extremity neurologic deficits. Patient returned ten days later with left upper extremity paresthesias and weakness. On clinical exam he had a large, fluctuant mass about his incision. Magnetic resonance imaging demonstrated post-operative fluid collection at C7-T1 causing severe narrowing of central canal at this level. Patient underwent subsequent cervical hematoma evacuation. Patient was found to be taking PreserVision AREDS2, which contains 400U of vitamin E, which increases the risk of bleeding. This medication was not reported upon initial presentation and the patient had continued this medication after initial cervical decompression.

Conclusion
Cervical epidural hematoma is a rare complication and must be considered in all patients that present with neurological deficits after undergoing epidural steroid injections. It is important that known risk factors for bleeding are addressed prior to undergoing injections to reduce the risk of complications. Cervical epidural hematomas require emergent surgical decompression for optimal outcomes in patients presenting with neurologic deficits.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Anthony O. Kamson, DO

TITLE: Anterior Cervical Spine Osteophytes as A Cause of Dysphagia

ABSTRACT

Purpose
To demonstrate the importance of a thorough multidisciplinary workup prior to considering surgical intervention in diffuse idiopathic skeletal hyperostosis.

Case
An 84-year-old male presented to the medical floor with shortness of breath and dysphagia to solid and liquids. He had been previously hospitalized for the same complaint, with less severity. He had undergone multiple EGDs and dilations, with decreased symptom resolution from each subsequent procedure. A barium swallow study demonstrated esophageal impingement by anterior osteophytes most significantly at C4-5. Due to the chronicity of his symptoms and failure to improve from GI interventions, it was determined that he would likely benefit from surgical intervention. He underwent a C3–C6 osteophytectomy with partial C3–C6 corpectomies. He was able to tolerate a diet prior to discharge. Social factors resulted in placement of a PEG tube with removal months later. Resolution of dysphagia was noted prior to PEG removal.

Summary
Diffuse idiopathic skeletal hyperostosis (DISH) is a non-inflammatory systemic condition characterized by calcification and ossification of tendons, ligaments, and entheses of the spine. It was originally described by Forestier and Rotes-Querol as senile ankylosing hyperostosis of the spine, then subsequently named DISH by Resnick in 1976. The disorder predominantly affects males and increases in prevalence with aging. The anterior spine is the most commonly affected region with sites such as the pelvis and knee less likely involved. Ossification and the eventual formation of osteophytes can lead to multiple clinical manifestations, including dysphagia which is seen in approximately 0.1% to 4% of cases.

Conclusion
DISH as a cause of dysphagia is rare occurrence. While the current literature demonstrates success with both nonoperative and operative intervention, there is no established standard of care. A multidisciplinary approach is essential for optimal outcomes.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Anna Elisa Muzio DO

Title: A Curious Case of Forearm Compartment Syndrome Following Percutaneous Coronary Intervention

ABSTRACT

Purpose
The trans-radial approach is commonly used for percutaneous coronary intervention. With the increased use of trans-radial access, it is critical to understand potential life and limb threatening complications following the procedure. Compartment syndrome of the forearm is an exceedingly rare but limb-threatening complication that has been documented in only 8 case reports between 1994 and 2019.

Case Description
A 57-year-old right-hand dominant female underwent urgent percutaneous coronary intervention via a right trans-radial approach for an inferior wall myocardial infarction. Several hours after the procedure, the patient began to complain of paresthesias and pain extending into her right hand. Physical examination revealed a diffusely swollen right forearm with involuntary clawing of the fingers. Bedside compartment pressure monitoring using a Stryker® Intracompartmental Monitoring Device confirmed the diagnosis of acute compartment syndrome. The patient was taken back to the operating room for emergent fasciotomies of the forearm. Intraoperatively, a vascular injury was noted to a small segmental branch of the radial artery, which likely caused the patient's compartment syndrome.

Summary
The trans-radial approach to percutaneous coronary intervention has lower rates of bleeding and vascular injury as compared to its counterpart, the trans-femoral approach. Though compartment syndrome of the forearm is rare, it has devastating long term effects if not diagnosed and treated expeditiously.

Conclusion
Increased knowledge and awareness about this complication may help to accelerate an orthopedic evaluation and prevent a potential ischemic event.

References:

1. Araki T, Itaya H, Yamamoto M. Acute compartment syndrome of the forearm that occurred after transradial intervention and was not caused by bleeding or hematoma formation. Catheter Cardiovasc Interv. 2010 Feb 15;75(3):362-5. doi: 10.1002/ccd.22282. PMID: 19821498.

2. Bertrand OF. Acute forearm muscle swelling post transradial catheterization and compartment syndrome: prevention is better than treatment! Catheter Cardiovasc Interv. 2010 Feb 15;75(3):366-8. doi: 10.1002/ccd.22448. PMID: 20162704.

3. Bazemore E, Mann JT 3rd. Problems and complications of the transradial approach for coronary interventions: a review. J Invasive Cardiol. 2005 Mar;17(3):156-9. PMID: 15867445.

4. Garg N, Umamaheswar KL, Kapoor A, Tewari S, Khanna R, Kumar S, Goel PK. Incidence and predictors of forearm hematoma during the transradial approach for percutaneous coronary interventions. Indian Heart J. 2019 Mar-Apr;71(2):136-142. doi: 10.1016/j.ihj.2019.04.014. Epub 2019 May 3. PMID: 31280825; PMCID: PMC6620468.

5. Jue J, Karam JA, Mejia A, Shroff A. Compartment Syndrome of the Hand: A Rare Sequela of Transradial Cardiac Catheterization. Tex Heart Inst J. 2017 Feb 1;44(1):73-76. doi: 10.14503/THIJ-16-5795. PMID: 28265219; PMCID: PMC5317367.

6. Kanei Y, Kwan T, Nakra NC, Liou M, Huang Y, Vales LL, Fox JT, Chen JP, Saito S. Transradial cardiac catheterization: a review of access site complications. Catheter Cardiovasc Interv. 2011 Nov 15;78(6):840-6. doi: 10.1002/ccd.22978. Epub 2011 May 12. PMID: 21567879.

7. Lin YJ, Chu CC, Tsai CW. Acute compartment syndrome after transradial coronary angioplasty. Int J Cardiol. 2004 Nov;97(2):311. doi: 10.1016/j.ijcard.2003.05.052. PMID: 15458702.

8. Omori S, Miyake J, Hamada K, Naka N, Araki N, Yoshikawa H. Compartment syndrome of the arm caused by transcatheter angiography or angioplasty. Orthopedics. 2013 Jan;36(1):e121-5. doi: 10.3928/01477447-20121217-31. PMID: 23276344.

9. Sanmartín M, Cuevas D, Goicolea J, Ruiz-Salmerón R, Gómez M, Argibay V. Complicaciones vasculares asociadas al acceso transradial para el cateterismo cardíaco [Vascular complications associated with radial artery access for cardiac catheterization]. Rev Esp Cardiol. 2004 Jun;57(6):581-4. Spanish. PMID: 15225506.

10. Sugimoto A, Iwamoto J, Tsumuraya N, Nagaoka M, Ikari Y. Acute compartment syndrome occurring in forearm with relatively small amount of hematoma following transradial coronary intervention. Cardiovasc Interv Ther. 2016 Apr;31(2):147-50. doi: 10.1007/s12928-015-0328-2. Epub 2015 Apr 9. PMID: 25855327.

11. Tizón-Marcos H, Barbeau GR. Incidence of compartment syndrome of the arm in a large series of transradial approach for coronary procedures. J Interv Cardiol. 2008 Oct;21(5):380-4. doi: 10.1111/j.1540-8183.2008.00361.x. Epub 2008 Jun 3. PMID: 18537873.

12. Tsiafoutis I, Katsanou K, Koutouzis M, Zografos T. Compartment Syndrome: A Rare and Frightening Complication of Transradial Catheterization. J Invasive Cardiol. 2018 Oct;30(10):E111-E112. PMID: 30279302.

13. Wang PJ, Tian X, Zhang Q. [Acute compartment syndrome in a patient after transradial access for percutaneous cardiac intervention]. Zhonghua Xin Xue Guan Bing Za Zhi. 2007 May;35(5):496. Chinese. PMID: 17711702.

14. Wu CJ, Lo PH, Chang KC, Fu M, Lau KW, Hung JS. Transradial coronary angiography and angioplasty in Chinese patients. Cathet Cardiovasc Diagn. 1997 Feb;40(2):159-63. doi: 10.1002/(sici)1097-0304(199702)40:2<159::aid-ccd8>3.0.co;2-a. PMID: 9047056.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Isaac Nivar, DO

TITLE: Acrometastasis of Squamous Cell Lung Cancer: A Case Report

ABSTRACT

Purpose

Acrometastasis is extremely rare, accounting for 0.1% of skeletal metastases. This condition can easily be misdiagnosed or overlooked. Accurate and timely diagnosis is critical to initiate appropriate treatment to prevent further tissue destruction and need for amputation.

Case Description

A 53-year-old female presented to the emergency department with right hand pain and swelling. Radiographs revealed a lucency in the right trapezium. Initial infectious workup revealed an elevated C-reactive protein and erythrocyte sedimentation rate. Interventional radiology was consulted for a biopsy to rule out osteomyelitis. The biopsy revealed possible metastatic disease. The patient had a known history of squamous cell lung cancer and subsequent work up confirmed metastasis to the hand. The patient was treated with radiation and chemotherapy to the lesion.

Summary

The presentation of acrometastasis can mimic an infectious or inflammatory processes. Though extremely rare, it is important to consider on the differential for a destructive hand lesion.

Conclusion

Increased awareness of this issue may help to accelerate accurate diagnosis and initiate appropriate treatment to potentially preserve the affected hand and its function.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Alexander Yevtukh, DO, Sunny Parekh, DO, Christopher Folau, DO, Tyson Maugle, DO,

TITLE: Anterior Vertebral Body Avulsion Fractures after Extreme Lateral Interbody Fusion and Minimally Invasive Posterior Lumbar Instrumentation and Fusion: A Case Report

ABSTRACT

Purpose

We present an unusual complication that occurred during a multilevel XLIF. We identified asymptomatic avulsion fractures of the anterior vertebral bodies (AVB) of L2 and L3 after routine postoperative radiographs were obtained. This has not been well described in the literature. In fact, to our knowledge it has not been described at all. We present the case details, background on the surgical indications, techniques, advantages/disadvantages to XLIF (DLIF/LLIF), and offer a possible mechanism explaining these fractures.

Case Description

A 69 year-old female who underwent extreme lateral interbody fusion (XLIF)* with minimally-invasive (MIS) posterior lumbar instrumentation and fusion at L2-L3, L3-L4, and L4-L5 for severe lumbar radiculopathy that was refractory to conservative management. Clinically she did very well, but subtle avulsion fractures of the AVB at L2 and L3 were first appreciated at her 7-week postoperative (postop) follow-up. Retrospective review of preoperative and intraoperative images suggests these occurred intraoperatively.

Summary

This is a case of a patient who underwent multilevel XLIFs with posterior instrumented fusions of the same levels. In her postoperative office visits avulsions fractures from the AVB were recognized but seemingly were of no significance as patient was doing very well. Furthermore, there is a paucity of information or reports of this complication in the literature therefore we believed it would beneficial to share our experience with this unusual complication.

Conclusion

Intraoperative AVB avulsion fractures during XLIF presumably occur due to shearing forces between the anterior longitudinal ligament (ALL) and vertebral body interface as implants are inserted increasing disc height and lumbar lordosis. These fractures were not clinically important or result in adverse effects in our patient, but very few descriptions of this phenomena are found in the literature, so incidence and clinical relevance is unknown.

* XLIF® is a federally registered trademark by NuVasive, Inc.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): David Phillips, DO

TITLE: Bilateral Foot Drop in the Setting of a Rare Disseminated Aspergillus Spinal Epidural Abscess

ABSTRACT

Purpose
Aspergillus is a rare cause of spinal epidural abscess without clear management guidelines. Literature review performed by Spinal Cord Series and Cases found only twenty-six similar cases. We report our successful treatment of a case of this rare spinal infection.

Background/Case Description
A 64-year-old male presented with worsening neurological deficits for one month. He had a history of immune thrombocytopenic purpura treated with steroids and lung aspergilloma. He was admitted to an outside hospital six weeks prior for L3-4 osteomyelitis and epidural abscess. He was treated with percutaneous drainage and discharged home on intravenous antibiotics. Shortly after, his neurological function rapidly began to decline and he was ultimately transferred to our hospital for further management.

Emergent lumbar spine MRI demonstrated L3-4 osteomyelitis and epidural abscess. Inflammatory markers were elevated. On examination, he had bilateral foot drop. He was taken to the operating room for urgent L3-S1 laminectomy with irrigation and debridement and started on broad-spectrum antibiotics. Fungal cultures grew Aspergillus fumigatus. Frozen tissue specimens were negative for bacterial etiology. Antibiotics were thus discontinued and he was started on IV voriconazole. Further imaging demonstrated lung aspergilloma recurrence and a new brain cavitary lesion, demonstrating disseminated aspergillosis. His neurological exam remained stable without any improvement in motor function. He was provided with bilateral ankle-foot orthoses and discharged to a rehab facility on an extended course of intravenous voriconazole.

Summary
This case provides further insight into the complications that can be caused by an Aspergillus spinal epidural abscess.

Conclusion
Although rare, it is important to keep fungal etiology on the differential in order to treat spinal epidural abscesses in immunocompromised patients as these infections can result in significant mortality and morbidity, such as severe neurological deficits.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Krupa Patel, DPM

TITLE: Onychomatricoma: surgical excision of a rare and often misdiagnosed tumor

ABSTRACT

Introduction
Onychomatricoma is an uncommon benign tumor of the nail matrix with less than 100 reported cases in literature worldwide. Most of the reported cases have been described outside of the United States. According to the literature, some of these cases were also misdiagnosed as onychomycosis. With such few cases reported, the question arises as to whether this tumor is misdiagnosed more often than known. The purpose of this case report is to present the findings of rare and benign neoplasm that usually presents with misleading clinical and pathologic features in efforts to avoid future misdiagnosis by practitioners.

Case
This is a case of a 54 year old male with no known past medical history, who is not on any current medications and is without any known allergies. He presented with right foot pain, specifically to his 4th digit that had been present for many years. His right foot exam was significant for onychomycosis. He reports an injury to his 4th toenail 10 years ago with a mass to his toenail two years later. The mass grew progressively larger over the past year and became increasingly painful with walking and irritating with pressure. X-rays revealed no osseous abnormalities. The patient was taken to the operating room for excision and biopsy of the lesion at which time the lesion and soft tissue beneath the lesion were sent for cryosection. Original cryosection showed presence of spindle cells which was concerning. An additional two specimens were sent for which the final path report showed an onychomatricoma.

Discussion
Since the surgical excision of the lesion, the patient has been pain free without complications. In conclusion, clinicians who may not be aware of this rare benign nail tumor may benefit from this case in regards to early recognition which would aid in avoiding misdiagnosis.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Elizabeth E. Price, DO

TITLE: Biliary Obstruction Secondary To Blood Clot Following Endoscopic Retrograde Cholangiopancreatography

ABSTRACT

Biliary obstruction is a common disease process managed by general surgeons. Endoscopic retrograde cholangiopancreatography (ERCP) is a common and relatively safe procedure used to treat biliary obstruction, however it comes with its own set of risks. Common complications following ERCP include pancreatitis, bleeding, perforation and cholangitis. Approximately 5% of patients will have a complication following ERCP, with bleeding complications around 1.3%. However, bleeding leading to biliary obstruction is rarely seen.

Here, we present a case of a 76-year-old male with a medical history of atrial fibrillation and coronary artery disease with stent placement on Plavix and Eliquis who presented with choledocholithiasis. He underwent ERCP with papillotomy with removal of two 6mm common bile duct stones after holding anticoagulation for four days. Post-procedure, the patient's laboratory values revealed evidence of worsening conjugated hyperbilirubinemia. He was taken for a subsequent ERCP three days later and was noted to have persistent bleeding and clot at the prior papillotomy site. Epinephrine was injected at the area to achieve hemostasis and clot was removed. Cholangiography noted that the hepatic and common bile duct were patent, however cystic duct was not patent. The patient was subsequently taken for an uncomplicated laparoscopic cholecystectomy and hyperbilirubinemia improved. The patient had an uncomplicated postoperative course and was discharged with anticoagulation restarted three days postoperatively.

In conclusion, biliary obstruction after ERCP secondary to a blood clot is a rare complication. Bleeding after ERCP is considered common complication and caution should be taken when performing the procedure especially in patients on anticoagulation. It is important to consider the differential diagnosis of post-ERCP obstruction as obstruction can lead to serious and even fatal complications including cholangitis and sepsis. Often, repeat ERCP is both diagnostic and therapeutic in most cases.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Joshua D. Harman DO and Leighann Panico DO

TITLE: Discharge to Rehabilitation among the Most Significant Risks for Ninety-day Readmission after Geriatric Hip Fractures in a Community Hospital: A Case-Controlled Retrospective Analysis

ABSTRACT

Introduction
An aging population vulnerable to fragility fractures and bundled reimbursement reforms make identification of risk factors for readmission critical. Our purpose was to examine modifiable perioperative risk factors and comorbid medical conditions that increase the risk of readmission within 90 days following hip fracture fixation.

Methods
A case-controlled retrospective analysis was conducted on a total of 943 patients from a community hospital patient cohort, to identify correlations between those requiring readmission and those who did not. We controlled for confounding variables using an age-matched control cohort and statistical regression models. Findings were reported as relative odds ratios with a 95% confidence interval (CI) and p-values < 0.05.

Results
We analyzed 943 patients with a mean age of 79.9 years and a standard deviation (SD) of 11.7 years. Patients who were readmitted were older (mean: 81.8 years, SD: 10.6 years, p=0.0308) and stayed longer in the hospital; 59.35% of those readmitted had a LOS $\geq$ 5 days, while 47.97% of those not readmitted had a LOS $\geq$ 5 days (p=0.0096). Our overall readmission rate was 16.4%. Discharging to rehab significantly increased risk of readmission (24% readmitted; p=0.0004) compared to discharge home (6% readmitted; p <0.0001). After multivariate analysis, significant past medical diagnoses increasing risk of readmission were vascular disease (p=0.0342), diabetes regardless of type or complications (p=0.0347), and malnutrition (p=0.01).

Conclusion
Risk factors identified to significantly increase the risk of 90 day readmissions included discharge to rehab, length of stay > 5 days, and past medical diagnoses of vascular disease, diabetes, and malnutrition. Following a hip fracture, a focus on optimizing modifiable predictors of further hospitalization may help decrease readmissions, health care costs, and adverse outcomes in this predisposed geriatric population.

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MEDICAL EDUCATION DAY – ABSTRACT SUBMISSION FORM

PRIMARY AUTHOR(S): Diana Jodeh, MD

TITLE: Current Epidemiological Trends of Benign and Malignant Head and Neck Tumors Undergoing Surgical Management in the US Pediatric Population

ABSTRACT

Introduction

There is a paucity of data on the incidence of benign compared to malignant tumors requiring surgery in the pediatric population, as some benign tumors may not require surgical intervention. This information is important for craniofacial surgeons who are involved in treating these rare tumors to evaluate etiology, aid management, and better inform allocation of health care resources required for treatment of these complex conditions. The purpose of this study is to identify current epidemiological trends of both benign and malignant pediatric head and neck tumors undergoing surgical intervention from 2004 - 2015 using PHIS database. Given that pediatric head and neck tumors are rare, the PHIS database provides nationwide clinical data on pediatric patients to allow for this investigation. The primary aim of this study is to determine the prevalence of benign and malignant tumors in the pediatric population over this time period; we hypothesize that the prevalence of malignant tumors has increased while benign tumors have remained stable. The secondary aims include characterizing the prevalence of different tumor subtypes as well as determining whether age correlates with incidence of specific tumors.

Methods

The PHIS database was queried from 49 hospitals for pediatric patients aged 0 to 21 years who underwent surgical management of benign or malignant head and neck tumors as identified by ICD-9, procedure codes, between 2004 and 2015. Descriptive statistics were computed for the study population using SAS version 9.4. Associations of benign or malignant tumor classification with age and household income were analyzed using t-tests, and the median and interquartile range for the respective values were reported. Associations of benign or malignant tumor classification with sex, race, and geographic region were assessed using chi-square tests, and the frequency and percentage according to each categorical variable were reported. For all analyses, a p-value of ≤ 0.05 was considered statistically significant.

Results

A total of 20,114 cases of benign and 5,035 cases of malignant head and neck tumors were identified. Table 1 compares the demographic characteristics of children with benign versus malignant head and neck tumors. Tumor frequency and location varied among different age categories, as demonstrated in Table 2. The highest incidence of head and neck tumors was observed in patients aged 0 to 1 (8,440) and the lowest incidence in patients aged 19 to 21 (265). The eye or orbit was the most common tumor location for younger pediatric groups, whereas the thyroid was the most common location for older pediatric groups. The annual frequency of head and neck tumors between 2004 and 2015 is depicted in Figure 1. The trend across the 11-year period demonstrates an annual increase in incidence of pediatric head and neck tumors, except for in 2015. Accordingly, there was a general uptrend in frequency of both benign and malignant head and neck tumors over time. Across all age groups, benign tumors were more frequent than malignant tumors, although the gap in incidence between the two types decreased with age, as illustrated in Figure 2. As shown in greater detail in Figure 3, the greatest incidence of benign tumors was observed in the youngest pediatric patients aged 0 to 6 months, with markedly decreased incidence in subsequent years.

Conclusions

For the last three decades, the incidence of malignant head and neck cancers has been steadily increasing among the pediatric population in the United States. This study corroborated this trend and additionally found that benign tumors are also rising in incidence. Additionally, key trends in anatomic subtypes were revealed. This information will better inform the craniofacial surgeons involved in the multidisciplinary care teams treating pediatric patients with head and neck tumors.

Table 1: Descriptive Statistics

	Benign (n=20,114)	Malignant (n=5,035)	Pvalue
Age (years)	3(1,10)	7(2,14)	<.0001
Sex (Male)	9,998(49.7%)	2,314(46.0%)	<.0001
Anatomical Region			<.0001
Craniofacial-Mandible	838(4.2%)	136 (2.7%)	
Craniofacial-Other	4,228 (21.0%)	521 (10.4%)	
Tumors of the Eye, Orbit	4171(20.7%)	2,090 (41.5%)	
Tumors of the Face	0 (0%)	0(0%)	
Head & Neck-Other	5,440 (27.1%)	260 (5.2%)	
Hypopharynx	81 (0.4%)	60 (1.2%)	
Larynx	1868 (9.3%)	5 (0.1%)	
Nasopharynx	433 (2.2%)	320 (6.4%)	
Tumors of the Oral Cavity	1,993(9.9%)	171 (3.4%)	
Tumors of the Oropharynx	224 (1.1%)	43 (0.9%)	
Tumors of the Salivary Gland-Other	380 (1.9%)	6(0.1%)	
Tumors of the Salivary Gland-Parotid	0 (0%)	139 (2.8%)	
Tumors of the Salivary Gland-Submandibular	0(0%)	24 (0.5%)	
Tumors of the Thyroid	458 (2.3%)	1246 (24.8%)	
Patient Type			<.0001
Ambulatory Surgery	16,059(79.8%)	1,423(28.3%)	
Inpatient	2,837(14.1%)	3,174(63.0%)	
Obs Unit	1,218(6.1%)	438(8.7%)	
Ethnicity			0.8178
Hispanic or Latino	4,010(19.9%)	1,008(20.0%)	
Not Hispanic or Latino	9,616(47.8%)	2,383(47.3%)	
Unknown	6,488(32.3%)	1,644(32.7%)	
Median Family Income, n (%)*			<.0001
1-24,999K	881(4.5%)	282(5.8%)	
25-34,999K	4,137(21.1%)	1,073(22.1%)	
35-44,999K	5,160(26.3%)	1,191(24.5%)	
> 45K	9,456(48.2%)	2,307(47.5%)	
No. Diagnoses	2(2,4)	2(2,4)	0.2524
US Census Geographic Region			<.0001
South	7,497(37.3%)	1,817(36.1%)	
West	4,378(21.8%)	1,122(22.3%)	
Northeast	3,249(16.2%)	1,097(21.8%)	
Midwest	4,990(24.8%)	999(19.8%)	
Complication Rate	364(1.8%)	257(5.1%)	<.0001
Length of Stay			<.0001
1 Day	18,145 (90.2%)	2,602(51.7%)	
More than 1 Day	1,969(9.8%)	2,433(48.3%)	

*missing for n=62

Table 2. Tumor Location by Age Category

	Age Category				
	0-1 (n=8,344)	**2-5 (n=5,879)**	**6-10 (n=4,127)**	**11-18 (n=6,536)**	**19-21 (n=263)**
Craniofacial	2,304(27.6%)	1,013(17.2%)	937(22.7%)	1,411(21.6%)	58(22.1%)
Thyroid Tumors	22 (0.3%)	83 (1.4%)	218 (5.3%)	1,325 (20.3%)	56 (21.3%)
Tumors of the Eye, Orbit	3,011 (36.1%)	1,762 (30.0%)	787 (19.1%)	671 (10.3%)	30 (11.4%)
Tumors of the Oral Cavity	421 (5.1%)	470 (8.0%)	554 (13.4%)	686 (10.5%)	33 (12.6%)
Tumors of the Pharynx, Larynx	396 (4.7%)	825 (14.0%)	741 (18.0%)	1,033 (15.8%)	39 (14.8%)
Tumors of the Salivary Gland	26 (0.3%)	40 (0.7%)	91 (2.2%)	377 (5.8%)	15 (5.7%)
Tumors of the Face, Head & Neck	2164 (25.94%)	1686 (28.66%)	799(19.4%)	1033 (15.81%)	32(12.2%)

Table 3. Distribution of Anatomical Region (n=25,411)

Anatomical Region	**Frequency (%)**
Craniofacial-Mandible	974(3.87%)
Craniofacial-Other	4,749(18.9%)
Eye,Orbit	6,261 (24.9%)
Face	14(0.06%)
Head&Neck – Other	5,700(22.7%)
Hypopharynx	141(0.6%)
Larynx	1873(7.5%)
Nasopharynx	753(3.0%)
Oral Cavity	2,164(8.6%)
Oropharynx	267(1.1%)
Salivary gland – Other	386(1.5%)
Salivary gland – Parotid	139 (0.6%)
Salivary gland- Submandibular	24(0.1%)
Thyroid	1,704(6.8%)

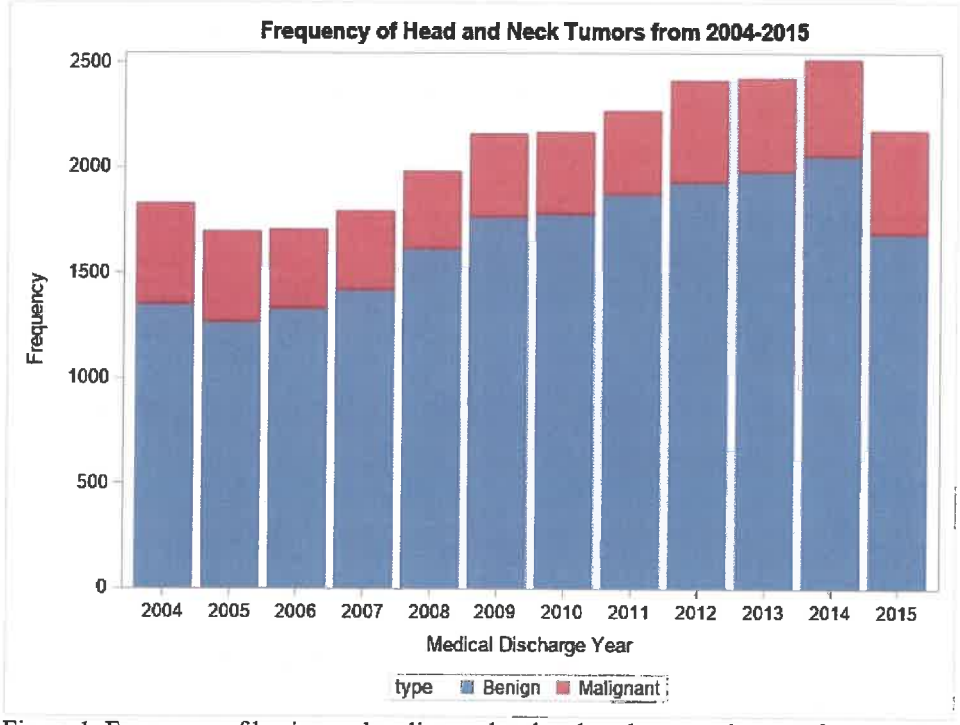

Figure 1. Frequency of benign and malignant head and neck tumors by year from 2004-2015.

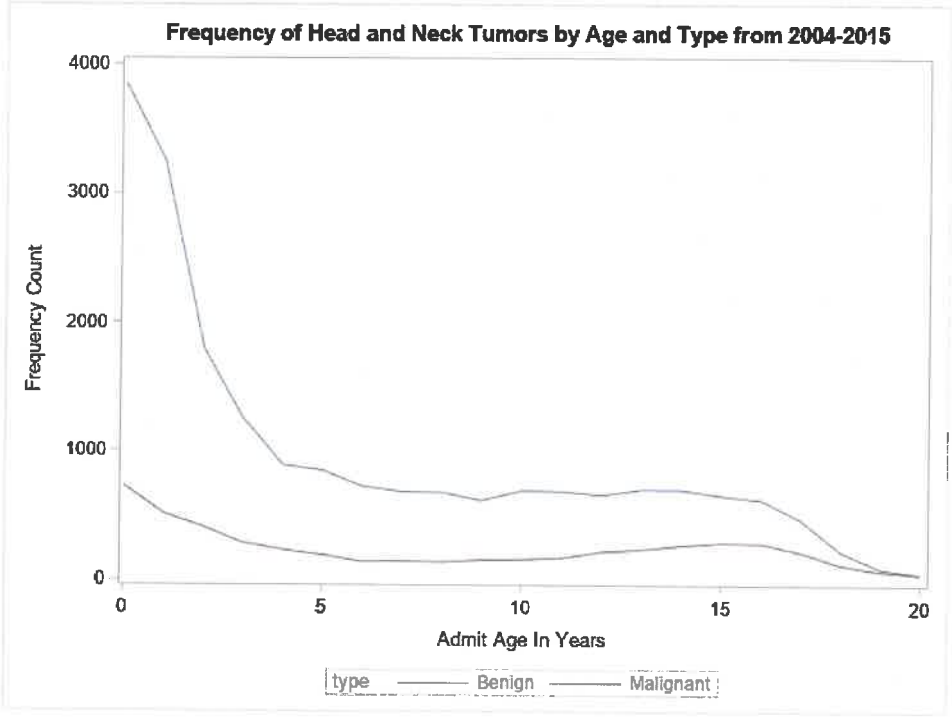

Figure 2. Frequency of benign and malignant head and neck tumors by age from 2004-2015

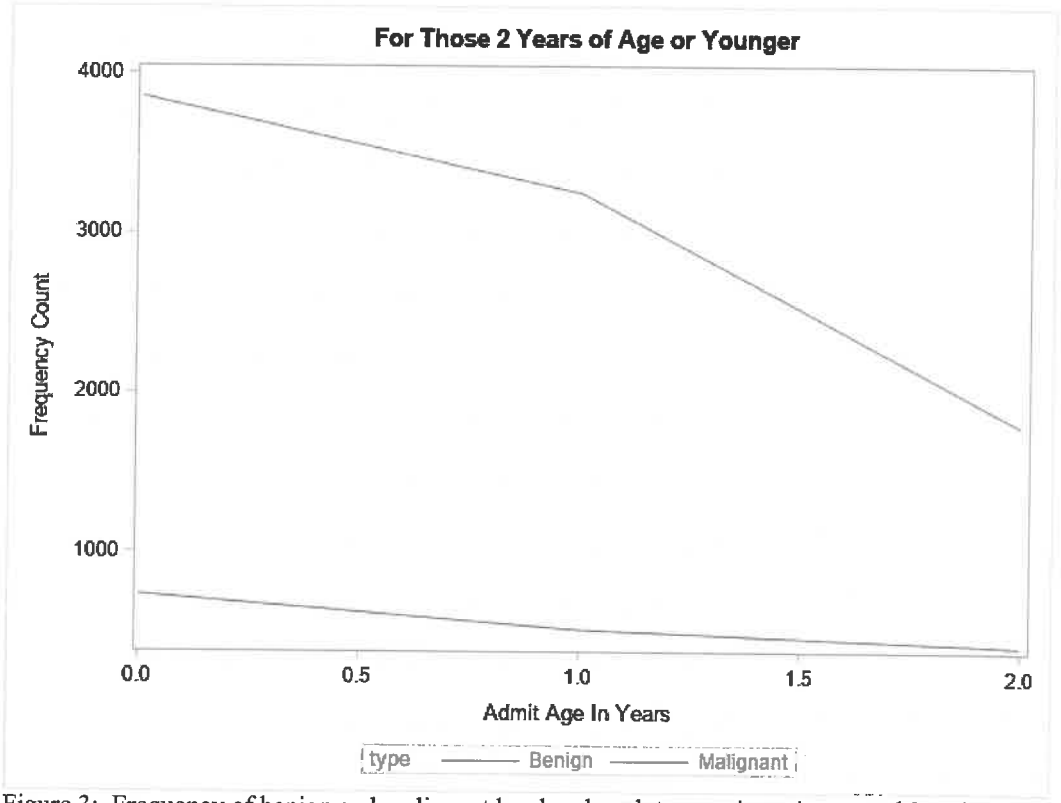

Figure 3: Frequency of benign and malignant head and neck tumors in patients aged 2 and younger from 2004-2015

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Leighann Panico, DO, MPH, Matthew Kelly, MD

TITLE: Primary Outcomes of Reverse Total Shoulder Arthroplasty in a Community Hospital

ABSTRACT

Introduction/hypothesis
Reverse total shoulder arthroplasty (RTSA) is increasingly utilized to treat end stage rotator cuff tear arthropathy (CTA) and glenohumeral osteoarthritis (OA). The purpose of this study is to evaluate clinical outcomes of shoulder function in patients undergoing primary RTSA in the community-hospital setting for CTA or OA.

Materials/methods
A retrospective analysis of a prospectively collected cohort was conducted on patients who underwent RTSA from 2018 to 2019 by a single fellowship trained Shoulder and Elbow surgeon in a community hospital. Preoperative evaluation included patient-reported outcome (PRO) scores assessed by the American Shoulder & Elbow Surgeons (ASES) Score and Simple Shoulder Test (SST). Objective measurements of strength and active range of motion (AROM) were measured in forward flexion (FF), external rotation (ER), internal rotation (IR), and abduction (ABD). Post-hoc analysis measured the effect of BMI, gender, age, and history of diabetes on functional outcomes.

Results
We analyzed 84 patients. The mean age was 72.3 years (SD ± 7) and CTA (n=45) was a more common surgical indication for RTSA than OA (n=39). Aggregate analysis of patient data showed a significant improvement at all follow up points in ASES, SST, AROM in FF and ABD, and muscle strength in FF and ABD. ER in AROM and muscle strength improved by 6 months, and there was no significant improvement in IR. Stratified analysis comparing the indication for surgery (OA vs CTA), gender, BMI, or diagnosis of diabetes exhibited no significant difference in outcomes, and each subgroup analysis showed a consistent trend in improved outcome scores as observed in the aggregate analysis.

Conclusion
Primary outcomes of RTSA in a community hospital setting demonstrated significant, similar improvements in ROM and PRO scores compared to multi-center and university-based hospitals.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Christopher Ferguson, DO

TITLE: Effects of a GI Prophylaxis Protocol on Postoperative GI Bleed Rates Following Total Joint Arthroplasty

ABSTRACT

Stated purpose
The purpose of this study is to determine the post-operative gastrointestinal bleed rates of patients who have undergone a total joint arthroplasty (hip/knee) following the implementation of a perioperative GI prophylaxis protocol and compare that to the rate prior to this protocol.

Methods
This study is a retrospective data analysis of total all total joint arthroplasty patients from November 1, 2016 to January 1, 2018 (control group – pre protocol implementation) compared to all total joint arthroplasty patients from July 1, 2018 to February 2, 2020 (experimental group – post protocol implementation). Primary outcome measure includes postoperative diagnosis of GI bleed within 90 days of surgery. Secondary outcome measures include if blood transfusion was required, if patient was readmitted/date of readmission. The data for this analysis will be collected from UPMC Pinnacle Legacy Hospital Sites, and will include the above mentioned outcome measures as well as the following: age, gender, BMI, lab values (Hgb, hematocrit, coagulation markers), pre/post op medications, medical co-morbidities, past surgical history, and surgical date.

Summary
There was a significant decrease in post-operative rates of GI bleed, need for blood transfusion, and readmission rates in patients who have undergone total joint arthroplasty (hip/knee) and received GI prophylaxis protocol compared to patients who have undergone total joint arthroplasty (hip/knee) prior to implementation the aforementioned protocol.

Conclusion
Patients undergoing total joint arthroplasty (hip/knee) have a significantly decreased risk of GI bleed when receiving GI prophylaxis protocol in the perioperative period.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Adrian Lowenfeld, DO; Dawn Cox, DO; Brynn Wolff, MD, FACS; Naomi Kalliath, DO

TITLE: Risk Factors Related to BioZorb Removal: A Single Institution's Experience

ABSTRACT

Background
BioZorb is a helical tissue marker that is used in partial mastectomy patients to target the tumor bed during post-operative radiation. The goal of this study is to investigate relative contraindications for BioZorb placement and to assess risk factors associated with BioZorb removal.

Methods
Data was collected via a retrospective case series to evaluate the major risk factors contributing to surgical removal of BioZorb, including BMI, patient's age, history of or active diabetes, smoking status, and surgical site infection.

Results
Case review of 207 patients who received a BioZorb marker was performed. Six patients met inclusion criteria: the need for surgical removal of BioZorb. Ages ranged from 36 to 72 with mean age of 59; BMI ranged 21 to 36 (mean BMI 28). Five of six (83%) patients were smokers, and four of six (67%) patients were diabetic. Two of six (33%) patients had the BioZorb removed in the office, and 4 of 6 (66%) had the marker removed in the operating room. One patient (17%) had a postoperative hematoma. Length of follow up ranged from 0.5 to 22 months (mean follow up 11.6 months). No patients requiring BioZorb removal were excluded from the study.

Conclusions
Post operative complications including hematoma, infection, skin erosion, and pain from BioZorb markers placed during partial mastectomies are infrequent. Presence of diabetes, tobacco use, and increased BMI are risk factors shared between BioZorb placement complications and risk factors for any postoperative surgical complication. Patients who have BioZorb placed for partial mastectomy should be selected carefully and counseled appropriately about the risks and benefits of placement.

Keywords
BioZorb; bioabsorbable surgical marker; complications; lumpectomy; breast cancer; radiation therapy; surgical removal

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Chance Benner D.O., William Kurtis Childers D.O.

TITLE: Pre-operative Anemia is a Risk Factor for Poor Perioperative Outcomes in Ventral Hernia Repair

ABSTRACT

Background
Ventral hernia repairs (VHR) are among the most commonly performed operations by general surgeons. Despite advances in technology there remains high complication and re-admission rates. Pre-operative anemia has been linked to poor outcomes and re-admission rates across several surgical procedures, however the link to ventral hernia repair outcomes are limited.

Methods
Utilizing the American College of Surgeons National Safety and Quality Improvement Project (NSQIP) database for years 2016-2018, a total of 115,000 patients were utilized for the study met inclusion criteria. Using propensity matching controlling for age, gender, race, diabetes, BMI, smoking status and probability of morbidity matched two groups of patients who underwent VHR: 1) those with pre-operative anemia and 2) those with normal hemoglobin levels, 3669 patients to each group. Patients who were determined as anemic based upon criteria set forth by the World Health Organization (WHO).

Results
Various post-operative outcomes as recorded by the NSQIP database were analyzed. Univariate analysis did demonstrate statistical significance in post-operative outcomes including significantly greater percentage of serious surgical site infection, poor renal outcomes, transfusion, and unplanned remission in those with pre-operative anemia who underwent VHR. When comparing the patients with a multivariate analysis, patients who underwent ventral hernia repair with pre-operative anemia had significantly greater odds of unplanned readmission (odds ratio, 1.35, 95% confidence interval, 1.16 to 1.57) and serious surgical site infection (odds ratio, 1.35, 95% confidence interval, 1.04 to 1.74) independent of known risk factors such as smoking, diabetes and obesity.

Conclusions
Pre-operative anemia is a risk factor for poor post-operative outcomes in those undergoing ventral hernia repair and should be considered when evaluating a patient for repair.

UPMC Pinnacle

Poster Presentations

Medical Track

Medical Education Day 2021
Medical Track - Poster

TYPE	AUTHOR(S)	TITLE
Case	*Thomas J. Price, DO*	*Disseminated Nocardia Farcinica in an Immunocompetent Patient*
Case	*Emily Schuchardt, DO*	*Infantile Masturbation Syndrome*
Case	*Eli Allen, DO*	*Painless Thyroiditis - Clinical Manifestations*
Case	*KelechiE Emmanuel, MD*	*Thyrotoxic Periodic Paralysis; A Case Report*
Case	*Pooja Roy, MD*	*A Rare Case Of Diabetic Ketoacidosis Presenting With Severe Hypertriglyceridemia Requiring Plasmapheresis in an Adult With Type 2 Diabetes Mellitus*
Case	*Uba Chinyere Udeh, MD*	*Diagnosing Intracranial Tuberculomas*
Case	*Manpreet Sidhu DO; Patrick Brunk DO*	*Swelling of the Preauricular Area: An Atypical Presentation of T-cell Lymphoma*
Case	*Justin Lounder, DO*	*Comfort Drain Catheter for Malignant Pleural Effusion*
Case	*Ahmed Aladham, DO*	*Development of Effusive Constrictive Pericarditis in a Pneumonia Patient*
Case	*Aaron Hiller, DO*	*Where's the Salt? A Rare Case of Idiopathic Syndrome of Inappropriate Anti-Diuretic Hormone Secretion*
Case	*Neetha Mathew, DO*	*Consideration of Multiple Myeloma with Sudden Onset Acute Renal Failure*
Case	*Bao Nhi Nguyen, DO*	*A Devastating Presentation of Early Onset Pancreatic Cancer: Case Report and Literature Review*
Case	*Christopher Ignatz, DO*	*A Breathtaking Differential*
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Medical Education Day 2021

Medical Track - Poster

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Research	*Ryan D'Souza, DO*	*Rats and Rashes: A Heated Discussion*

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Thomas J. Price, DO

Title: Disseminated Nocardia Farcinica in an Immunocompetent Patient

ABSTRACT

Purpose
The purpose of this case is to make health care providers aware that disseminated nocardiosis to the adrenal gland can mimic pheochromocytoma causing intractable nausea and vomiting due to mass effect.

Background
The differential diagnosis for an adrenal mass is broad and includes benign adenoma, primary adrenal malignancy, metastatic disease, adrenal abscess and pheochromocytoma. Catecholamine-secreting tumors such as pheochromocytoma produce a surge of catecholamine release causing hemodynamic instability. It is important to rule out pheochromocytoma prior to any invasive diagnostic or surgical manipulation of an adrenal mass.
Nocardia farcinica is a gram-positive organism found in the soil and aquatic environments and can become airborne. Nocardiosis typically affects immunocompromised individuals and is especially known for its ability to disseminate to the brain and lungs. Despite six to twelve months of IV antibiotic therapy, nocardiosis has the tendency to progress or relapse. While definitive treatment is necessary, osteopathic manipulative therapy such as rib raising can be used to suppress sympathetic activation in cases involving the adrenal glands.

Summary
A 56-year-old male was admitted for sepsis and intractable nausea and vomiting. Computed tomography (CT) and subsequent magnetic resonance imaging (MRI) of the abdomen revealed a 9.4 x 7.4 x 6.8 cm lobulated left suprarenal mass, presumably of the adrenal gland. Initial laboratory workup revealed urine normetanephrines that were three times the upper limit of normal, concerning for a pheochromocytoma. However, blood cultures grew Nocardia farcinica in a presumed immunocompetent patient. MRI of the brain revealed ring-enhancing lesions, and CT of the chest revealed pulmonary nodules. Once pheochromocytoma was ruled out, the patient received 12 months of antibiotics with interval improvement on MRI.

Conclusion
During the workup of an adrenal mass, pheochromocytoma must be ruled out prior to any invasive biopsy or excision. While Nocardia farcinica rarely disseminates to the adrenal gland, it can produce an abscess large enough for symptoms to arise requiring long term antibiotics.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Emily Schuchardt, DO

TITLE: Infantile Masturbation Syndrome

ABSTRACT

Infantile Masturbation Syndrome is a recurrent paroxysmal movement syndrome that is present in a small cohort of the pediatric population. Majority of cases are initially thought to be potential seizure-like activity. This syndromic process is often misdiagnosed or is subject to significant delay in diagnosis due to the lack of literature on pediatric masturbation as a whole.

This case is a 15-month-old female with an uncomplicated birth history who presented to the emergency department (ED) with frequent leg spasms. Patient would flex her right hip and knee and simultaneously extend her left leg for approximately 30 seconds. During the contraction period, the patient would maintain eye contact and track across the room. She had no loss of bowel or bladder function. No post ictal phase was ever noted however the patient was able to lower herself to the ground prior to the onset of the episodes. The spasms were found to happen in increasing frequency over the 3 months prior to presentation. Complete metabolic panel and complete blood count workup was performed in the ED and was completely benign. Electroencephalogram was performed and benign. With assistance of Pediatric Neurology, the patient was diagnosed based on visualization of movements as the repetitive movements are pathognomonic for this syndromic process.

This case represents a seizure-like presentation that could have been diagnosed without intrusive work up if particular patterns were recognized. Although Infantile Masturbation Syndrome is rare, recognizing this repetitive behavior is imperative of sparing this subset of the pediatric population invasive diagnostics.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

Primary Author(s): Eli Allen, DO

TITLE: Painless Thyroiditis - Clinical Manifestations

ABSTRACT

Purpose

To demonstrate the importance of continuous clinical assessment in patients with painless thyroiditis.

Case

A 51 year old female presented with diffuse body aches, headaches, palpitations, sweating, discomfort swallowing solid foods, and heat intolerance. Ibuprofen and acetaminophen had provided no relief. Her medical history included generalized anxiety disorder and hypertension controlled with duloxetine and lisinopril/hydrochlorothiazide, respectively. Physical exam revealed perspiration on forehead, palpable enlargement of thyroid, flushing of cheeks, and decreased muscle strength. She was tachycardic and had tachypnea. Blood pressure was stable and she was afebrile. Lab values showed elevated T4 and decreased TSH. Started on methimazole 10mg per day and propranolol 40mg per day. No antithyroid peroxidase or anti-TSH antibodies detected. Thyroid scintigraphy showed no significant thyroid uptake with markedly decreased 6 hour and 24 hour uptake at 1.2% and 0.6%, respectively. At her follow up visit four weeks later she had new complaints of fatigue, decreased concentration, positional dizziness, cold intolerance, hair loss, dry skin and constipation. Repeat thyroid function testing revealed T4 of 5.0 and TSH of 8.7.

Background

Painless thyroiditis accounts for 0.5 to 5 percent of hyperthyroidism cases. The disease is characterized by transient hyperthyroidism. It is estimated 5 to 20 percent of painless thyroiditis cases demonstrate the sequence of hyperthyroidism, followed by hypothyroidism, and then recovery to a euthyroid state. The transient thyroid states can last between weeks and months. Early evaluation of patients with hyperthyroidism is important for appropriate management.

Conclusion

Hyperthyroidism can be caused by multiple factors. Laboratory testing, clinical evaluation and imaging are important for identifying the cause and directing treatment. Continuous assessment in patients with painless thyroiditis helps clinicians identify transient phases of the disease and prevents inappropriate pharmacological treatments.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Kelechi Emmanuel, MD

TITLE: Thyrotoxic Periodic Paralysis; A case report.

ABSTRACT

Introduction
Thyrotoxicosis periodic paralysis (TPP) is a rare complication of thyrotoxicosis which presents with sudden onset muscle weakness and severe hypokalemia. It is seen more in Asian males during the third decade of life. In North America, the incidence rate of TTP has been reported to be around 0.1-0.2% in thyrotoxic patients. We present a case of a 33-year-old male presenting with sudden onset generalized weakness and after appropriate work up; was diagnosed with TPP.

Case Report
Patient is a 33-year-old African American male with history of graves' disease who presented to the ED with sudden onset generalized body weakness worse on his bilateral lower extremities. On presentation patient was unable to ambulate, but in no distress. His vitals were stable. Laboratory results revealed Potassium of 1.6mmol/L repeat labs confirmed the value of 1.6mmol/L. Other pertinent lab results were TSH <0.01, T4- 3.10, FT3 – 7. MRI of the head and spine all showed no acute abnormalities. Patient was managed with potassium repletion, methimazole and propranolol with improvement of his plasma potassium to normal values and improvement of his muscle weakness. He did require physical therapy before resolution of his muscle weakness, and he was discharged home.

Discussion
TPP manifests as single or recurrent episodes of acute muscle weakness of all four extremities that vary in severity from paresis to complete paralysis. The etiology and pathophysiology of TPP remains unclear but is believed to be secondary to an ion channelopathy. The associated hypokalemia is the consequence of an extra- to intracellular potassium shift due to an increase in Na/K-ATPase pump activity, either as a direct response to thyroid hormone or indirectly via adrenergic stimulation, insulin or exercise. Definitive treatment of TPP consists of management of the thyrotoxicosis by medical therapy, surgery or radioactive iodine therapy.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Pooja Roy, MD

TITLE: A Rare Case of Diabetic Ketoacidosis Presenting with Severe Hypertriglyceridemia requiring Plasmapheresis in an Adult with Type-2 Diabetes Mellitus

ABSTRACT

Background

Severe hypertriglyceridemia (HTG), defined as levels above 885 mg/dL, is a rare complication of insulin resistance. Severe HTG presenting with diabetic ketoacidosis (DKA) has been reported in a few cases, where most patients have underlying type-1 diabetes mellitus (DM). Our case represents a unique presentation of DKA associated with severe HTG above 10,000 mg/dL in an adult with type-2 DM.

Case

A 51-year-old man with no prior illnesses presented to the emergency department with abdominal pain and nausea. He was found to have DKA with a blood glucose level of 337 mg/dL, pH of 7.17, beta-hydroxybutyrate of 7.93 mmol/L and anion gap of 20. His triglyceride levels were more than 10,000 mg/dL. His serum was found to be lipemic. Computerized tomography (CT) scan of the abdomen demonstrated mild acute pancreatitis. Insulin and potassium chloride infusions were initiated. Endocrinology was consulted and one cycle of albumin-bound plasmapheresis was administered. This therapy significantly improved his HTG. DKA gradually resolved and he was transitioned to subcutaneous insulin. Negative GAD65 antibodies supported the diagnosis of type-2 diabetes mellitus. He was discharged home with endocrinology follow-up.

Conclusion

This unique case highlights an uncommon but critical consequence of uncontrolled DM. It brings forth the possibility of severe HTG presenting as a complication of uncontrolled type-2 diabetes mellitus. It further supports checking for lipid panels in patients with uncontrolled DM or DKA. Severe HTG commonly presents with acute pancreatitis, which can be debilitating if not managed promptly. Most patients with this presentation are managed with insulin infusion. In cases like ours, where triglycerides levels are critical and require rapid reduction, plasmapheresis has been shown to be effective.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Uba Chinyere Udeh, MD

TITLE: Diagnosing Intracranial Tuberculomas

ABSTRACT

Introduction

Central nervous system (CNS) involvement contributes to about 1% of extra- pulmonary tuberculosis (TB) infections.[1] It is associated with the highest risk of mortality of all extra-pulmonary TB and significant morbidities with residual neurologic defects.[1] Pathogenesis of CNS infection involves directly infecting endothelial cells or trafficking bacterium through phagocytes followed by formation of tubercles which progress to tuberculomas.[2] Here we present a rare case of intracranial tuberculoma infection.

Case

A 41-year-old Indian female with past medical history of endometriosis and remote history of neurocysticercosis presented with one week of episodic right upper extremity weakness, dysarthria, word finding difficulties and headaches. Episodes lasted 10- 15 minutes with spontaneous resolutions. Magnetic resonance imaging brain showed multiple ring-enhancing foci clustered in the left temporoparietal junction. Cerebrospinal fluid (CSF) analysis was concerning for bacterial versus tuberculosis infection. Direct exam gram and acid-fast bacillus staining was negative. QuantiFERON gold was 1/2 positive. Further workup for other infectious etiologies, autoimmune diseases and malignancy were negative. Chest x-ray and computerized tomography of chest, abdomen and pelvis were negative. Keppra was started for seizure prophylaxis. She was treated with antibiotics and albendazole for concerns of pyogenic abscess and neurocysticercosis. Empiric treatment for TB with isoniazid, rifampin, pyrazinamide, ethambutol and dexamethasone was started after additional testing raised suspicion for tuberculosis infection. CSF cultures eventually grew mycobacterium tuberculosis confirming CNS tuberculoma.

Discussion

CNS tuberculomas are rare, especially in western countries. Our patient was born in Indian, immigrated to the US in the 1990's, last visited India in 2008 and has no known TB exposures. It's non-specific presentation often mimics space occupying brain lesions. Diagnosis requires a high degree of suspicion as CSF studies are often limited because of the pathophysiology of a tuberculoma.[3] Early diagnosis is imperative as prognosis is poorer with delayed treatment.

References

1. Sethi P, Treece J, Onweni C, Pai V, Rahman Z, Singh S. The Importance of a Complete Differential: Case Report of a Tuberculoma in a Patient without Pulmonary Involvement. *Cureus*. 2017;9(6):e1405. Published 2017 Jun 28. doi:10.7759/cureus.1405
2. Marais S, Van Toorn R, Chow FC, et al. Management of intracranial tuberculous mass lesions: how long should we treat for?. *Wellcome Open Res*. 2019;4:158. Published 2019 Oct 31. doi:10.12688/wellcomeopenres.15501.2
3. Lober RM, Veeravagu A, Singh H. Brain tuberculoma in a non-endemic area. *Infect Dis Rep*. 2013;5(1):e1. Published 2013 Jan 28. doi:10.4081/idr.2013.e1

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Manpreet Sidhu D.O., Patrick Brunk D.O.

TITLE: Swelling of the Preauricular Area: An Atypical Presentation of T-Cell Lymphoma

ABSTRACT

Purpose
T cell lymphoma commonly presents with lymphadenopathy. We report here an unusual presentation of T cell lymphoma occurring as enlargement of the preauricular area

Background
A 60 year old male with history of BPH and COPD presented to UPMC Carlisle with a 6 week history of induration and swelling to the preauricular area. Prior to presentation, he completed three rounds of outpatient antibiotic therapy for presumed cellulitis. Given persistence of symptoms he was admitted for IV antibiotics, as well as further evaluation by ENT and Infectious disease specialists. The area of induration was initially thought to be secondary to underlying suppurative parotitis. The patient was transferred to UPMC Harrisburg for further work-up. At UPMC Harrisburg the patient's hospital course was complicated by persistent pancytopenia and febrile episodes while on broad spectrum antibiotics. Hematology-Oncology was consulted, and started the patient on Neupogen with resolution. IV antibiotics were discontinued as an infectious etiology was thought to be unlikely. Rheumatology's evaluation for autoimmune etiologies was inconclusive. Further areas of induration and swelling were noted on the left and right chest walls, which were similar to that seen on the preauricular area. Several biopsies were obtained and revealed subcutaneous panniculitis as would be seen in T-cell Lymphoma. The patient was hemodynamically stable for discharge home with outpatient Hematology-Oncology follow-up. Bone marrow biopsy was performed, confirming the diagnosis of T-cell Lymphoma. Staging PET-CT was obtained to aid in prognostication and staging, revealing significant activity in the subcutaneous tissues and lymph nodes above the diaphragm. The patient was referred to UPMC Pittsburgh to determine the need for stem cell transplant versus standard chemotherapy. Based on their evaluation, the patient was started on CHOP therapy and referred to Johns Hopkins University for eventual allogeneic stem cell transplant from the patient's biological son.

Conclusion
This atypical presentation highlights an unusual presentation and treatment of T cell lymphoma. This case identifies the importance of early evaluation and treatment in aggressive malignancies such as T cell lymphoma.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Justin Lounder, Do

TITLE: Comfort Drain Catheter for Malignant Pleural Effusion

ABSTRACT

Purpose
Timely recognition of comfort needs with recurrent malignancy related pleural effusions in patients transitioning to hospice care.

Background
A patient centered approach is the ideal approach for patients with malignant pleural effusions (MPE), taking into account prognosis of the patient's disease and their wishes for treatment. Overall, studies have shown that patients with MPE have higher mortality compared to patients with metastatic cancer without an MPE. An indwelling pleural catheter (IPC) with intermittent drainage is the preferred initial treatment for MPE. This approach is the least invasive option and requires less hospital time when compared to traditional chest tube placement.

The goal of this case is to help healthcare providers to recognize the need for an IPC for comfort in patients with malignant pleural effusion.

Summary
An 83-year-old male presented to the emergency department with shortness of breath, orthopnea and dry cough for 3 days. The initial workup revealed the patient to have bilateral pulmonary embolisms, a left pleural effusion, large hepatic mass, thoracic and upper abdominal adenopathy and lytic lesions in the right lesser trochanter. Liver biopsy revealed the patient's findings were due to an upper GI adenocarcinoma metastasis. The patient elected to be discharged with home hospice; however, he would require multiple thoracentesis for recurrent malignant left sided pleural effusion. IPC was placed for symptom relief prior to discharge.

Conclusion
An indwelling drain catheter placed in patients with recurrent malignant pleural effusion is an effective option to help reduce admissions, symptoms and make the patient more comfortable. For this case, the patient was requiring pleural effusion drainage every 5-7 days. Although the patient had a poor prognosis overall, the drain catheter placement was the best decision to make for the patient to remain comfortable and be able to spend quality time with his family.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

Primary Author(s): Ahmed Aladham, DO

TITLE: Development of Effusive Constrictive Pericarditis in a Pneumonia Patient

ABSTRACT

Purpose
The purpose of this case report is to discuss an interesting echocardiographic finding and presentation of an effusive constrictive pericarditis in a patient who presented with shoulder pain in the setting of pneumonia infection.

Background
A 59-year-old male with a past medical history of bicuspid aortic valve status post bioprosthetic aortic valve replacement in 2016, hypertension, hyperlipidemia, and GERD who presented to the emergency department with a chronic cough, shortness of breath and mild sinus tachycardia. He reported a dry cough since December 2019. He also reported left shoulder pain that occurred after lifting weights at home. The pain was reproducible and caused him to have numbness in his left arm. He denied any fevers, chills, or sweats prior to admission.

Summary
Initial workup revealed a chest x-ray with bibasilar infiltrates, and a chest computed tomography (CT) scan with a pleural effusion and a new small pericardial effusion. His C-reactive protein was elevated at 16.7. A transthoracic echocardiogram with apical view revealed significant pericardial thickening and on the subcostal views, there appeared to be paradoxical septal motion. His electrocardiogram was otherwise normal. These findings combined with the pericardial thickening was suggestive of effusive- constrictive pericarditis. Acute management with Motrin and colchicine was initiated, along with management of the underlying pneumonia. The patient's symptoms subsequently improved with the resolution of the effusion on repeat TTE.

Conclusion
Effusive-constrictive pericarditis is a rare type of constrictive pericarditis that can present as nonspecific symptoms with atypical pain. Certain conditions including infections and respiratory distress can predispose patients to develop effusive pericarditis. This condition resolves with prompt management that is aimed at addressing the inflammation and the underlying predisposing factors.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Aaron Hiller, D.O.

TITLE: Where's the Salt? A Rare Case of Idiopathic Syndrome of Inappropriate Anti-diuretic Hormone Secretion

ABSTRACT

Purpose
To discuss a rare source of hyponatremia, SIADH, in a patient without a clear cause following diagnostic evaluation.

Background
SIADH is an uncommon cause of hyponatremia in hospitalized patients with hyponatremia. According to the NIH it affects less than 200,000 people in U.S. population. Idiopathic SIADH is particularly rare. Although it is rare, it is important to recognize as a potential cause during diagnostic evaluation as the treatment of SIADH varies considerable from other causes of hyponatremia.

Summary
An 80-year-old female presenting with nausea, vomiting, diarrhea of one week duration as well as headache and generalized fatigue and weakness. She was found to be hyponatremic with a serum sodium of 112 mmol/L on admission. Etiology was initially deemed to be to electrolyte loss from gastrointestinal tract secondary to viral gastroenteritis and patient was placed on normal saline. However patient's sodium worsened on normal saline and her urine studies eventually showed inappropriate loss of sodium in the urine. Nephrology was consulted and found diagnosis of SIADH to be appropriate. She was treated successfully with fluid restriction, hypertonic saline, and salt tablets. While initially her source was believed to be secondary to malignancy, further outpatient evaluation with oncology was not congruent with malignancy and her source of SIADH thus remains idiopathic in nature.

Conclusion
SIADH is a rare cause of hyponatremia in hospitalized patients and is particularly rare in the case of idiopathic SIADH. It is crucial to perform the proper diagnostic evaluation in those presenting with hyponatremia in order that SIADH can be appropriately recognized and diagnosed early. This early diagnosis is critical in order to properly treat patients with SIADH, as the treatment of hyponatremia of other etiologies can be detrimental if applied to such patients.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Neetha Mathew, DO

TITLE: Consideration of Multiple Myeloma with Sudden-Onset Acute Renal Failure

ABSTRACT

Purpose
To demonstrate the importance of a wide differential with sudden onset renal failure that is refractory to treatment.

Background
N.B. is a 60-year-old female with a medical history of congenital adrenal hyperplasia, hypertension and recently diagnosed acute tubular necrosis (ATN) after hernia repair requiring hemodialysis three times weekly. She presented to the emergency room one month following surgery with nausea, vomiting and weakness after hemodialysis. A computerized tomography of the abdomen/pelvis revealed bilateral enlarged adrenal masses and a new mass in the left kidney. Work-up demonstrated hyperproteinemia, hypoalbuminemia and anemia. Hematology-Oncology tested for plasma cell dyscrasia with a serum protein electrophoresis with immunofixation, free light chain assay and immunoglobulins. Biopsies of the kidney, bone marrow and a newly-found lesion in the sacroiliac joint were completed. IgA and free lambda light chains were elevated. All confirmed multiple myeloma (MM). Outpatient chemotherapy including Velcade and high-dose dexamethasone was arranged. Subsequently, the patient had two separate admissions from developing high fevers after hemodialysis. She presented with altered mental status and sepsis with an unclear source of infection, concerning for hyperviscosity syndrome. Plasmapheresis was initiated for three cycles. She is now diagnosed with an aggressive form of MM. Referral for possible stem cell transplant at a tertiary center was obtained.

Summary
N.B. was believed to have developed ATN status-post hernia repair. Her calculated fractional excretion of sodium supported this, per Nephrology. Hemodialysis was initiated as her kidney function was refractory to medical treatment. The patient had two subsequent admissions before confirming a diagnosis. This made her a month behind with treatments. Her case was also complicated by her extensive medical history.

Conclusion
This case demonstrates how MM presents in multiple facets, so it can easily be missed. This has resulted in an aggressive form of disease for which more extensive work-up was required. It is an example of how an osteopathic holistic approach of multiple organ systems could have rectified a near-miss situation.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Bao Nhi Nguyen, DO

TITLE: A Devastating Presentation of Early Onset Pancreatic Cancer: Case Report and Literature Review

ABSTRACT

Purpose
Pancreatic cancer is one of the deadliest malignant diseases, with a 5-year survival rate of just 9%. Median age at diagnosis is around 70 years. However, it is increasingly diagnosed in the younger population at an advanced stage when the disease is incurable. We present a rare case of early onset pancreatic cancer in a previously healthy 34 year old female.

Background/Case Description
A 34 year old woman with no significant past medical history presented to the emergency department for two week history of epigastric abdominal pain, chest discomfort, and vomiting. She was found to have a mildly elevated alkaline phosphatase but labs were otherwise unremarkable along with a normal chest x-ray and EKG. No abdominal imaging was obtained at that time. She went to her primary care provider two weeks later due to continued symptoms. CT abdomen and pelvis showed a large 5.3 cm pancreatic tail mass and extensive metastatic disease. Liver biopsy confirmed metastatic pancreatic adenocarcinoma.

Four weeks after her diagnosis, she presented to the hospital with worsening abdominal distention, vomiting, and poor po intake prior to initiating palliative chemotherapy. Ca 19-9 tumor marker was markedly elevated >37000. Beta Hcg was markedly elevated 37.3 despite not being sexually active with a man for several years. She had extensive metabolic derangements including rising liver enzymes, significant malignant ascites and profound hyponatremia. Despite hypertonic saline, paracentesis and supportive care, the patient developed systemic shock on hospital day 11 requiring maximal support on multiple vasopressors and ultimately passed away after family decision was made to pursue comfort care.

Summary and Conclusion
This case highlights the importance of recognizing manifestations of pancreatic cancer which may prevent delayed diagnosis. Awareness should be increased among healthcare professionals as earlier diagnosis may provide better chances for patient survival.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Christopher Ignatz, DO

TITLE: A Breathtaking Differential

Purpose
Discuss a relatively uncommon cause of a common complaint.

Background
Congestive heart failure is a common cause of shortness of breath requiring hospitalization. A less prevalent reason for shortness of breath is pulmonary arterial hypertension (PAH), occurring in an estimated 6.6-26 cases per million adults. By definition, PAH occurs when the pulmonary artery pressure exceeds 25mmHg at rest or 30mmHg with exercise. The diagnosis is subcategorized into one of five groups depending on the etiology for elevated pressures. Persistent and/or untreated PAH can lead to increased pulmonary vascular resistance, right heart failure, and even death.

Summary
This is a case of a 69 year old homeless female with hypertension and diastolic heart failure patient who presented with complaint of shortness of breath. She had been hospitalized multiple times in the past for acute on chronic diastolic heart failure. Laboratory data and some physical examination findings were consistent with heart failure, however, chest x-ray findings did not indicate a diagnosis of congestive heart failure. She continued to have increased oxygen demands despite diuresis. She was eventually transferred to the intensive care unit and underwent a right heart catheterization. This catheterization demonstrated severe PAH with pulmonary artery pressures greater than systemic blood pressures with of PAH assumed to be from left heart dysfunction due to intermittent medication compliance.

Conclusion
There are several causes of shortness of breath. Although PAH is less common than congestive heart failure, it should be considered in those patients with persistent dyspnea despite diuresis and an unremarkable chest x-ray.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Shaunaq Parikh, DO

TITLE: Role of mTBI in development of Parkinsonism symptoms

ABSTRACT

Mild Traumatic Brain Injury (mTBI) is the most common form of traumatic brain injury. This is caused by a mild blow to the head, with or without loss of consciousness. It is typically associated with temporary symptoms of headache, fatigue, cognitive impairment, confusion, dizziness, and emotionally lability among others.

Parkinson's is a disease of the central nervous system involving damage to the dopaminergic pathway. A combination of movement abnormalities including pill-rolling resting-tremors, shuffling gait, cogwheel rigidity, difficulty writing, and loss of balance can occur with low dopamine levels in the brain.

75-year-old Caucasian female who developed parkinsonism symptoms secondary to mTBI caused during an MVC. She was struck in the rear passenger side by a truck. She was left dangling from the seat with the car flipped upside down. She reported striking her head on the doorframe. She initially developed headaches, imbalance, cognitive difficulties, anxiety and depression. Later over the course of 3-4 months she showed resolution or improvement in most symptoms. Patient was followed for approximately 3 years. Patient showed development of neurocognitive deficits and extrapyramidal symptoms after 2.5 years. She developed slow-gait, difficulty feeding and bathing. New tremor development which was worse at rest than with intentional movement. She was diagnosed with trauma induced parkinsonism. There were multiple neuroimaging scans performed. Most literature on parkinsonism after trauma demonstrates years of latency between trauma and onset of symptomatology.

The aim of this case report is to help explore a correlation of neuroimaging findings in mTBI patients that would act as predictive factors for future development of parkinsonism symptoms. In turn, allowing an early predicting scan for trauma induced parkinsonism. Advanced neuroimaging which currently enables visualization of brain parenchyma and basal ganglia may be utilized in relation to the presence and absence of specific defects after mTBI.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Benjamin Ravichander, MD

TITLE: Severe Hyponatremia and the Importance of Prompt Treatment

ABSTRACT

Introduction
Hyponatremia is a serum sodium level less than 135mmol/L. Knowing the goals of correction and adverse events associated with hyponatremia are important due to the dangers of under-correction or over-correction. Among the most severe consequences of overcorrection of hyponatremia is osmotic demyelination syndrome (ODS). 1 We present a 57-year-old male with one of the lowest serum sodium levels reported in medical literature.

Case Report
A 57-year-old male with medical history significant for alcohol abuse, hepatic cirrhosis, and hypertension presented to the emergency department complaining of frequent falls. Neurological exam showed he was oriented to person, place, time, but not situation, and was positive for slurred speech. Laboratory workup revealed a potassium of 2.6mmol/L and a sodium of 96mmol/L. Computed tomography (CT) of the head and CT Angiogram (CTA) of the brain were unremarkable. Proper sodium correction was attempted with intravenous fluids, first with normal saline and subsequently, hypertonic saline. Sodium was corrected rapidly, and due to inconsistencies of intravenous fluid type, caused a labile serum sodium. As a result, the patient experienced a seizure, and acute encephalopathy secondary to mild ODS. ODS was the result of rapid correction of chronic hyponatremia, and was shown in an MRI of the brain with subtle increased T2 and FLAIR signals in the central pons.

Discussion
Acute, severe, or symptomatic hyponatremia should be managed in a hospital setting. While severe hyponatremia left uncorrected has high mortality risks, its rapid correction also has adverse effects. In this case, the patient presented with a serum sodium of 96mmol/L, and normal saline was initiated. While this patient was neurologically functioning at his baseline, due to the presenting history, this should have been considered a case of symptomatic severe hyponatremia, and hypertonic saline initiated. This intervention had potential to change his hospital course, duration and outcome.

1. Sterns R, Silver S. Complications and management of hyponatremia. *Curr Opin Nephrol Hypertens.* 2016;25(2):114-119. doi:10.1097/mnh.0000000000000200

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Muzaffar Ali DO

TITLE: Lyme Prosthetic Joint Infection in Total Knee Arthroplasty: A Rare Case!

ABSTRACT

An 81-year-old male who lived in a Lyme endemic region presented with a Borrelia Burgdorferi prosthetic joint infection (PJI) after undergoing a right total knee arthroplasty 15 years prior. He had no complications until his recent presentation. He underwent an irrigation and debridement with implant retention. Cultures obtained resulted positive for Lyme via PCR, therefore he was treated with IV Vancomycin and PO doxycycline.

With the increasing number of arthroplasties performed, more Lyme PJI are likely to be encountered. There have only been 3 cases reported in the literature. This case demonstrates successful treatment of the rare Lyme PJI.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Timothy Warren, DO

TITLE: Clot Burden Possibly Preventable with Proper Follow Up.

ABSTRACT

Purpose
Importance of follow up

Case
A 39-year-old female presented to the Emergency Department for sudden shortness of breath, right calf swelling and pain, and diffuse abdominal pain to palpation. Her history included an unknown clotting disorder, cerebrovascular accident x 2, iron deficiency anemia, menorrhagia, Coumadin resistance and evidence of patent foramen ovale. In the ED all vital signs were stable. An ultrasound found deep venous thromboembolism in the right calf. CT Pulmonary Embolism showed extensive bilateral submassive pulmonary emboli, one of which was nearly occlusive in the distal left main pulmonary artery and a possible mass in the left upper abdomen. She had elevated troponin of 0.13 and elevated BNP at 388. INR of 2.4 on Coumadin. Although she had known resistance to Coumadin she was uninsured and could not afford more expensive medications. On presentation, she was menstruating and her hemoglobin was 6.1. Hemoccult test was negative. She received a total of 4 units PBRC and an IVC filter but was not started on anticoagulation due to blood loss. An echocardiogram with bubble study demonstrated right heart strain with McConell's sign and patent foramen ovale. CT abdomen/pelvis demonstrated multiple large enhancing masses arising from the uterus. These were thought to be fibroids. The largest mass measured 18.5 x 12.2 x 17.7 cm. These masses may have caused compression and stasis in the vasculature of the abdomen, possibly causing a higher clot burden. On day 2, the patient's menstruation ended and hemoglobin stabilized. She was then started on a heparin drip.

Summary
39 year old female with menstrual bleeding, causing anemia, and bilateral pulmonary embolisms

Conclusion
Mass removal at age 35 would have likely stopped subsequent stasis and bleeding.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Kolsoum Yari MD-MPH, Parissa JavidiParsijani MD.

TITLE: Post MI VSR – Case abstract

ABSTRACT

Introduction
Ventricular septal rupture (VSR) is a devastating complication of acute myocardial infarction (MI). Surgical repair is the definitive treatment, although challenging and associated with high morbidity and mortality [1]. Post-myocardial infarction VSR occurs in about 3% of patients without reperfusion therapy compared to 0.3% with the treatment. [2-4] with dismal surgical outcomes. SHOCK trial showed mortality rate of 87% following surgical VSR correction. [5]

Case Report
A 77 year old nonsmoker male, with Type 2 Diabetes Mellitus, essential hypertension, and dyslipidemia who came to the Emergency Department (ED) due to intermittent, progressive non-relieving chest discomfort that had gradually become constant over the past 2 weeks. The pain was indigestion like, primarily in the epigastric region, associated with lightheadedness. He reported relief with lying down. Examination was significant for tachycardia, loud systolic rumbling murmur at the left lower sternal border and bibasilar crackles on lung auscultation. Electrocardiogram (EKG) was significant for ST segment elevation in lateral leads. Patient was admitted in the cardiac intensive care unit (ICU) for management of anterior and lateral STEMI. Labs were significant for renal insufficiency with a creatinine of 2.7 and GFR of 22. Emergent PCI with 2 drug eluting stent placement in LAD was done. Post PCI echocardiogram showed ejection fraction of 20-25% and a large muscular ventricular septal defect with left to right flow. percutaneous closure of VSR was done, followed by left femoral IMPELLA percutaneous left ventricular assist device, and extra-corporeal membrane oxygenation (ECMO) placement for further life support. 48 hours later, VSR closure device failure with significant leak was noted. Despite the interventional, therapeutic, and supportive measures, the patient expired due to multi-organ dysfunction in the setting of cardiogenic shock.

Conclusion
We briefly discussed the course of hospitalization for VSR, a catastrophic complication of STEMI. It is more likely to happen when addressed late or overlooked in the setting of acute MI and has a poor outcome.

References:

1. Amit Goyal MD et al, Contemporary Management of Post-MI Ventricular Septal Rupture. American college of cardiology. Jul 30 2018.
2. Khan MY et al. Surgical Repair of post-infarction ventricular septal rupture: Determinants of operative mortality and survival outcome analysis. Pak J Med Sci. 2018 Jan-Feb;34(1):20-26.
3. Evrin T et al. Bedside Echocardiography in Acute Myocardial Infarction Patients with Hemodynamic Deterioration. J Natl Med Assoc. 2018 Aug;110(4):396-398.
4. Eric R. Bates, Reperfusion Therapy Reduces the Risk of Myocardial Rupture Complicating ST-Elevation Myocardial Infarction.
5. Menon V et al. Outcome and profile of ventricular septal rupture with cardiogenic shock after myocardial infarction: a report from the SHOCK Trial Registry. Should we emergently revascularize Occluded Coronaries in cardiogenic shock J Am Coll Cardiol 2000;36:1110-6.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

Primary Author(s): Alfred Aiyanyor, D.O., MPH.

TITLE: Hypertriglyceridemia Induced Acute Pancreatitis

ABSTRACT

Purpose
Hypertriglyceridemia-induced pancreatitis causes 1 to 14% of all cases of acute pancreatitis. It is an important etiology of acute pancreatitis. Early recognition of pancreatitis triggered by very high level of triglyceride is **imperative in order** to offer proper management and to avert recurrent episodes.

Background
Severe hypertriglyceridemia is one of many but infrequent risk factors associated with acute pancreatitis. The level of triglycerides plays a fundamental role in defining the method and length of treatment. Treatment include NPO, IV Fluids, and adequate pain control. However, depending on the degree of hypertriglyceridemia, other treatment options may need to be employed such as insulin, heparin, and plasmapheresis. This report will look at a 40-year-old male with clinical acute pancreatitis due to severe hypertriglyceridemia who was effectively managed with the addition of intravenous insulin.

Summary
A 40 year old male with a medical history of hypertension, diabetes mellitus, and hyperlipidemia presented to the emergency department with worsening left sided flank pain, epigastric pain radiating to his back with associated vomiting. On physical examination he was afebrile, hypertensive and tachycardic. Adnominal exam revealed tenderness in the epigastric region. Laboratory findings included a leukocytosis, elevated glucose at 327, lipase at 5670, and triglyceride at 2540. Chest X-Ray was negative for acute cardiopulmonary disease, Computerized Tomography (CT) of the chest was negative for pulmonary emboli and a CT of the abdomen revealed severe pancreatitis with fatty liver.

The patient was admitted with a diagnosis of acute pancreatitis secondary to hypertriglyceridemia. He was treated with aggressive fluid management, pain control, and an insulin drip. His pain resolved, lipase and triglyceride levels, and WBC all improved.

Conclusion
Severe hypertriglyceridemia is an uncommon cause of acute pancreatitis. There are more than one options for its management. Lack of recognition of appropriate treatment options that are available can result in prolonged hospital stays in patients presenting with this condition. Though plasmapheresis is a useful option, it not readily available and rather expensive. Hence, the use of insulin infusion as demonstrated in this case report has been shown to be a very viable alternative for speedy improvement in symptoms related with acute pancreatitis due to elevated level of triglycerides.

OMT
Sympathetic innervation to the pancreas can address by rib raising in the T5 – T9 region to balance the autonomics. Chapman point for the pancreas in located in the left 7th intercostal space which can diagnostic of acute pancreatitis.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Michaela Sangillo, D.O and Guillermo Valenzuela M.D.

TITLE: Consequences of Medication Administration Miscommunications in the Geriatric Population

ABSTRACT

Purpose
To illustrate how miscommunications in medication administration can lead to harm in patients.

Case Description
The patient is a 63-year-old African American female with past medical history of hypertension, diabetes, seizure disorder, and cerebrovascular accident with residual deficits of aphasia, cognitive decline, and right sided hemiparesis. This patient lives in low-income housing, has a caregiver Monday through Friday and is seen via home visits by her primary care provider. Due to her multitude of chronic health conditions, she takes several different medications multiple times a day. To ease the burden of proper medication administration on the patient and her care giver, the pharmacy prepares weekly pill packs with all her medications placed according to prescriber instructions.

The first home visit with the patient occurred after the patient suffered a seizure and subsequent fall. The seizure had occurred over the weekend while the patient was alone. The care giver found the patient Monday morning on the floor with a facial wound. During the first home visit the patient was thankfully determined to be well, other than elevated blood pressure and a minor facial abrasion. To sort out what had happened to the patient, her pill box was investigated. It was found that the patients prescribed Keppra and Amlodipine was missing from the pill box. A plan was made to revisit the patient in her home the following week. At the follow up appointment the patient's blood pressure had returned to normal and her pill box was confirmed to be properly filled.

Summary
This patient thankfully only suffered a minor injury from this medication mishap, the outcome could have been significantly worse.

Conclusion
Medication administration in the geriatric population remains the leading cause of harm for patients. Care must be given to ensure patient safety.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Joshua Stadler, DO

TITLE: Sarcoidosis: The granulomatous disease of unknown origin

ABSTRACT

Purpose
Sarcoidosis is a disease involving numerous organ systems resulting in systemic scarring and formation of noncaseating granulomas. The pathophysiology of the disease is still relatively unknown. In this presentation we will review the current research regarding the pathology as well as research into future treatment avenues for this disease.

Background
Sarcoidosis is a noncaseating granulomatous disease that can affect the lungs, skin, and multiple other organs. The pathophysiology of the disease is still mostly unknown; however, research focused on determining the exact origins of this disease are currently ongoing. The disease is more prevalent in blacks than whites, and twice as likely to occur in women[1] compared to men, with the highest prevalence in black women at 178.5/100,000[2]. Symptoms can range from cutaneous manifestations to pulmonary involvement, supporting the current hypothesis that sarcoidosis involves antigen capture and presentation throughout different tissue types. Accumulation of CD4 cells likely leads to a cascade of lymphokines and cytokines causing the inflammation and classic granulomatous formation seen with Sarcoid. Diagnosis involves both physical exam findings as well as imaging findings with erythema nodosum, hilar adenopathy, migratory polyarthralgia, and fever resulting in the highest probability of Sarcoidosis. Disease progression can lead to pulmonary hypertension, pulmonary fibrosis, and respiratory failure. The mainstay treatment for multi-organ involvement includes corticosteroids, methotrexate, antimalarials, and tetracyclines. Second-line therapies includes biologics (infliximab, adalimumab). Future therapies focusing on endothelin receptor antagonists, specific cytokine receptor inhibitors, and antifibrotics are being researched.

Summary and conclusion
This presentation reviews several components to the questions concerning the clinical manifestations, diagnostic tests, pathophysiology, risk factors, outcomes, current treatment modalities, and future treatments of Sarcoidosis

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Medhavi Rajput, MD

TITLE: Isomeric Main Bronchi

ABSTRACT

Main bronchial isomerism is a very rare phenomenon and could also be acquired. Careful radiologic review of bronchial anatomy should be undertaken prior to any endobronchial interventions.

The three most common causes of bilateral lung transplantation are chronic obstructive pulmonary disease, idiopathic interstitial pneumonia and cystic fibrosis. Primary Ciliary Dyskinesia (PCD) is one of the causes of non-CF related bronchiectasis. PCD covers the spectrum of all heterogenous ciliopathies. Kartagener's syndrome (KS) is a PCD variant and is characterized by a clinical triad of situs inversus, bronchiectasis and chronic sinusitis[2]. Normally, the right main stem has an average length of 2cm before it bifurcates into right upper lobe bronchus and truncus intermedius. The left main stem bronchus is narrower and longer than its counterpart with an average length of 5cm[3]. The most challenging part of treating the end stage KS with bilateral lung transplantation is its complex inverse anatomy[4].

Discussion

Situs solitus is defined as the usual or normal arrangement of internal organs along the left-right axis. Situs inversus is defined as the complete mirror arrangement of internal organs along the left-right axis. Situs ambiguus therefore ranges in between the spectrum of solitus to inverse, in which the internal organs neither have the normal or usual nor the mirror- imaged arrangements[5]. Thus, in situs ambiguus, there can be either bilateral left sidedness (left isomerism/ hyparterial bronchi) or bilateral right sidedness (right isomerism/ eparterial bronchi)[6]. Approximately, 12% of patients with PCD have situs ambiguus as seen in a study led by Shapiro et al[7].

All transplant physicians and bronchoscopists should be aware of this unusual endobronchial finding before undertaking diagnostic or therapeutic endobronchial interventions.

Conclusion

Main bronchi isomerism is very rare phenomenon. Careful review of anatomy should be done by any available radiology prior to any endobronchial interventions.

Acknowledgements

None

References:

1. Hayes, D., Cherikh, W., Chambers, D., Harhay, M., Khush, K., Lehman, R., Meiser, B., Rossano, J., Hsich, E., Potena, L., Sadavarte, A., Singh, T., Zuckermann, A. and Stehlik, J. (2019). The International Thoracic Organ Transplant Registry of the International Society for Heart and Lung Transplantation: Twenty-second pediatric lung and heart-lung transplantation report—2019; Focus theme: Donor and recipient size match. *The Journal of Heart and Lung Transplantation*, [online] 38(10), pp.1015-1066. Available at: https://www.jhltonline.org/article/S1053-2498(19)31621-3/abstract [Accessed 5 Feb. 2020].
2. Leigh, M., Pittman, J., Carson, J., Ferkol, T., Dell, S., Davis, S., Knowles, M. and Zariwala, M. (2009). Clinical and genetic aspects of primary ciliary dyskinesia/Kartagener syndrome. *Genetics in Medicine*, 11(7), pp.473-487.
3. Wang, K., Mehta, A. and Turner, J. (2004). *Flexible bronchoscopy*. 2nd ed. Malden Mass.: Blackwell Pub, pp.46-52.
4. Macchiarini, P., Chapelier, A., Vouhé, P., Cerrina, J., Le Roy Ladurie, F., Parquin, F., Brenot, F., Simonneau, G. and Dartevelle, P. (1994). Double lung transplantation in situs inversus with Kartagener's syndrome. *The*

Journal of Thoracic and Cardiovascular Surgery, [online] 108(1), pp.86-91. Available at: https://doi.org/10.1016/S0022-5223(94)70223-3 [Accessed 4 Feb. 2020].
5. Jacobs, J., Anderson, R., Weinberg, P. et al The nomenclature, definition and classification of cardiac structures in the setting of heterotaxy. *Cardiology in the Young*, 2007 17(S4), pp.1-28.
6. Applegate, K., Goske, M., Pierce, G. et al. Situs Revisited: Imaging of the Heterotaxy Syndrome. *RadioGraphics*, 1991, 19(4), pp.837-852.
7. Shapiro, A., Davis, S., Ferkol, T., Dell, S., Rosenfeld, M., Olivier, K., Sagel, S., Milla, C., Zariwala, M., Wolf, W., Carson, J., Hazucha, M., Burns, K., Robinson, B., Knowles, M. and Leigh, M. (2014). Laterality Defects Other Than Situs Inversus Totalis in Primary Ciliary Dyskinesia. *Chest*, [online] 146(5), pp.1176-1186. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4219335/ [Accessed 4 Feb. 2020].

Footnotes

Conflict-of-interest statement
The authors have no conflicts to report.

Figure legends
Figure: 1 (A-B): Coronal computed tomography images depicting both main bronchi with the length of 47mm prior to the lung transplantation. Length of both bronchi post transplantation is approximately 32mm. Note the presence of dextrocardia in both images
Figure: 2 (A-C) Bronchoscopy images of left main bronchus (A), carina (B) and right main bronchus post transplantation (C)

Figure 1 (A-B):

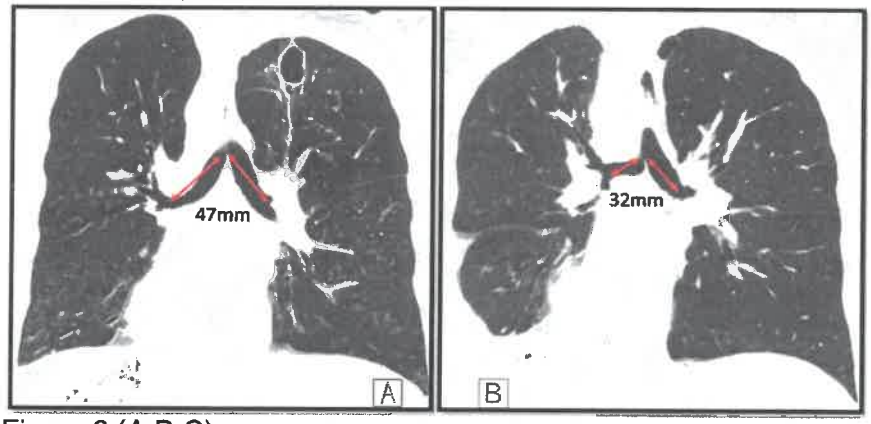

Figure 2 (A,B,C)

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Yi-Ju Chen, MD; Firdausi Matawalle, MD

TITLE: Heterotaxy population in their adulthood

ABSTRACT

Purpose
To highlight the significance of future studies in the evaluation of adults with heterotaxy.

Background
Heterotaxy is a rare presentation of anatomy and has led to complex congenital diseases of multiple organs in some individuals, including congenital heart diseases, interrupted inferior vena cava, asplenia or polysplenia, and bowel malrotation. Although the overall occurrence is about 0.99 per 10,000 births [1], the number is presumed to be underestimated due to the diversity of symptoms and proportion of individuals being asymptomatic and undiagnosed.
Owing to various presentations, heterotaxy is often diagnosed and treated in infancy or identified incidentally at emergency medical visits in adults. Several case reports expressed challenging situations when patients presented with atypical symptoms with heterotaxy detected accidentally on imaging studies. Comprehensive investigations are usually executed to determine the degree of anatomical abnormality, potential complications and the available treatment options.

Multiple discussions were held regarding the presentations and management of heterotaxy among the pediatric population. However, very few studies addressed the follow up outcome in adulthood. There are recent cohort studies [2, 3] with long term follow-up on adult patients with both heterotaxy and congenital heart diseases. Both studies showed a high mortality rate before age fifty, and a substantial proportion of patients who suffered from heart failure, arrhythmias, or who required heart transplantation. However, another study suggested the mortality rate in overall patients with heterotaxy is only 9% [4], much lower than the subgroup with congenital cardiac diseases.

Summary
Due to disease rarity and early mortality in adult patients with heterotaxy, symptoms may be less noticeable or less likely to be detected.

Conclusion
Future long-term longitudinal studies consisting of a larger sample size are warranted to provide more insight on the impact of heterotaxy in adults.

Reference

1. Lin AE, Ticho BS, Houde K, Westgate MN, Holmes LB. Heterotaxy: associated conditions and hospital-based prevalence in newborns. Genet Med. 2000;2(3):157-72.
2. Banka P, Adar A, Schaetzle B, Sleeper LA, Emani S, Geva T. Changes in Prognosis of Heterotaxy Syndrome Over Time. Pediatrics. 2020;146(2).
3. Broda CR, Salciccioli KB, Lopez KN, Ermis PR, Moodie DS, Dickerson HA. Outcomes in adults with congenital heart disease and heterotaxy syndrome: A single-center experience. Congenit Heart Dis. 2019;14(6):885-94.
4. Baban A, Cantarutti N, Adorisio R, Lombardi R, Calcagni G, Piano Mortari E, et al. Long-term survival and phenotypic spectrum in heterotaxy syndrome: A 25-year follow-up experience. Int J Cardiol. 2018;268:100-5.

UPMC

MEDICAL EDUCATION DAY - April 8, 2021

PRIMARY AUTHOR(S): Richard Schur, DO

TITLE: Pneumonia: A Recent Update

ABSTRACT

The fundamentals of medicine should be those diagnoses with which we are the most competent in managing. Despite foundations of treatment and diagnosis that have existed for years, medicine does not exist in a vacuum and recommendations change. For example, pneumonia is the 9th most common hospital diagnosis guidelines from the Infectious Disease Society of America had not changed since 2007.

Recent Infectious Disease Society of America guidelines from 2019 have revamped the standard of care and have brought a slew of changes. However, many physicians have been slow to adopt these new changes either out of dogmatic principle or poor dissemination of information. In turn, we have fallen behind the best available evidence to treat our patients. This topic review will cover many of the updates to the treatment of pneumonia including the clinical approach to diagnosis, anaerobic coverage for aspiration pneumonia, the elimination of healthcare associated pneumonia, procalcitonin assay usage, and indications for treatment of methicillin resistant staphylococcus aureus.

With the distribution of these guidelines, it is hoped that there will be more widespread adoption and acceptance of the optimal regimen for one of the most commonly treated diseases amongst both inpatient and outpatient centers.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Allison Brooks, DO

TITLE: A retrospective chart review on pulmonary embolism and their outcomes at CGOH in the pre-COVID 19 as well as COVID-19 era

ABSTRACT

The purpose of our study is to do a retrospective analysis of all the patients admitted to Community General Osteopathic Hospital with a diagnosis of acute pulmonary embolism and their outcomes over the past year.

This study aims to examine the utilization rates as well as utility of various scoring systems including the Shock Index and Pulmonary Embolism Severity Index (PESI) score in determining the need and type of intervention, and ultimately evaluate the outcome of the patients. The design of the study is a retrospective chart review of relevant patient specific data collected via our electronic medical record EPIC.

Inclusion criteria includes any patient admitted to Community General Osteopathic Hospital with a confirmed diagnosis of pulmonary embolism on either CT pulmonary angiogram or VQ scan. The exclusion criteria includes any patient less than 18 years old or who was not admitted to the hospital.

Data was collected from September 2019 to September 2020. There was about 100 patients that were admitted during that time frame diagnosed with either massive, sub-massive or non-massive pulmonary embolism. We are evaluating if PESI score or Shock Index at time of diagnoses would have impacted or correlated with intervention and outcome of the patient. We are also analyzing whether other variables played a role in patient outcomes, including SARS COV2 positivity, prior history of venous thromboembolism, active malignancy, recent surgery, or acute renal failure. Our primary outcome is in-hospital mortality. Our secondary outcomes include cardiac arrest, cardiac arrest outcome, need and duration of mechanical intubation, length of ICU and hospital stay, and disposition at discharge.

We believe validated risk scores could aide in patient triage and management, specifically for sub-massive pulmonary embolism and thus improve patient outcomes.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Joshua Brinkman, DO ; Stephen Lindsay, DO

TITLE: Evaluation of the impact of implementing a screening protocol for diabetic retinopathy in a primary care setting in Steelton, PA

ABSTRACT

Diabetic retinopathy is the leading cause of visual impairment amongst 25-74-year-olds. It is one of the many dangerous, yet preventable sequelae of diabetes mellitus. Generally presenting asymptomatically, it is estimated that 25% of type II diabetics have some degree of retinopathy upon initial diagnosis. Increased adherence to the recommended screening guidelines set forth by the American Diabetes Association (ADA) to screen for retinopathy at initial diagnosis and annually thereafter could lead to earlier detection, treatment, and subsequently reduce the future complications of diabetic retinopathy. It was hypothesized that the fundamental barrier to screening for diabetic retinopathy was the requirement to refer to an ophthalmology specialty office, thus incurring an additional expense in the time and finances of patients. The primary goal of this study was to determine the impact of implementing an in-office screening protocol in a primary care setting at Family Practice Center in Steelton, PA on compliance rates to the current diabetic retinal screening guidelines through the utilization of the Welch Allyn RetinaVue 100 imaging device in a primary care clinical setting.

To this end, a retrospective chart review of electronic medical records was performed at Family Practice Center in Steelton, PA to determine the impact of implementing an in office diabetic retinopathy screening protocol on screening rates for patients aged greater than 18 years old with known Type 2 Diabetes Mellitus from October 1, 2017 through October 1, 2019.

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MEDICAL EDUCATION DAY – ABSTRACT SUBMISSION FORM

PRIMARY AUTHOR(S): Tabinda Saleem, MD, Hafiz Muhammad Siddique Qurashi, MD, Yi-Ju Chen, MD

TITLE: New-onset hypoglycemia in COVID-19.

ABSTRACT

Introduction

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection can present from simple anosmia to life-threatening pneumonia and ARDS. With different new mutations of the virus identified, significantly less is known regarding these different strains' presentations. Here we present an infrequent association between Asymptomatic COVID-19 infection and hypoglycemic disorder in a non-diabetic patient.

Case Presentation

We present a case of an 80-year-old male with a past medical history of hypertension, End-stage renal disease on hemodialysis (HD), and dementia. He presented to the hospital from a nursing home facility with altered mental status secondary to a severe hypoglycemic event. The patient was given multiple ampules of dextrose and glucagon with a suboptimal response. He had otherwise normal vitals and physical exam. Blood work was negative for any acute infection, but he tested positive for SARS-COVID. He continued to have severe refractory hypoglycemia throughout the admission requiring q1 blood glucose checks and continuous 5% intravenous dextrose infusion. His workup for hypoglycemia including total insulin, proinsulin, C peptide, HbA1c, 24-hour cortisol levels, Thyroid-stimulating hormone, CT abdomen/pelvis with and without contrast for any pancreatic or adrenal lesions were all negative. The patient eventually improved with symptomatic treatment over seven days. He was discharged back to the facility on a high-calorie diet and continuous monitoring. 2 months later, the patient presented with a similar presentation. Again, the patient tested positive for COVID despite two recent negative tests with all other negative workups, raising concerns for a significant association between hypoglycemia and COVID-19 infection.

Discussion

How the SARS COVID virus causes, hypoglycemia is poorly studied. This association is particularly significant to recognize due to hypoglycemia's deleterious effects in hospitalized patients. It also highlights the significance of using Continuous Glucose Monitoring (CGM) to detect hypoglycemia early and limit staff exposure with frequent Blood Glucose checks in hospitalized patients with COVID-19.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Tabinda Saleem, MD, Hafiz Muhammad Siddique Qurashi, MD, Yi-Ju Chen, MD

TITLE: Underrecognized cause of ACS; Coronary Embolism.

ABSTRACT

Introduction

Coronary embolism is a vital non-atherosclerotic cause of Acute Coronary Syndrome (ACS) in approximately 3% of patients [1]. It is essential to differentiate the coronary embolus as a cause of obstruction in the absence of significant atherosclerotic burden due to a different treatment approach.

Case presentation

A 47-year-old male with no significant past medical history admitted to the hospital after Ventricular fibrillation (V.fib) arrest at home. EMS initiated cardiopulmonary resuscitation (CPR). The patient received defibrillation, which resulted in the return of spontaneous circulation. The patient was immediately transferred to tertiary care. He underwent cardiac catheterization, which revealed non-occlusive coronary artery disease with a probable thrombus in the co-dominant large left circumflex artery. Workup for Deep venous thrombosis, Patent foramen ovale (PFO), and stimulant abuse was negative. The lipid panel was unremarkable as well. Anticoagulation with Intravenous heparin therapy was initiated, which was later transitioned to oral anticoagulant in addition to antiplatelet and statin therapy. The patient had multiple paroxysmal atrial fibrillation episodes throughout the admission, treated with beta-blockers and anti-arrhythmic agents. He was subsequently discharged home on a life vest and long-term anticoagulation.

Discussion

Coronary embolism is rare and clinically challenging to distinguish from atherosclerosis associated myocardial ischemia. Clinicians should suspect in cases of high thrombus burden with relatively normal underlying coronary vessels. It is most frequently associated with underlying atrial fibrillation (73%), prosthetic valves, or other valvular diseases. Anticoagulation is the mainstay of treatment in addition to other goal-directed therapy for acute myocardial infarction.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Ryan D'Souza, DO

TITLE: Rats And Rashes: A Heated Discussion

ABSTRACT

Introduction

Rat bite fever is a systemic bacterial infection caused by Streptobacillus moniliformis, Streptobacillus notomytis, or Spirillum minus. Infection can result from a bite or scratch from a colonized rat or mouse or after ingestion of food or water that has been contaminated with rat feces. It is generally a clinical diagnosis as culture growth is difficult. The incubation period is typically less than 7 days with S. moniliformis or S. notomytis. The bite/scratch wound usually resolves with no regional adenopathy by the time symptoms start. Patients typically present with fever, migratory arthralgias, myalgias, vomiting, pharyngitis and headache. Reported complications include meningitis, endocarditis and bacteremia. S. minus incubation period is usually 1-3 weeks. The initial wound may reappear at onset of symptoms or persist with edema and ulceration along with regional adenopathy. Treatment includes local wound care and antibiotics, of which Penicillin is first line.

Case Description

The patient is a 41 year old male who presented to the ED with complaint of intermittent fevers, chills, myalgias, migratory polyarthritis and diffuse rash of one week's duration. He endorses low back pain that started one week ago which has progressively worsened. This was followed by intermittent fevers up to 103F, soreness of bilateral knees and ankles, and pain posteriorly between the shoulder blades. The day before he presented to Carlisle ED and was discharged with diagnosis of Herpangina. However, after continuation of blanchable rash spreading from dorsal surface of both feet to his chin and upper torso, he decided to present to West Shore ED. Upon further questioning, the patient admitted to mouse bite on his left index finger while feeding his pet snake. He was admitted to the hospital and started on IV Penicillin.

Discussion

Rat Bite Fever is a rarely diagnosed systemic disease. The clinical course can be rapid and fatal. Diagnosis is made in patients with unexplained fever or sepsis with rat exposure. A thorough history is essential to making an empiric diagnosis.

Medical Education Day 2021
Surgical Track - Poster

Type	Author(s)	Title
Case	*Jeffrey Chapek, DO*	*A Rare Case of Moraxella Osloensis and Gemalla Morbillorum Pyogenic Arthritis of the Knee in a Child with Chromosomal 16 & 19 Duplications*
Case	*Joshua Etzel, DO*	*Hartmann's Procedure for Perforated Diverticulitis*
Case	*Cory Kutruff, DO*	*Acute Cholecystitis with Formation of a Choleduodenal Fistula*
Case	*Caroline Lippe, DO*	*Getting This Off My Chest: A Case Report About Mediastinal Germ Cell Tumors*
Case	*George Chachati, MD; Colby Elder, MD; John Brady, DO*	*Full Thickness Esophageal Injury Following Cryoablation Treatment for Atrial Fibrillation*
Case	*John Trangucci, MD; Steven Boehm, DO; Kathryn McCabe, DO*	*Cecal Bascule: an Unusual Cause of Bowel Ischemia*
Case	*Kelly Fening, DO*	*Aggressive Breast Fibromatosis: Case Series and Current Management Options*
Research	*Diana Jodeh, MD*	*Determination of Ethnic Variation in Infant Nasolabial Anthropometry Using 3D Photographs: Implications for Bilateral Cleft Lip Nasal Correction*
Research	*Diana Jodeh, MD*	*Patients With a History of Oronasal Fistula Repair Exhibit Lower Oral Health Measured with Patient Centric Outcomes Measures*
Research	*Diana Jodeh, MD*	*Does the Administration of Steroids in Patients Undergoing Orthognathic Surgery Influence Length of Stay and Postoperative Complications*
Research	*Charlie Yoo, DO; David Phillips, DO; Kalain Workman, DO; Devin Olsen, DO; Alex Shin, DO; Scott King, DO*	*No Difference in Post-Operative Pain and Complications in Spinal vs Laryngeal Mask Airway General Anesthesia in Elective Total Hip Arthroplasty Using Anterior Approach*
Research	*Jordan Bean, DPM*	*Forefoot Amputations and Their Tendancy to Progress to Subsequent Amputations*
Research	*Vanessa A. Hortian, DO, MS, LAc; Yi Wang, MD*	*Pre-Surgical Optimization for High Risk Patients: Follow Up Study Reflecting the Impact on clinical outcomes and the cost of care in a three year contract*

Medical Education Day 2021
Surgical Track - Poster

Type	Author(s)	Title
Research	*Charlie Yoo, DO; Cameron Slane, DO; Robyn Daiber; DO; Tyson Maugle, DO*	*Decreased Readmission Rates for Surgical Site Infection in Minimally Invasive Spine Surgery*
Research	*Kevin Spence, MD Tylee Rickett, MD Charlotte Floria, MD*	*Is Routine Excision of Intraductal Papilloma Always Necessary?*
Research	*Bradley Lazzari, DO*	*Hawkins Wiring for Three Part Fractures of the Proximal Humerus: A Case Series*
Research	*O'Hara Haley, MD*	*Are We Capable of Change? Resident and Attending Physician Opioid Prescribing Patterns for Open vs Minimally Invasive Inguinal Hernia Repairs Throughout the Years*
Topic	*Kristi Dikranis, DO*	*Atypical Presentation of Appendiceal Neuroendocrine Neoplasia*
Topic	*Devin Olsen, DO*	*Unicompartmental Knee Arthroplasty: Literature Review of Current Trends, Indications and Outcomes*
Topic	*Alex Raymond, DO and Inderpreet Singh, DO*	*Ankle Arthritis: Literature Review of Treatment Options*

UPMC Pinnacle

Poster Presentations

Surgical Track

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Jeffrey Chapek D.O.

TITLE: A rare case of Moraxella osloensis and gemalla morbillorum pyogenic arthritis of the knee in a child with chromosomal 16 & 19 duplications.

ABSTRACT

The purpose of this case review study is to describe a rare occurrence of native knee pediatric pyogenic arthritis in a child with rare underlying chromosomal abnormalities. The patient is a nine year old male with a genetic history remarkable for chromosomal 16 and 19 duplications. He presented to UPMC Children's Hospital in Pittsburgh with left knee, visible sinus tract and inability to bear weight. Bedside aspiration was performed by Orthopaedics which yielded a cell count concerning for pyogenic arthritis. Patient was subsequently taken to the operating room for arthroscopic irrigation and debridement with removal of sinus tract. Operative cultures grew Moraxella osloensis and Gemalla morbillorum species and infectious disease as consulted for antibiotic management. Patient was changed from Vancomycin to Cefepime based on operative cultures. Patient had recurrent effusion despite initiation of antibiotic therapy and he required a repeat arthroscopic irrigation and debridement on 9/10/2020. Drain was placed to help facilitate clearance of purulent material from the knee. Weight bearing was initially restricted but patient was quickly able to bear weight as tolerated. Infectious disease team transition patients from parenteral Cefepime to oral Doxycycline and Augmentin. Patient's white blood cell and CRP counts improved, as did his clinical exam, and he was discharged in stable condition on 9/12/2020.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Joshua Etzel, DO

TITLE: Hartmann's procedure for perforated diverticulitis

Introduction

The purpose of this case report is to discuss the surgical options for complicated diverticulitis with a discussion on the need for primary anastamosis vs end colostomy after resection.

Case Description

A sixty one year old male presented to the emergency department with LLQ abdominal pain that started less than 24 hours prior to presentation. His past medical history was significant for hepatitis. He was tachycardic and normotensive. His WBC was 7.1. He had a CT scan of his abdomen and pelvis which showed sigmoid diverticulitis, pneumoperitoneum, and cirrhosis. He was started on IV cefepime and flagyl. He was made NPO. He was fluid resuscitated. He was taken to the operating room for an exploratory laparotomy. He was discovered to have a perforated sigmoid diverticulum with gross contamination of his abdominal cavity. His sigmoid colon was resected and an end colostomy was matured. His post operative course was uncomplicated. His diet was advanced as tolerated after his ostomy began to function.

Discussion

Diverticulitis is a very common diagnosis in the United States with an estimated 195,548 hospital admissions per year.[1] The American Society of Colon and Rectal Surgeons recently published practical guidelines for the management of left sided diverticulitis.[1] In these guidelines the surgcial management options were discussed including options such as a primary anastamosis with a diverting ileostomy vs a hartmann's procedure. This case outlines an instance in which a hostile abdomen required an end colostomy due to the potential complication of an anastamotic leak.

Reference

1 Hall, J., Hardiman, K., Lee, S., Lightner, A., Stocchi, L., Paquette, I. M., Steele, S. R., & Feingold, D. L. (2020). The American Society of Colon and Rectal Surgeons Clinical Practice Guidelines for the Treatment of Left-Sided Colonic Diverticulitis. Diseases of the Colon & Rectum, 63(6), 728–747. https://doi.org/10.1097/dcr.0000000000001679

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Cory Kutruff, DO

TITLE: Acute Cholecystitis with formation of a choleduodenal fistula

ABSTRACT

Introduction
This case report discusses a case of acute cholecystitis with formation of a choleduodenal fistula that was able to be surgically corrected with utilization of the robot and its adjuncts.

Case Description
A 65 year old female with COPD on home oxygen who presented to an outside hospital in March 2020 and from her account was sent home because the COVID pandemic had shut everything down with acute cholecystitis. She remained on antibiotics as an outpatient and after preoperative optimization was scheduled for a Robotic Cholecystectomy. During the surgery, the gallbladder was noted to be severely inflamed. The duodenum was noted to be adhered to the gallbladder and was taken down with sharp dissection. There was mucosa that was on the gallbladder which had the appearance of a fistula between the gallbladder and duodenum. A stitch was placed on the duodenum as a marker for location. The gallbladder was then removed in the normal fashion with the aid of ICG giving us visualization of the ductal system. After the Gallbladder was removed from the liver bed, ICG was used again and it was noted that bile was spilling from our marked portion on the duodenum. We used a 3-0 silk in a Lembert fashion to oversew the defect in the duodenum. An intraoperative EGD was performed to assess for a leak which was negative. The patient underwent an UGI on postoperative day 2 which showed no evidence of leak.

Discussion
This difficult case was performed using the robot and its adjuncts. It would have been difficult to complete this case laparoscopically with a low threshold of converting to an open procedure. This would have led to a longer post-operative course with the possibility of prolonged intubation given the patient's respiratory status.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Caroline E. Lippe, DO

TITLE: Getting This Off My Chest: A Case Report About Mediastinal Germ Cell Tumors

ABSTRACT

Primary malignant mediastinal germ cell tumors (PMMGCT) are exceedingly rare, accounting for 1-2% of germ cell tumors. The objective of this case report is to highlight the severity of such tumors and its unique characteristics. A 33-year-old male presented to a community emergency department with flu-like symptoms and hemoptysis continuously for one month. Work-up noted a large anterior mediastinal mass with erosion into the sternum. Biopsy revealed a non-seminomatous germ cell tumor, with primary malignant origin in the mediastinum. Chemotherapy was initiated, which the patient has tolerated well during his first few rounds of treatment.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHORS(S): George Chachati MD, Colby Elder MD, John Brady DO

TITLE: Full thickness Esophageal injury following cryoablation treatment for atrial fibrillation

ABSTRACT

D.B. is a 72 year old male with past medical history of Persistent Atrial fibrillation, chronic systolic heart failure, and hypertension. Patient presented to Harrisburg hospital for cryoablation of atrial fibrillation on 8/7 with Dr. Link. Cryoablation of the pulmonary veins and posterior wall was isolated and ablated. The following day on 8/8 patient began complaining of acute onset pleuritic chest pain and hematemesis. Concern for injury to the lung and or esophagus was considered and a thoracic surgery consult was placed. On 8/10 the patient under an esophagram which was unremarkable. Patient had continued symptoms at which time Dr. Brady conducted bronchoscopy which was unremarkable as well as EGD which showed mid esophagus full thickness injury. At this time a stent was placed over the ulceration. The patient's hematemesis progressively decreased and the stent was removed on 8/24. This case report provides a unique complication of cryoablation leading to an esophageal injury and can provide a learning lesson for future cryoablations.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): John Trangucci MD, Steven Boehm DO, Kathryn McCabe DO

TITLE: Cecal Bascule: An Unusual Cause of Bowel Ischemia

ABSTRACT

Cecal bascule is a rare form of colonic volvulus where the cecum folds anterior to the right colon creating a large bowel obstruction. Symptoms include abdominal pain, distension, nausea and vomiting. Patients can progress to ischemia, gangrenous bowel and perforation. Treatment for cecal bascules is typically a right colectomy.

We present the case of a 36 year old female with end stage renal disease who underwent a renal transplant. Her postoperative course was complicated by cardiac arrest and mesenteric ischemia secondary to a cecal bascule. She was taken emergently to the operating room and a right colectomy with end ileostomy was performed.

We will discuss the presentation, diagnostic workup and treatment as well as the unique presentation of cecal bascule causing ischemia.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Kelly Fening, DO

TITLE: Aggressive Breast Fibromatosis: Case series and Current Management Options

ABSTRACT

Breast fibromatosis, also referred to as aggressive fibromatosis, desmoid tumor, or low-grade fibrosarcoma, is a rare, benign, and non-metastasizing tumor. This lesion is locally aggressive and has a high recurrence rate. It typically affects middle age women and has a clinical and radiographic appearance that is concerning for carcinoma. This case series describes five patients with breast fibromatosis who underwent treatment with surgical excision. Recurrence occurred in two of these patients, requiring additional surgical excision. Current management options for breast fibromatosis are reviewed.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Diana Jodeh, MD

TITLE: Determination of Ethnic Variation in Infant Nasolabial Anthropometry Using 3D Photographs: Implications for Bilateral Cleft Lip Nasal Correction

ABSTRACT

Purpose
The goal of a synchronous bilateral cleft lip/nasal correction is to achieve normal dimensions and growth of the nasolabial subunits. Mulliken demonstrated that to achieve normal adult proportions, these nasolabial subunits must be over or under corrected based on their future growth trajectory. The proportions utilized in his prescribed operation were derived from normative anthropometric data published by Farkas et al. This data represents normative anthropometric measurements of Caucasian children. We aimed to assess if infants' nasolabial anthropometry exhibited significant ethnic variabilities, which would motivate variations in surgical correction. Specifically, we sought to investigate whether a long columella is a Caucasian feature; therefore, accepting a short columella and/or delayed columella lengthening as a suitable strategy for reconstruction in ethnic patients.

Methods
33 infants without craniofacial pathology [10 African American (AA); 7 Hispanic (H); and 16 Caucasians (C)], ages 3 to 8 months, presenting to the Johns Hopkins All Children's general pediatric clinic were recruited. 4 separate 3D photographs (2 submental views and 2 frontal views) were taken using the Vectra H1 handheld camera. Each single stereoimage was used to construct a separate 3D facial surface. Eighteen linear facial distances were measured using Mirror 3D analysis (Canfield Imaging Systems). ANOVA coefficients with the Bonferroni/Dun post hoc comparisons, at alpha = .05, was used to measure significant differences between ethnic groups. Pearson correlation was used to determine intra and interrater reliability. All statistical analyses were carried out using SPSS version 21.0, with statistical significance set at $p<0.05$.

Results
Significant differences were seen between ethnic groups in nasal width [sbal-sbal (C-AA; p=0.02); ac-ac (C-AA; p=0.00; H-AA; p=0.04) and al-al (C-AA; p=0.00 H-AA; p=0.001)], as well as labial
length [sn-ls (C-AA; p= 0.041); sn-sto (C-AA; p=0.005) Cphs-Cphi L (C-AA; p=0.013); Cphs-Cphi R (C-AA; p=0.015]. African American infants exhibited wider noses and longer lips, while Hispanic infants represented intermediate values between Caucasian and African American infants. Nasal projection (snprn) (p=0.974) and columella length (sn-c) (p=0.99) did not differ significantly between groups.

Conclusions
Significant differences were noted between nasolabial anthropometry for African American and Caucasian infants. Nasal width and lip length were greater in African American patients, demonstrating that slightly wider intra-alar distances may be tolerated in ethnic patients. However, no difference was noted in nasal projection or columella length, indicating that these structures should be corrected during the primary cleft lip and nasal repair for all patients and should not be deferred to secondary correction. Additionally, as much lip length should be preserved for all patients.

Table 1. Average measurements (in mm) of facial landmarks between different ethnic groups

Ethnicity	Black	Hispanic	White
Sbal-Sbal	17.34	14.54	14.54
Ac-Ac	24.81	20.72	20.54
Al-Al	29.33	25.12	24.02
Cphs-Cphs	4.85	4.71	4.84
Cphi-Cphi	7.78	6.46	5.61
Sn-Ls	12.69	10.19	11.74
Sn-Sto	16.50	13.68	14.61
Ls-Sto	5.69	4.71	4.22
Cphs-Cphi L	12.03	9.80	11.66
Cphs-Cphi R	12.08	9.79	11.47
Chel-Cphi L	18.61	18.46	18.68
Chel-Cphi R	19.05	17.33	17.62
En-En	27.76	27.32	25.56
Ex-Ex	67.97	63.95	62.99
N-Sn	25.89	26.32	25.23
C-Prn	6.65	6.28	6.87
Sn-Prn	12.07	11.40	11.37
Sn-C	5.50	4.78	4.96

Table 2. One Way ANOVA of frontal view facial landmarks of different ethnic groups

Sbal-Sbal	4.16	0.025
Ac-Ac	12.12	0.00
Al-Al	27.8	0.00
Cphs-Cphs	2.17	0.132
Cphi- Cphi	2.13	0.136
Sn-Ls	3.72	0.036
Sn-Sto	6.4	0.005
Ls-Sto	1.69	0.202
Cphs-Cphi L	5.13	0.012
Cphs-Cphi R	5	0.013
Ch-Cphi L	1.5	0.24
Ch-Cphi R	4.4	0.21
En-En	1.85	0.175
Ex-Ex	4.86	0.015
N-Sn	3.01	0.064
C-Prn	0.06	0.941
Sn-Prn	0.03	0.974
Sn-C	0.01	0.99

Table 3. Post Hoc Bonferroni comparing facial measurements between different ethnic groups

		Sbal-Sbal	Ac-Ac	Al-Al	Sn-Ls	Sn-Sto	Cphs-Cphi L	Cphs-Cphi R	Ex-Ex
White	Black	0.022	0	0	0.041	0.005	0.013	0.015	0.014
	Hispanic	0.871	0.274	0.052	1	1	1	1	1
Black	White	0.022	0	0	0.041	0.005	0.013	0.015	0.014
	Hispanic	0.44	0.04	0.001	0.162	0.054	0.083	0.075	0.14
Hispanic	White	0.871	0.274	0.052	1	1	1	1	1
	Black	0.44	0.04	0.001	0.162	0.054	0.083	0.075	0.14

Figure 1. Intraoperative images during cleft lip and nasal correction demonstrate the value of primary nasal repair at the time of chelioplasty. On table images following lip assembly but prior to nasal repair demonstrate the secondary deformity of the nose that results if nasal correction is deferred.

A. Preoperative nasolabial confirmation following dentofacial orthopedics with a Latham elastic chain premaxillary retraction device (ECPR). B. Intraoperative images following chelioplasty but prior to nasal correction demonstrated the lack of collumellar length and most importantly, nasal tip projection. C. On table images demonstrate improved collumelar length and nasal projection following nasal repair. D. Anterior-posterior and E. Submental views obtained 6 months after surgery with maintenance of nasal tip projection and columellar length.

Figure 2. A. Frontal view of facial image taken with the Vectra H1 three-dimensional (3D) portable camera. Measurements included ch-cphi L, ch-cphi R, n-sn, sbal-sbal, ac-ac, al-al, sn-prn, sn-c, c-prn, cphs-cphs, cphi- cphi, cphs-cphi L, cphs-cphi R, sn-ls, sn-sto, ls-sto, en-en and ex-ex. B. Submental view of facial image taken with the Vectra H1 three-dimensional (3D) portable camera. Measurements included ch-cphi L, ch-cphi R, n-sn, sbal-sbal, ac-ac, al-al, sn-prn, sn-c, c-prn, cphs-cphs, cphi- cphi, cphs-cphi L, cphs-cphi R, sn-ls, sn-sto, ls-sto, en-en and ex-ex.

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MEDICAL EDUCATION DAY – ABSTRACT SUBMISSION FORM

PRIMARY AUTHOR(S): Diana Jodeh, MD

TITLE: Patients with a history of oronasal fistula repair exhibit lower oral health measured with patientcentric outcomes measures

ABSTRACT

Introduction
Oronasal fistulae following palatoplasty may affect patients' quality of life by impacting their ability to eat, speak, and maintain oral hygiene. We aimed to quantify the impact of previous oronasal fistula repair on patients' quality of life using patient-reported outcome psychometric tools.

Methods
A cross-sectional study of 7-19-year-old patients with CP ± L was completed. Patients who had a cleft team clinic between September 2018- August 2019 were recruited. Participants were divided into two groups (no fistula,prior fistula repair). Differences in the individual CLEFT-Q and COHIP-SF 19 Oral Health scores between the two groups were evaluated using a multivariate analysis controlling for Veau classification and syndromic diagnosis.

Result
Sixty patients with a history of cleft palate were included. Forty-two (70%) patients had an associated cleft lip. Thirty-two patients had no history of fistula (53.3%) and twenty-eight patients had undergone a fistula repair (46.7%). CLEFT-Q Dental, Jaw and Speech Function were all higher in patients without a history of a fistula repair, however, none of these differences were statistically significant. The COHIP-SF 19 Oral Health score demonstrated a significantly lower score in the fistula group, indicating poorer oral health ($p= 0.05$).

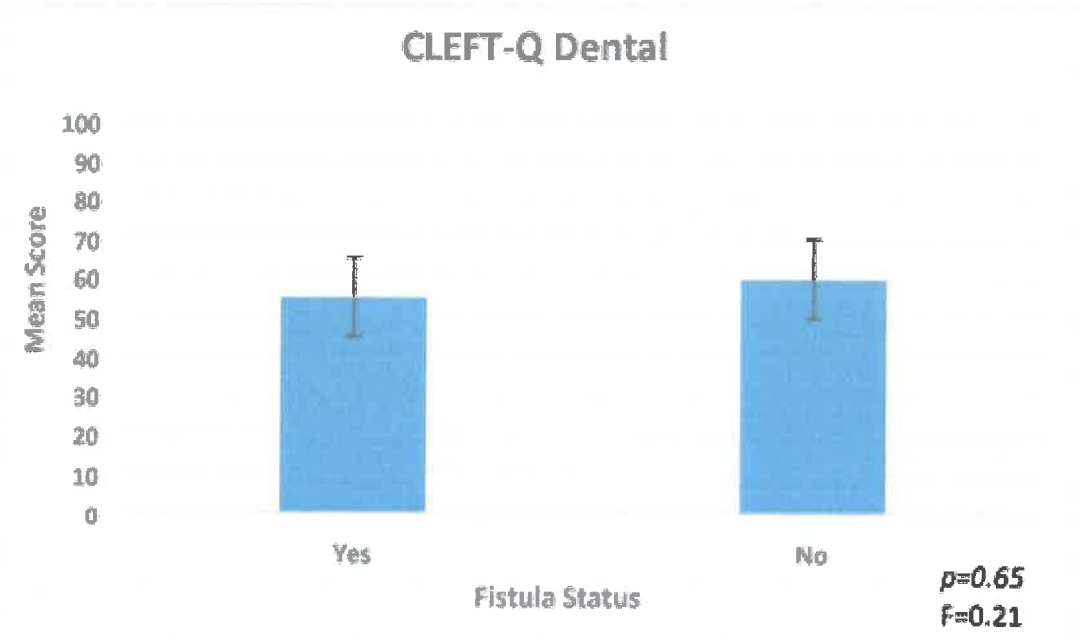
Conclusions
One would expect that successful repair of a fistula would result in improved function and patient satisfaction, but the consistent trend toward lower CLEFT-Q scores and significantly increased COHIP-SF 19 Oral Health scores in our study group suggests that residual effects linger and that the morbidity of a fistula may not be completely treated with a secondary correction.

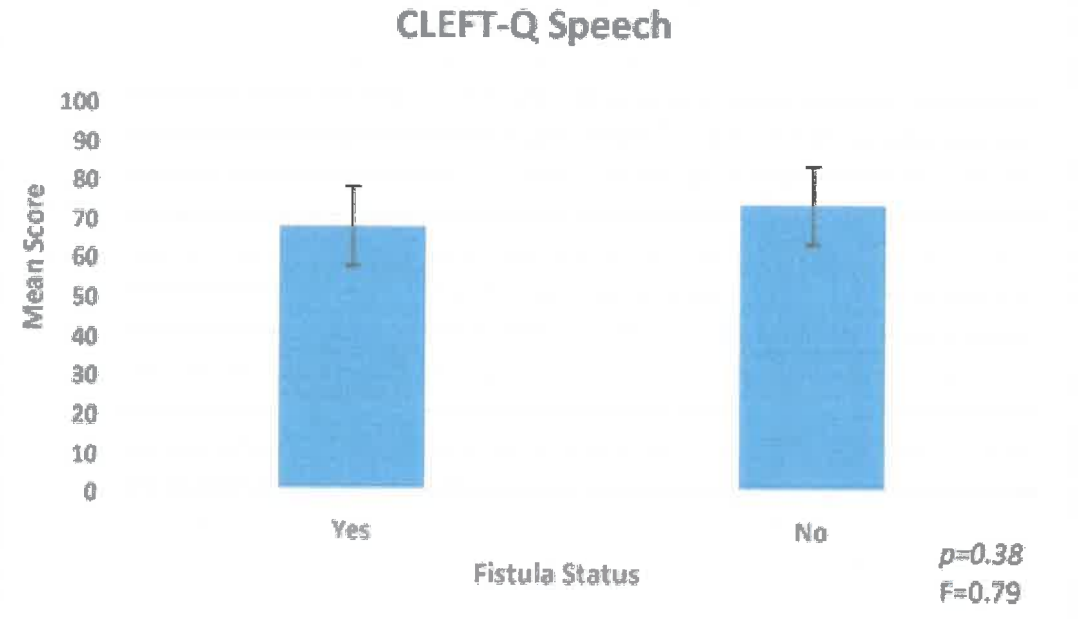
Table 1. Patient demographic and clinical characteristics overall and stratified by Veau classification

Table 1.

Variables	Total N=60	Fistula Status Yes, N=28	Fistula Status No, N=32
Continuous	**Mean (Range)**	**Mean (Range)**	**Mean (Range)**
Age, years	11.8 (8-19)	12.78 (8-19)	10.9 (8-17)
Categorical	**N (%)**	**N (%)**	**N (%)**
Gender			
Female	27 (45)	11 (39)	16 (50)
Male	33 (55)	17 (61)	16 (50)
Race			
Black	7 (11.6)	3 (10.71)	4 (12.5)
Asian	9 (15)	5 (17.85)	4 (12.5)
Hispanic	11 (18.3)	5 (17.85)	6 (18.75)
Unknown	1 (1.66)	1 (3.57)	0 (0)
White	32 (53)	14 (50)	18 (56.25)
Cleft Type			
Isolated Cleft Palate	18 (30)	3 (10.71)	15 (46.8)
Cleft lip and palate	42 (70)	25 (89.2)	17 (53.12)
Cleft Severity			
Veau 1	6 (10)	0 (0)	6 (18.75)
Veau 2	12 (20)	3 (10.71)	9 (28.13)
Veau 3	28 (46.6)	15 (53.5)	13 (40.06)
Veau 4	14 (23.3)	10 (35.57)	4 (12.25)

Figure 1A-1E. Scores for CLEFT-Q Dental (No-fistula 59.6 vs. fistula repaired 54.89), Jaw (No fistula 78.68 vs. fistula repaired 73.07) and Speech Function (No fistula 72.58 vs. fistula repaired 67.12) were all higher in patients without a history of a fistula repair, however, none of these differences were statistically significant (Figure 1A-C). The Cleft-Q eating and drinking scores (No fistula 30.86 vs. fistula repaired 30.89) were comparable between patients with a previous fistula repair and those without. The difference was also not statistically significant (Figure 1D). The COHIP-SF 19 Oral Health score (No fistula 5.8 vs. fistula repaired 8.07) demonstrated a significant difference, indicating patients with a history of fistula repair had poorer oral health (p= 0.05) (Figure 1E).





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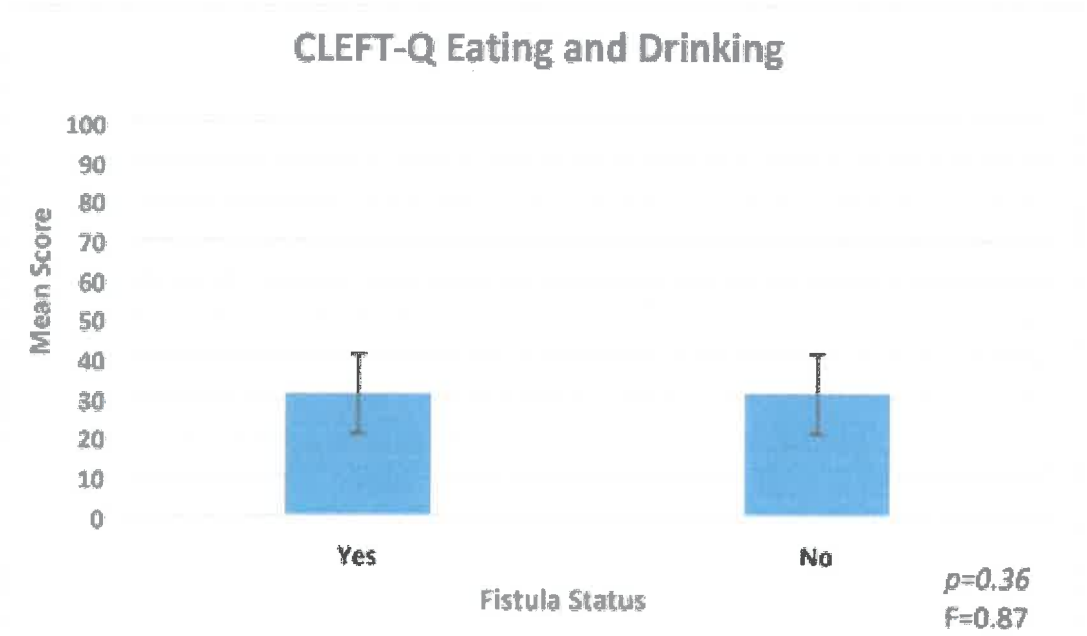

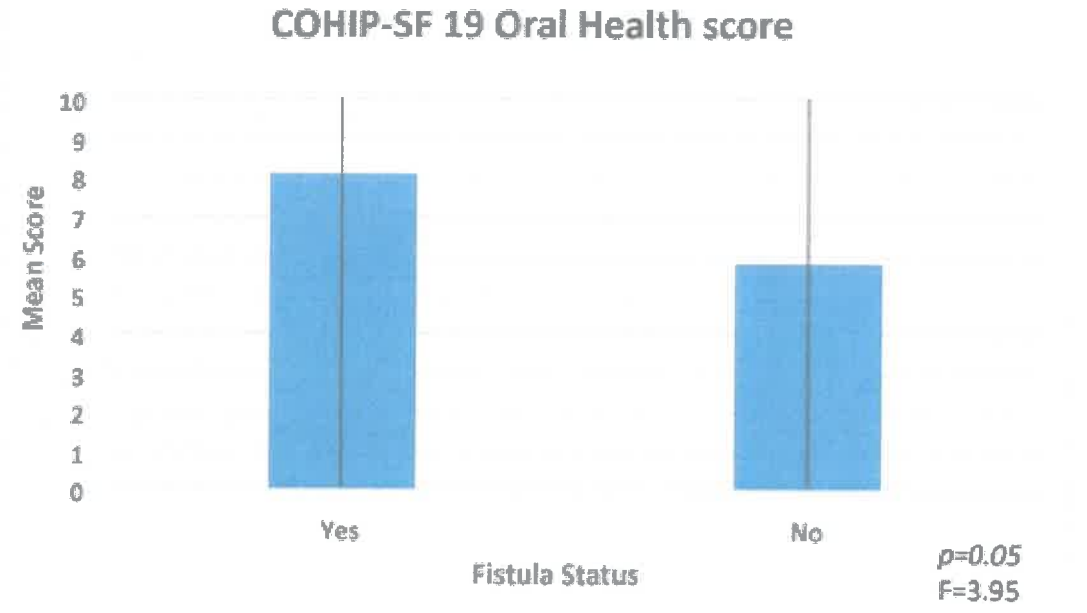

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Diana Jodeh, MD

TITLE: Does the administration of steroids in patients undergoing orthognathic surgery influence length of stay and postoperative complications?

ABSTRACT

Purpose
The purpose of this study is to examine the association of steroid use during orthognathic surgery and postoperative outcomes including major complications, 90-day all-cause readmission, and postoperative length of stay.

Methods
A retrospective review was implemented utilizing the Pediatric Health Information System (PHIS) database from 2004 to 2014 was undertaken. Steroid exposure was defined as having been billed for the generic drug code for Dexamethasone (154035) at any time for up to 7 days from the surgery date. Unadjusted and adjusted random-intercept logistic regression models were utilized to assess the association between steroid exposure and these outcomes.

Results
The sample included 5194 patients, 54% of patients were exposed to steroids, with 20.16 % exposed only on the day of surgery, 27.76% on the day of surgery and after, and 6.22% after the day of surgery. In models adjusting for age, sex, race, procedure, and hospital variation, the odds-ratio of steroid exposure was 3.40 (95% CI= 2.93-3.96) for an increased length of stay, 1.04 (95% CI=0.8-1.35) for major complications and 1.19 (95% CI=0.95-1.50) for 90-day all-cause readmission.

Conclusion
The administration of steroids in patients undergoing orthognathic surgery is significantly associated with increased odds of length of stay. This may be due to a large set of patients receiving steroids during orthognathic procedure are less healthy than those not selected to receive steroids, and thereby require an increased length of stay. The limitations of large, administrative databases do not allow determination of this, but future prospective study is warranted.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Charlie Yoo, DO; David Phillips, DO; Kalain Workman, DO; Devin Olsen, DO; Alex Shin, DO; Scott King, DO

TITLE: No difference in post-operative pain and complications in spinal vs laryngeal mask airway general anesthesia in elective total hip arthroplasty using anterior approach

ABSTRACT

Stated Purpose

To evaluate if there is a difference in post-operative narcotic usage for patients undergoing primary anterior total hip arthroplasty with spinal or without spinal.

Methods

Retrospective case control study of elective total hip arthroplasty using anterior approach comparing spinal anesthesia vs general anesthesia using laryngeal mask airway from July 1st 2014 to June 30th 2019 at UPMC Pinnacle. We will be primarily using study materials from patient charts. Primary outcomes measured will include post-operative pain levels and daily MME. Additionally, secondary outcome measures including in-hospital complications, length of hospital stay, transfer to ICU, 7 day readmission, 30 day readmission, patient operative time (moment patient enters OR to PACU), patient setup time (moment patient enters operating room to incision), adverse complications of anesthesia (hypotensive episodes, etc), amount of paralytic drug use by anesthesia, amount of sedative used by anesthesia, estimated blood loss, blood transfusions, patient disposition (acute, subacute, home with home health, home), and others.

Summary

There was no significant difference in post-operative narcotic usage between patients who were undergoing primary anterior total hip arthroplasty with spinal or without. There was a significant increase in daily MME for patients undergoing general anesthesia without spinal compared to with spinal however it did not change the length of stay, patient disposition, or complications within the hospital stay.

Conclusion

There is no difference in post-operative pain or narcotic usage in primary anterior total hip arthroplasty between patients who undergo spinal anesthesia and general anesthesia.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Jordan Bean, DPM

TITLE: Forefoot Amputations and Their Tendency to Progress to Subsequent Amputations

ABSTRACT

Introduction
Surgical literature has not compared amputation of first ray versus fifth ray versus multiple rays. There is also no study of outcomes comparing retention or resection of articular cartilage in amputations.

Hypothesis
We predict that first ray amputations and removal of cartilage will be more likely to have subsequent amputations than fifth ray amputations and resection of cartilage.

Study Design
This is a multi-center retrospective cohort study including all patients who underwent amputation of the forefoot at UPMC Pinnacle legacy hospitals in Harrisburg, PA from October 1, 2016 to October 1, 2019, with a minimum follow up of one year.

Methods
This study identifies patients with subsequent amputations after undergoing a digital or partial ray amputation using electronic health records at UMPC Pinnacle legacy hospitals. The study compares the subsequent amputation rate between the patients of first ray amputation and lesser ray amputation. It also evaluates the variables that potentially correlate with the subsequent amputations including presence or absence of remaining articular cartilage, demographic variables, risk factors, comorbidities and clinical outcomes. Chi-square test and student's ttest are applied to determine the statistically significant difference between the groups. A logistic regression model is used to identify variables that correlate significantly with subsequent amputations. All the analyses are done using SAS 9.4 (SAS Institute, Cary, NC).

Results/Conclusions
Removal of articular cartilage, having multiple rays amputated at once and longer length of stay were predictive of subsequent amputation. We found no statistical significance between subsequent amputation and other demographics, vital signs and labs on admission. Outcomes following amputations appear to be multifactorial, although indications for amputation of multiple rays may suggest worse outcome. If local tissue viability is present, it may be advisable to leave articular cartilage intact when performing amputations at the level of the joint.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Vanessa A. Hortian, DO, MS, LAc; Yi Wang, MD, PhD

TITLE: Pre-Surgical Optimization for High Risk Patients: Follow-Up Study Reflecting the Impact on Clinical Outcomes and the Cost of Care in a Three-Year Cohort

ABSTRACT

Surgical patients with multiple comorbidities are at increased risk for post-operative complications, increased hospital length of stay, and higher re-admission rates. These clinical outcomes impact patient's quality of life and healthcare resource utilization. Prior studies have identified interventions that improve clinical outcomes in high risk patients. These studies have focused primarily on single interventions. We aimed to combine multiple previously studied interventions to optimize high risk patients in the pre-operative setting to improve post-operative outcomes.

In August of 2016, UPMC Pinnacle created a Surgery Optimization Clinic designed to receive referrals for high risk surgical patients. Reasons for referral included modifiable surgical risk factors such as obesity, smoking cessation, and poorly controlled diabetes. This clinic provided comprehensive, preoperative evaluation, counseling, and medical treatment to optimize these patients' risk factors.

In this retrospective analysis, we evaluated three years of data comparing the outcomes of the overall surgical population at UPMC Pinnacle to surgery optimization clinic patients. Surgeon participation and referral were voluntary and included general surgery, colorectal, and orthopedic surgical patients.

Primary outcomes included length of stay, 7-day readmission, 30-day readmission, and post-operative complication rate as identified by ICD-10 codes. The optimization clinic cohort had more risk factors than the general surgical population and is expected to have longer length of stay, as well as higher readmission and complication rates. Results will be compared with previous data from a one year retrospective analysis to determine the impact of the optimization clinic in improving clinical outcomes and decreasing cost of care, which will inform expansion of existing and implementation of similar programs at other health systems.

UPMC

MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Charlie Yoo D.O., Cameron Slane D.O., Robyn Daiber D.O., Tyson Maugle D.O.

TITLE: Decreased readmission rates for surgical site infection in minimally invasive spine surgery

ABSTRACT

Study Design
A retrospective study at community-based teaching hospital.

Objective
The objective of this study was to determine the rates and factors associated with readmission within 30 days of minimally invasive versus non-minimally invasive spine surgery at a community hospital.

Methods
This study is a retrospective review of patient and administrative records, identifying rates of readmission in patients undergoing spine surgery. Patients were stratified into groups based on whether their spine surgery was minimally invasive or non-minimally invasive. Data from each group was analyzed using multiple logistic regression analysis and factors contributing to readmission such as pain, infection, bleeding, and other post-operative complications were examined.

Results
We predict that patients who undergo minimally invasive spine surgery will have lower 30-day readmission rates compared to patients who undergo non-minimally invasive spine surgery.

Conclusion
There is decreased 30 day readmissions for surgical site infection for minimally invasive spine surgery compared to non-minimally invasive spine surgery. However, there will be no difference in readmissions for pain, bleeding and other post-operative complications.

UPMC

MEDICAL EDUCATION DAY – ABSTRACT SUBMISSION FORM

PRIMARY AUTHOR(S): Kevin Spence, MD; Tylee Rickett, MD; Charlotte Floria, MD

TITLE: Is Routine Excision of Intraductal Papilloma Always Necessary?

ABSTRACT

Hypothesis
Intraductal Papillomas that are diagnosed on core biopsy are currently routinely excised at UPMC Pinnacle Legacy hospitals, the majority of which show benign pathology on excision. By pre-operatively selecting factors that predict benign pathology, many patients can be saved an unnecessary operation.

Methods
A retrospective chart review over 5 years of patient with a diagnosis of intraductal papilloma from core needle biopsy with subsequent excisions performed at the UPMC Pinnacle Legacy Hospitals. The intraductal papillomas (IP's) will be categorized based on their tissue pathology after excision.

Results
Analysis of rate of upstaging to high risk lesions, cancer (both in-situ and invasive), and invasive cancer. Analysis of pre-operative factors that will predict benign pathology.

Conclusion
Routine excision is not necessary. An individualized approach to each patient with an intraductal papilloma can be utilized to avoid unnecessary surgery.

Future implications
A shared decision approach will be utilized using patient, radiological, and pathological characteristics to predict final pathology and allow an individualized approach.

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MEDICAL EDUCATION DAY – ABSTRACT SUBMISSION FORM

PRIMARY AUTHOR(S): Bradley Lazzari, DO

TITLE: Hawkins Wiring for Three-Part Fractures of the Proximal Humerus: A Case Series

ABSTRACT

Hypothesis
To determine the efficacy Hawkins wiring compared to other operative and non-operative treatments in the treatment of three-part fractures of the proximal humerus.

Background
Proximal humerus fractures are the third most common fracture seen in the elderly. Eighty-five percent of proximal humerus fractures are minimally displaced and can be treated non-operatively with immobilization and exercises to increase function. However, displaced fractures commonly result in severe loss of function of the shoulder. Controversy still exists regarding the optimal treatment of displaced proximal humerus fractures, especially the three-part fracture. Open reduction with plates and screws or arthroplasty frequently require extensive operative time with less than ideal results. Hawkins wiring is a technique that uses figure-of-eight tension band wiring to treat three-part proximal humerus fractures. It was popularized by Hawkins et al in 1986 in a study which showed satisfactory results in 14 patients. The literature lacks in analysis of patient outcomes for this technique since the index study was performed. The purpose of this case series is to evaluate functional outcomes in a small cohort treated with this technique.

Methods
5 patients will be contacted to conduct the DASH questionnaire to evaluate functional status. Patients will be asked to come back for a final visit. At this time strength, range of motion (forward flexion, lateral elevation, internal rotation, external rotation) will be measured. Final radiographs will be obtained to evaluate fracture healing.

Results
Patient demographics, injury characteristics, associated injuries, and comorbidities will be recorded. Complications from surgery will be evaluated and reported. Average DASH scores, range of motion, and strength measurements will be calculated.

Conclusion
Results will help guide future research and assist in determining the efficacy of this technique compared to other operative and non-operative treatments.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): O'Hara Haley MD

TITLE: Are We Capable of Change? Resident and Attending Physician Opioid Prescribing Patterns for Open vs. Minimally Invasive Inguinal Hernia Repairs Throughout the Years.

ABSTRACT

Inguinal hernia repair remains one of the most commonly performed general surgery procedures. Minimally invasive (robotic and laparoscopic) repairs have been shown to lead to less early post-operative pain when compared to an open approach. Unfortunately, a previous study out of our institution demonstrated that our patients did not receive a significantly different amount of prescribed narcotics despite undergoing an approach known to cause less pain. This has potentially dangerous consequences as overprescribing of narcotics allows for misuse, abuse, and even death in the community.

In this study we plan to retrospectively review the opioid prescriptions given for inguinal hernia repairs at our institution to discern if there were any significant changes since our previously presented data. Our hope is that after bringing to light the nonsensically equivalent opioid amounts prescribed for open vs. minimally invasive hernia repairs, our surgeons will have made a meaningful change in how they prescribe. We expect to see an overall decrease in the amount of opioids prescribed since April 2019, as quantified by morphine milligram equivalents, and anticipate a greater decrease in prescriptions for the minimally invasive repairs.

We also aim to evaluate who has more impact on the amount of narcotics a patient is prescribed; the attending of record or the resident physician involved with the case. We hypothesize that the resident physician scrubbed into the case has a greater impact on the amount of prescribed narcotics and as such would benefit from education about the harmful effects of overprescribing and the importance of mindful prescribing habits early in his or her career.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Kristi Dikranis, DO

TITLE: Atypical Presentation of Appendiceal Neuroendocrine Neoplasia

ABSTRACT

Gastrointestinal neuroendocrine tumors have an incidence of 2-5/100,000, appendiceal neuroendocrine tumors being the most common. Diagnosis is typically in the 2nd and 3rd decades of life. The most common presentation is that of acute appendicitis. A simple appendectomy is usually curative in patients with appendiceal neuroendocrine tumors < 1cm without lymphovascular invasion. A right hemicolectomy is indicated in tumors larger than 2 cm, located at the base, with mesoappendix, vascular, or perineural infiltration. The aim of this topic discussion is to inform and provide evidentiary support of a less common presentation of neuroendocrine neoplasia of the appendix.

Our patient is a 31 year old female with history of GERD and anemia who presented to the ED with two days of right lower quadrant pain associated with nausea, decreased appetite and decreased bowel movements. WBC was elevated to 11.8, and CT showed small bowel obstruction with abnormality of the terminal ileum. The patient was ultimately taken to the operating room for a diagnostic laparoscopy which revealed a large hard mass on the lateral aspect of the terminal ileum for which she underwent an extended right hemicolectomy. Final pathology was consistent with a well-differentiated neuroendocrine tumor of the appendix with negative margins, no perineural invasion, and 4 of 24 lymph nodes positive, consistent with a pT4N1M0 malignancy. Oncology recommended surveillance with imaging and tumor markers (chromogranin A, 5 HIAA) every 3-6 months.

This case study highlights the importance of identifying potential neuroendocrine malignancy in an SBO presentation. Furthermore, it emphasizes recognizing the need for a more extensive operative intervention based on tumor size indicated in preoperative imaging once the suspicion for a neuroendocrine etiology has been raised. In conclusion, GI neuroendocrine neoplasia should be well within the differential when encountering a patient with obstruction secondary to a small bowel mass lesion.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Devin Olsen, D.O.

TITLE: Unicompartmental Knee Arthroplasty: Literature Review of Current Trends, Indications and Outcomes

ABSTRACT

Purpose
To perform a literature review of current trends, indications, and outcomes of unicompartmental knee arthroplasty (UKA).

Background
The annual number of primary total knee arthroplasties (TKAs) being performed in the U.S. is projected to continue to grow substantially, which also demonstrates the importance of surgical alternatives to TKA. Alternatives to TKA include high tibial osteotomy and UKA. Unicompartmental knee arthroplasty is being performed more often because it offers a faster recovery, improved function, greater patient satisfaction and decreased incidence of complications as compared to TKA. Historically the indications for UKA were fairly narrow, and included age > 60 years, weight <82 kg, isolated medial compartment arthritis, no lateral joint line tenderness, flexion contracture <5°, varus deformity <5°, intact ACL, noninflammatory arthritis, and range of motion >90°. However, these indications are being challenged with more recent data. There are multiple studies showing excellent 10-year survival rates following UKA.

Summary
There is a growing need for alternatives to total knee arthroplasty, and adult reconstruction surgeons should be familiar with those techniques and their indications. Unicompartmental knee arthroplasty can be a great alternative to TKA if done correctly and in the properly selected patient. The purpose of this study is to review the current literature, focusing on the expanding indications and clinical outcomes of UKA.

Conclusions
More UKAs are being performed as surgeon familiarity is increasing and indications are expanding. Unicompartmental knee arthroplasty has been shown to have a faster recovery, improved function, greater patient satisfaction and lower rates of complications versus TKA, and excellent revision-free survival rates.

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MEDICAL EDUCATION DAY – APRIL 8, 2021

PRIMARY AUTHOR(S): Alex Raymond, DO and Inderpreet Singh, DO

TITLE: Ankle Arthritis: Literature Review of Treatment Options

ABSTRACT

Purpose
To review the wide spectrum of treatments of ankle arthritis including non-operative and operative treatments.

Background
Tibiotalar degeneration as a result of primary osteoarthritis is an uncommon occurrence but is rather more common as post-traumatic sequelae. Post-traumatic etiology is responsible for more than two-thirds of occurrences of ankle arthritis.

Understanding malalignment of the load-bearing mechanism of the ankle joint due to trauma is imperative In designing modes of treatment. The disabling nature of ankle arthritis often requires treatment with several non-operative modalities such as activity modifications, anti-inflammatory medications, and bracing to immobilize the ankle. Failure of non-surgical treatment of radiographic tibiotalar degeneration often necessitates operative treatment. Treatment of choice is typically either total ankle arthroplasty or ankle arthrodesis but delineating the choice between these modalities requires individualized optimization of intrinsic and extrinsic factors.

Summary
End stage ankle arthritis can be effectively managed in some patients without surgical intervention. In those that fail nonsurgical options, arthrodesis or arthroplasty are the gold standard of treatment. Patient specific factors such as medical comorbidities, age, and activity level influence this decision. Once operative treatment is decided on, there are numerous techniques, both open and minimally invasive, to be considered. Given the complex pathology, there is no uniform treatment algorithm to ensure optimal patient specific results.

Conclusion
In patients with end-stage ankle arthritis, the literature supports both nonsurgical and surgical treatment options depending on patient specific cofactors.