March 13, 2021

Student Poster Competition

10:05-11:00am

Time remaining: 0:00

A Severe Case of Recurrent Endocarditis After Failure of Medical Management

Reed Gioe, MD; Fallon Anzalone, MS3; Perry White Mitchell, MD

• Introduction

Infective endocarditis (IE) remains a significant cause of morbidity and mortality in the United States whose incidence is increasing due to the opioid epidemic. There is currently significant controversy surrounding the management of IE in patients who have indications for surgery but are not surgical candidates.

Case

Our patient is a 34-year-old female with a past medical history of intravenous opioid use who presented with a 4-day history of fever, chills, shortness of breath, vomiting, and abdominal pain. She was diagnosed with MSSA endocarditis with a large vegetation on her mitral valve. The patient was evaluated by cardiothoracic surgery who determined she was not a surgical candidate due to active IV drug use. She was discharged to an LTAC to complete an 8-week course of IV nafcillin.

4 months after completing her course of IV antibiotics, the patient re-presented to the ED with a 5-day history of worsening generalized weakness, fatigue, diarrhea, and urinary and fecal incontinence. Physical exam revealed painful purpuric papules and bullae to her tongue, bilateral hands, and left 4th toe. Blood cultures grew MSSA. Bedside echocardiogram demonstrated a tricuspid valve vegetation, a patent foramen ovale with a vegetation in the caudal portion, and severe mitral regurgitation. Imaging revealed multiple septic emboli with abscess formation in the brain, lungs, liver, kidneys, and spleen as well as bilateral sacroiliac & coccyx synovitis with a small coccygeal abscess. The patient was evaluated by neurosurgery and cardiothoracic surgery who determined she was not a surgical candidate due to severity of disease. The plan was to treat her medically with another 8-week course of IV nafcillin per IDSA guidelines. Unfortunately, 2 days after she was discharged to an LTAC the patient passed away due to complications of her endocarditis.

• Images

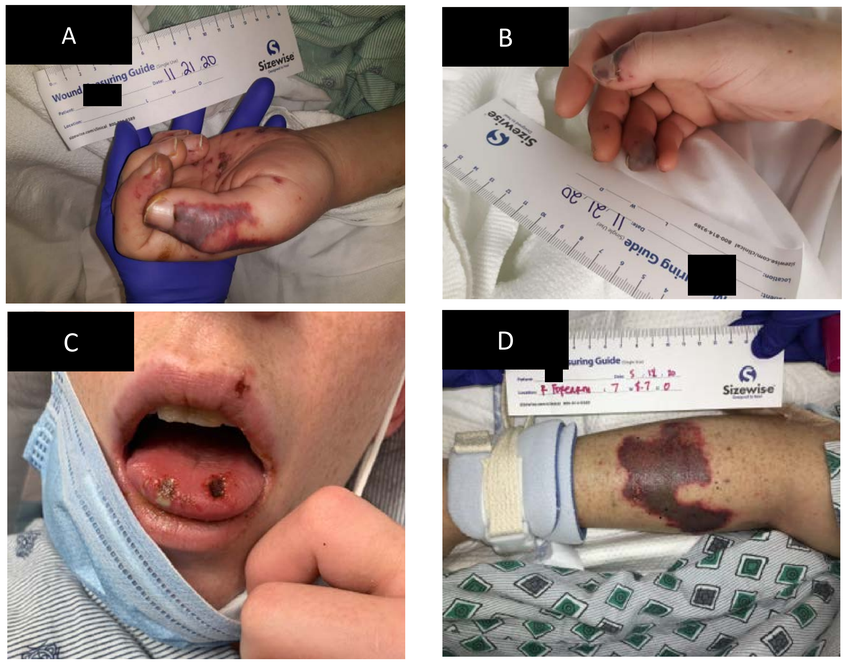

Figure 1. Cutaneous manifestations of endocarditis taken on patient's second admission. (A) and (B): Osler nodes on right (A) and left (B) hand; (C): septic emboli to the tongue; and (D): severe hemorrhagic embolus to right arm.

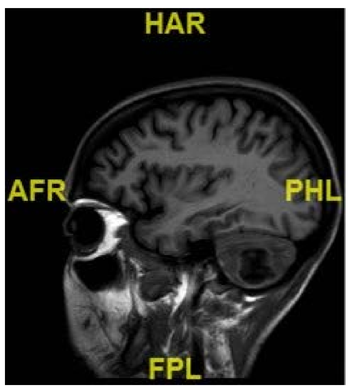

Figure 2. Sagittal brain MRI without contrast showing cerebellar abscess (sagittal view).

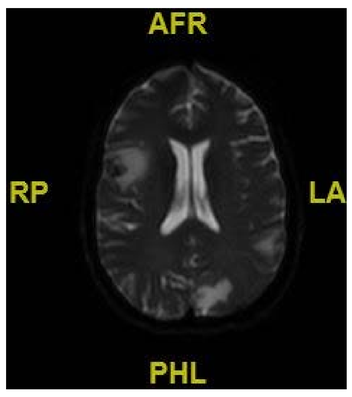

Figure 3. Cross-sectional brain MRI without contrast showing multiple abscesses in cerebral hemispheres, most notably in right parietal lobe.

Discussion

- The question of whether patients who actively abuse IV drugs should undergo surgery for endocarditis remains an ongoing ethical dilemma due to high rates of re-infection and poor long-term mortality outcomes. [Ahmed 2020]
- One prospective cohort study on patients with known heart failure and infective endocarditis compared surgery to medical therapy alone and revealed lower in-hospital (20.6% vs 44.8%; P<0.001) and 1-year mortality (29.1% vs 58.4%; P<0.001) in the surgery group. [Kiefer 2011] Meanwhile, another prospective cohort study found that valvular surgery in left-sided infective endocarditis was not associated with a survival benefit and may have even been associated with increased 6-month mortality [Tleyjeh 2007]. It is unclear what accounts for these discrepancies, but it is likely due to differences in the study populations regarding operative risk, complications, and overall disease burden.
- A recent observational cohort study specifically on patients with left sided endocarditis who use IV drugs compared surgery vs medical treatment alone found that while there was decreased 30-day mortality in the surgery group, there was no statistically significant difference in survival between the two groups at 1, 3, 5, and 10 years. [Straw 2020] This was thought to be attributable to ongoing infection risk from high rates of continued IV drug use after surgery, although the results may have been confounded by greater burden of disease in the surgery group.
- While it is generally accepted that all patients who have a Class I indication for surgery based on the 2015 Endocarditis Guidelines [Baddour 2015] should undergo surgery, novel approaches are needed to risk-stratify patients who may benefit from surgery in the short term but who are also at high risk of morbidity in the long-term. Some risk-assessment models have already been proposed and may be useful for clinicians. [Gaca 2011].

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Time remaining: 0:00

Aligning Obstetric and Neonatal Care to Optimally Manage Neonates Exposed to Herpes Simplex Virus (HSV)

Meghan McNeely[1], Maya Roth[1], Peter Joslyn, MD[2], Staci Olister, MD[2], Nicole Freehill, MD[3]

[1]School of Medicine, [2] Department of Pediatrics, [3]Department of Obstetrics and Gynecology, LSU Health Sciences Center, New Orleans, LA

Introduction

The risk of HSV transmission from mother to neonate is influenced by the maternal infection classification

- Primary vs. recurrent infection
- Genital lesion PCR/culture and HSV-1 and 2 serology

AAP recommendations in an asymptomatic neonate born to a mother with visible genital lesions:

- IV acyclovir should be started in the neonate if maternal HSV classification is unknown or is suggestive of primary infection.
- Acyclovir should not be started if maternal HSV classification is indicative of recurrent infection.

ACOG does not recommend routine HSV screening in pregnancy or routine antepartum genital HSV cultures.

Asymptomatic neonates are often born to mothers with non-classified HSV status, requiring unexpected NICU stays and treatment with acyclovir.

Methods

Mothers with HSV infections in pregnancy between 4/2018-4/2020 identified using ICD-10 codes

↓

87 charts identified for retrospective chart review

↓

Charts assessed for maternal HSV classification, neonatal evaluation, treatment, and length of hospital stay

↓

2 cases of asymptomatic neonates born to mothers with non-classified HSV status and treatment with acyclovir

Case Reports

Case 1:

- A 27-year-old G2P1001 with a history of positive HSV-2 IgG and suspected recurrent HSV genital lesions presented for cesarean section at 41 weeks.
- At the time of delivery, the lesions were crusting and PCR/viral culture were not obtained.
- Due to unknown maternal HSV-1 antibody status, the asymptomatic neonate was evaluated and empiric acyclovir was initiated.
- Maternal serology resulted positive for HSV-2 and negative for HSV-1.
- The neonate received 10 days of acyclovir for presumed maternal first-episode nonprimary HSV-1 exposure.

Case 2:

- A 25-year-old G3P1102 with suspected primary HSV genital lesions presented for cesarean section at 39 weeks.
- PCR/viral culture from the lesions were not obtained.
- The asymptomatic neonate was evaluated and empiric acyclovir was initiated.
- Maternal HSV-1 and HSV-2 IgG antibodies resulted positive indicative of recurrent infection.
- The neonate received 3 days of acyclovir for presumed maternal first-episode nonprimary HSV exposure.

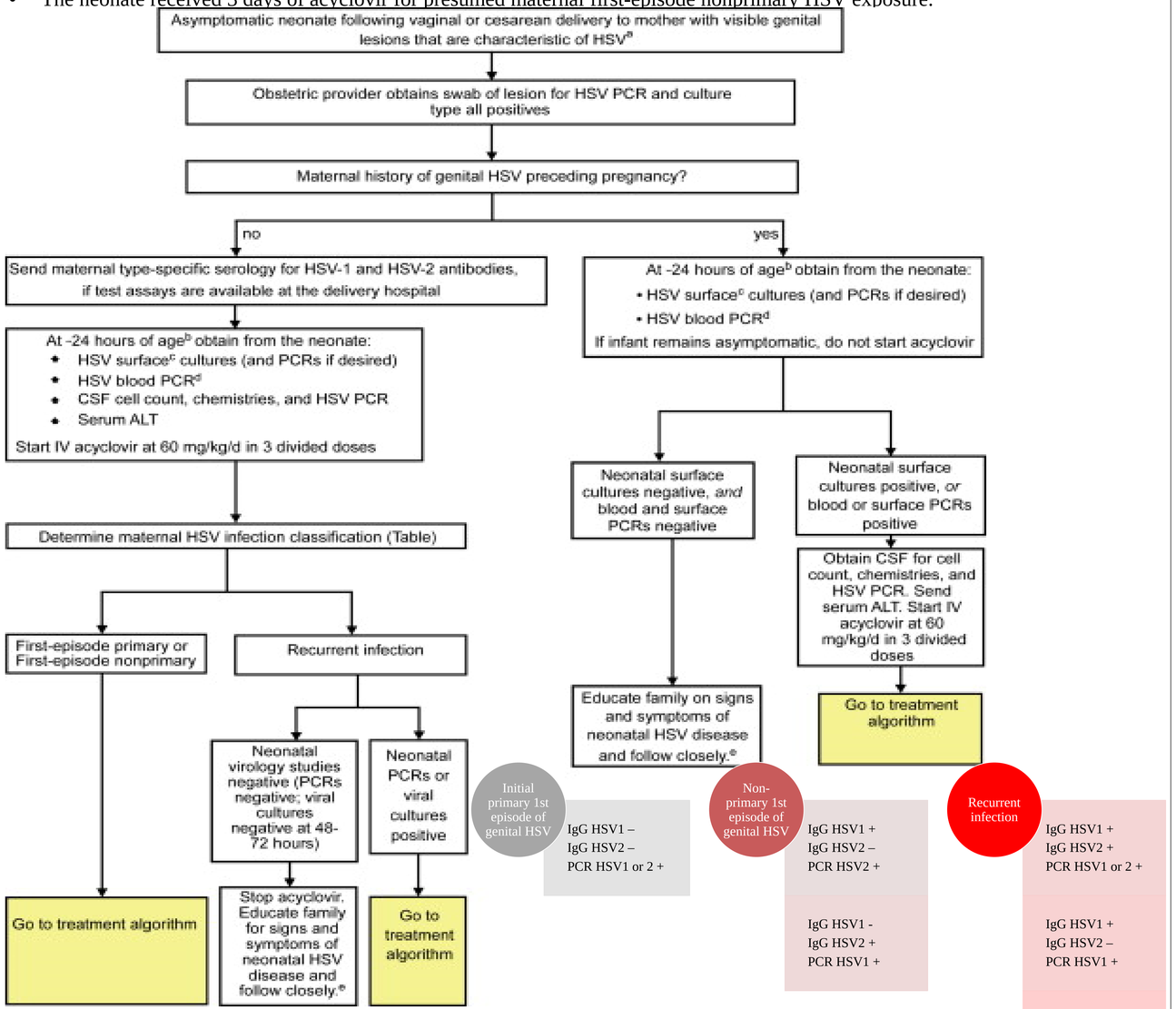

Figure 1. AAP algorithm for the evaluation of an asymptomatic neonate born to mothers with genital lesions characteristic of HSV.[2]

Figure 2. PCR and serology results indicative of primary vs. recurrent HSV infection.[3]

Conclusions and Implications

Early classification of mother's HSV status helps neonatologists plan for appropriate workup and treatment of neonates exposed to active herpes lesions.

- Had these mothers' antibody status been known at the time of delivery, the asymptomatic neonates may have been managed as one born to a mother with presumed recurrent infection and not required treated with acyclovir.

Timely, accurate classification of maternal HSV status by obstetric providers may avoid parental dissatisfaction, neonatal acyclovir exposure, iatrogenic harms, and costs of longer neonatal hospital stays.

Adhering to AAP recommendations requires obstetric and neonatal providers to understand and align their approach to this patient population.

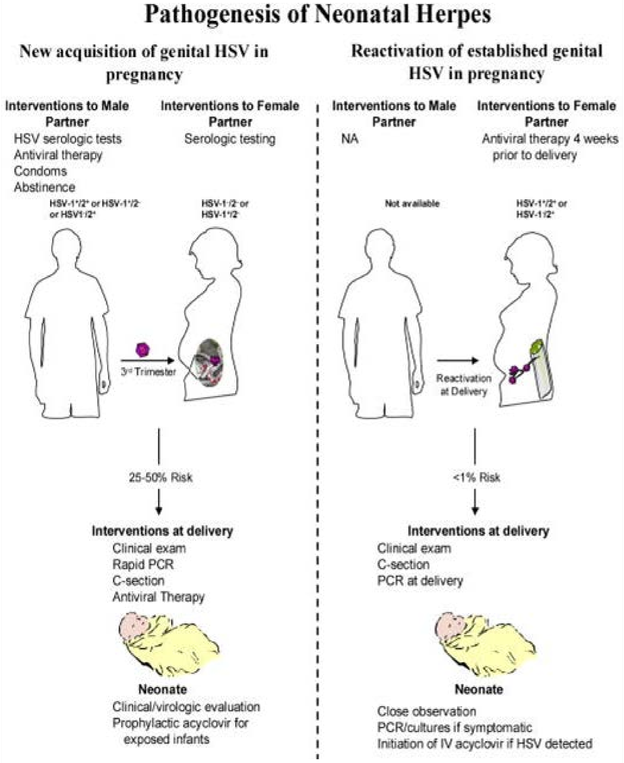

Figure 3. Vertical transmission of primary vs. recurrent HSV.[1]

References

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Time remaining: 0:00

A Case of Persistent Candiduria Due to Fungal Bezoars in the Kidney

Andrew Tran BS, Jonathan Orner MD
Department of Internal Medicine, Tulane University School of Medicine

Tulane University SCHOOL OF MEDICINE

Introduction

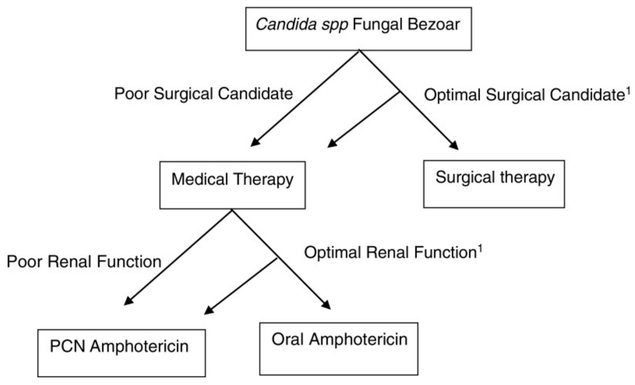
- Candiduria is a common finding amongst hospitalized patients
- Studies have reported upwards of 80% of positive urine cultures to represent asymptomatic candiduria that do not require treatment[1]
- Candida fungal bezoars are a rare cause of persistent candiduria that requires greater medical attention and care

Case Presentation

- 74-year-old male recently underwent bilateral ureteral stent placements for recurrent nephrolithiasis
  - Gross purulence was noted intraoperatively proximal to an infected stone in the right kidney
  - Started on ceftriaxone and transitioned to cefdinir upon discharge with plan for definitive stone removal
  - History of recurrent persistent growth of Candida albicans on previous urine cultures
- Patient developed fever, so he presented to ED where he was noted to be septic. He was admitted for presumed failure of outpatient antibiotics

Hospital Course

- Initiated coverage with Cefepime and Fluconazole per Infectious Disease recommendations
  - Concern for possible nidus of infection given persistent growth of Candida albicans on previous urine cultures and history of serial ureteral stent placements
- Blood cultures revealed no growth during admission, but urine culture grew Candida albicans
- Remained clinically stable, but intermittently febrile despite taking cefepime and fluconazole
- Eventually underwent surgical removal of kidney stones where multiple fungal bezoars, later identified as Candida albicans, were noted and removed
- Remained asymptomatic post-op and was discharged to complete his 14-day course of fluconazole



• **Figure 1**. Proposed treatment algorithm for patients with Candida fungal bezoars[2]

• **Figure 2**. Gross Candida fungal bezoar specimens[3]

Discussion

- Cause of persistent candiduria in our patient was due to fungal bezoars
- Reports of Candida fungal bezoars are few in the literature
  - Scarcity contributes to a lack of guidelines outlining treatment
  - Case reports noted efficacy with Amphotericin B or Fluconazole alone[4,5]
- Fungal bezoars can cause obstruction and may require either nephrostomy tubes or ureteral stent placement, which our patient already had due to bilateral calculi. Some case reports have described administering antifungal therapy through the nephrostomy tubes[2,6]
- We describe a case necessitating antifungal and surgical management for adequate source control

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Time remaining: 0:00

Defining the chromatin landscape of single nucleotide variants associated with chronic kidney disease

Daniel R. Schecter, Caitlin M. Diepenbrock, Audra B. Addison, Sylvia A. Hilliard, Samir S. El-Dahr
Department of Pediatrics, Tulane University School of Medicine, New Orleans, LA 70112, USA

Methods and Results

Hypothesis SNVs linked to renal function and chronic kidney disease affect conserved developmental enhancers.

Methods
We have compiled a library of over 200 SNVs from recent publications on GWAS identifying loci of human chronic kidney disease-defining traits. The ATAC-seq used for understanding the chromatin landscape was generated from nephron progenitor cells isolated from embryonic day (E)13, E16, Postnatal day (P)0, and P2 Six2GFPCre-mice, while the ChIP-seq was generated from nephron progenitor cells isolated from E13.5 and P0 CD1-mice. We also used ChIP-seq datasets from the ENCODE project on mouse kidneys encompassing E14.5, E15.5, E16.5, P0, and Adult (8 weeks) for a complete analysis of the chromatin landscape.

Results
In this study, we have found the corresponding location of the human SNVs in the mouse genome to see if the variant associated with chronic kidney disease corresponds to a conserved promoter, enhancer, and or a regulatory element. Incorporating the results of a GWAS, with epigenomics, bioinformatics, transcriptomics, and sequencing allowed us to annotate the SNVs associated with chronic kidney disease. For example, SNV rs187355703 overlays an active enhancer 2kb upstream of *Hoxd8*, a developmental gene implicated in maintaining the integrity of the renal tubular epithelia.

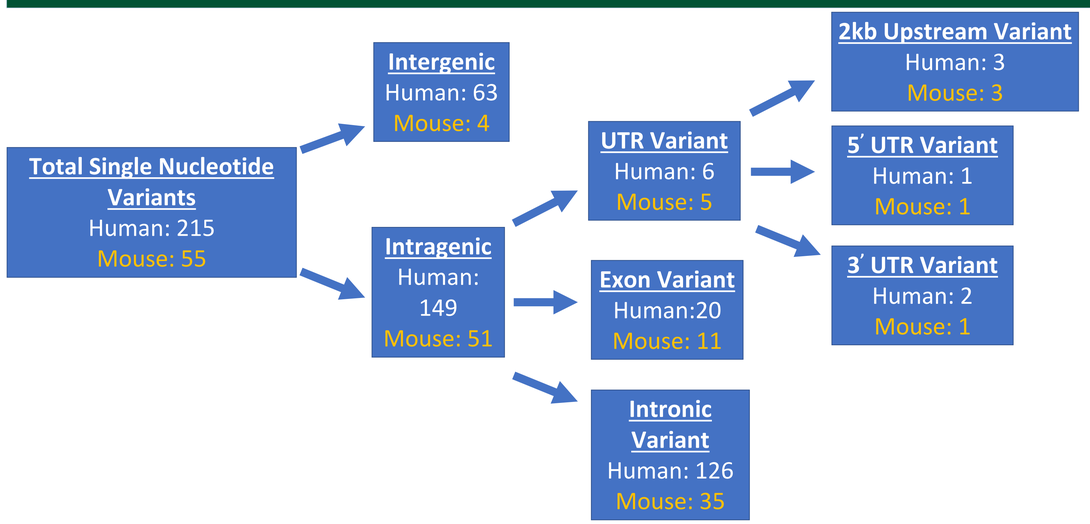
Alignment of Human and Mouse Genome

```
Mouse SLC25A45  5884777   CAGCCACTCCTTTTGATGTGATCAAGTCCCGGATGCAGATGGATGGGCTGAAGGGAAGAA  5884836
                          ||||||| || || ||  ||||||||||||||||||||||||||||| ||||   | |||
Human SLC25A45  65376621  CAGCCACGCCCTTAGACATGATCAAGTCCCGGATGCAGATGGATGGACTGAGACGCAGAG  65376562

Mouse SLC25A45  5884837   AGTATGGAGGGATGCTGGACTGCATGGCAAGCAGCTTCCGGCAGGAGGGAATAGGGGTCT  5884896
                          |||    ||||||||||||||||||   ||||||  |||||||||| ||| | || ||||
Human SLC25A45  65376561  TGTACCAGGGGATGCTGGACTGCATGGTGAGCAGCATCCGGCAGGAAGGACTGGGAGTCT  65376502

Mouse SLC25A45  5884897   TTTTCAAGGGCATGACACTCAACAGCGCCCGTGCCTTTCCGGTCAATGCTGCCACCTTCC  5884956
                          | |||  |||  | ||  |||||||| |||||  |||||||| |||||||||| ||||||||
Human SLC25A45  65376501  TCTTCCGGGGGGTCACCATCAACAGTGCCCGCGCCTTTCCCGTCAATGCTGTCACCTTCC  65376442

Mouse SLC25A45  5884957   TTAGCTATGAATACCTGCTACGCCTGTGGAGATGAGCCTGGCCAGGCGATACTGGCAACT  5885016
                          | ||||| ||||| || || |||  |||| |||||||||  ||  ||| || |  ||| ||
Human SLC25A45  65376441  TCAGCTACGAATATCTCCTCCGCTGGTGGGGATGAGCCCTGC--GGCAATGCCAGCAGCT  65376384

Mouse SLC25A45  5885017   CCACAGCAG  5885025
                          || || |||
Human SLC25A45  65376383  CCCCATCAG  65376375
```

```
MATCH!
C
The answer is 5884977

Query  5885017   CCACAGCAG  5885025
                  || || |||
Sbjct  65376383  CCCCATCAG  65376375
```

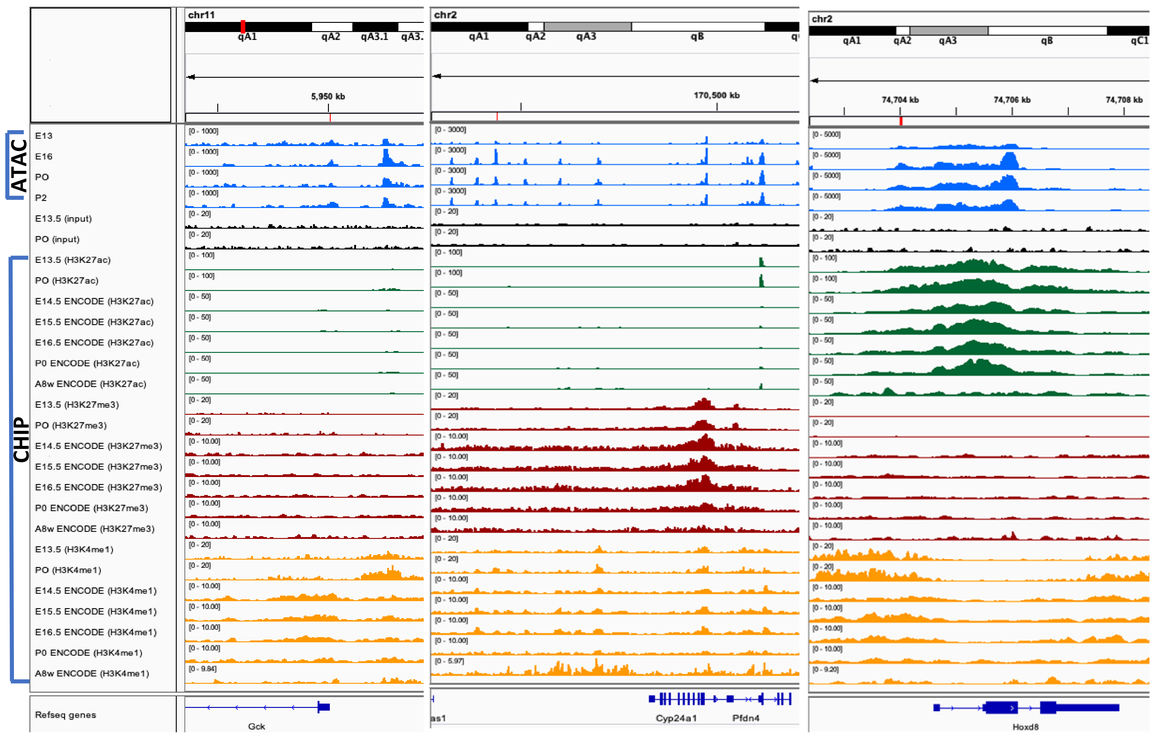
A program was written in Java using Eclipse to align the human and mouse genome. The program uses the Scanner class to scan the information from the Basic Local Alignment Search Tool (BLAST) and searches to see if the location of the SNP is conserved within the mouse genome. If the SNP location is conserved, the program can tell you its precise location.

Chart

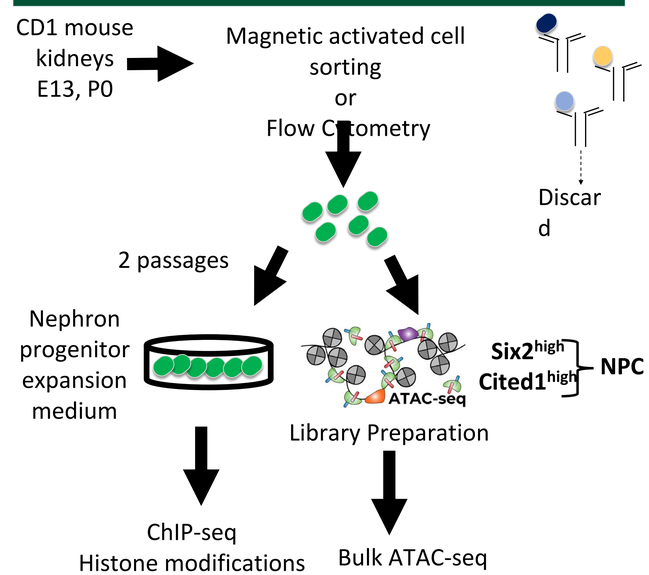


While the recent development of genome wide association studies (GWAS) has helped to identify loci associated with chronic kidney disease and function, little is known about the role of single nucleotide variants affecting kidney function at these particular loci. In this study I have analyzed 215 SNVs linked to renal function and chronic kidney disease from 11 recent GWAS publications. I have characterized the location of each of the SNV in both the human genome (GRCh38) and mouse genome (GRCm38).

ATAC-seq and ChIP-seq tracks of the chromatin landscape in NPCs



Chip-Seq and ATAC-Seq



Modified from:
https://www.cancer.gov
Hilliard, Sylvia, et al. (2019).

Summary and Future Directions

- Analysis of the chromatin landscape of over 200 SNPs associated with Chronic Kidney Disease from recent Genome-Wide Association Studies (GWAS).
- Identified 5 SNPs conserved in the mouse genome that corresponds to a promoter, enhancer, and/or a regulatory element and whose mechanism of action has not been previously described in the literature.
- The next part of this project involves the in depth identification of putative motifs associated with the site of the polymorphism and how the motifs change as a result of the polymorphism.
- Future studies will involve incorporating the results of this study towards developing a mouse model that carries a SNP corresponding to epigenetic regulatory elements.

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University of Virginia and Tulane University Pediatric Centers of Excellence in Nephrology

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Time remaining: 0:00

Bonafide Kaposi's Sarcoma

James Mickler, Suhalika Sahni, Taylor Roussel, Maren Bell, Greg Backes MD, Randi Goldstein MD, Kyle Hoppens MD, Lee Engel MD
Department of Internal Medicine
LSU Health Sciences Center, New Orleans, LA

Introduction

- This case describes a rare presentation of Kaposi's sarcoma in a HIV/AIDS patient in which there is osseous involvement without concomitant skin manifestations.
- Kaposi's sarcoma and other HIV/AIDS malignancies have decreased in incidence since the advent of ART (3) although many Americans are still not virally suppressed and therefore at risk.

Case Presentation

- A 28-year-old male with HIV/AIDS (CD4 15/2.25%, VL 1362 8/11/2020) presented to the ED on 10/11/2020 for constant/aching back pain located in his central lower/middle back without radiation. He denied weakness, numbness, incontinence, recent trauma, or any skin/mucosal lesions. On review of systems he endorsed ongoing chills, night sweats, weight loss, and nausea. He denied dysphagia, stomatitis, vomiting, abdominal pain, and diarrhea.
- He was recently admitted 8/29/2020 for back pain with MRI revealing lytic lesions on lumbar vertebrae, sacrum, bilateral iliac bones, lower thoracic spine, and cranium which have grown in size/number since 2019. Hypodense liver and splenic lesions on CT had also grown in size/number since 2019. Biopsy of the iliac lesion was performed (9/1/2020) with liver biopsy scheduled but lost to follow-up.

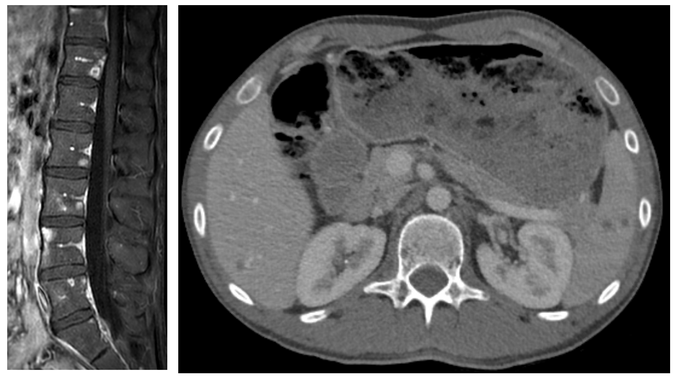

Fig. 1: MRI with contrast (left) of lytic bone lesions; CT with contrast (right) showing liver and splenic hypodensities

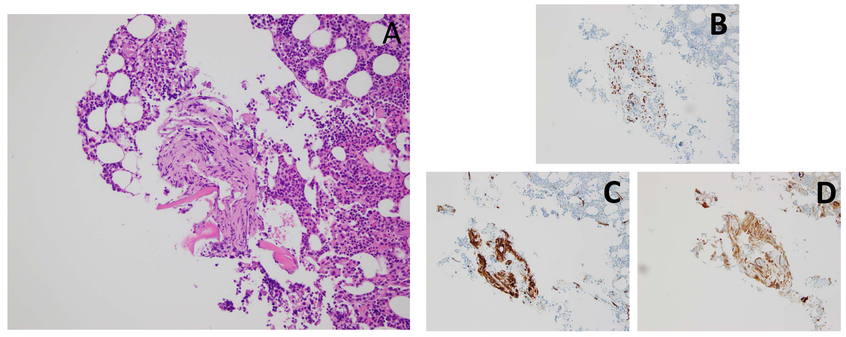

Fig. 2: H&E of right pelvic lesion[A], with HHV8[B], CD31[C], & CD34[D] immunostaining

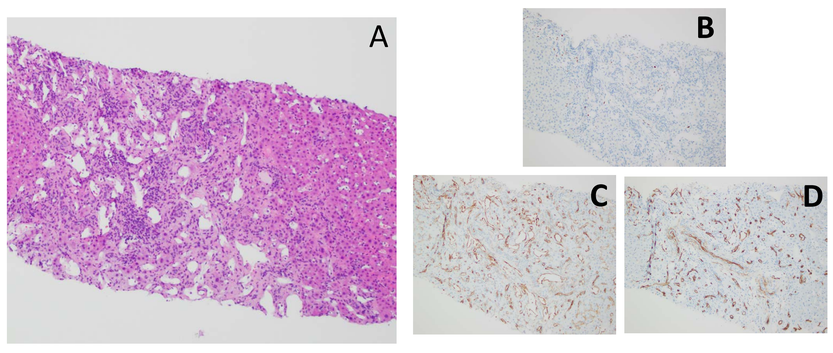

Fig. 3: H&E of liver biopsy lesion[A], with HHV8[B], CD31[C], & CD34[D] immunostaining

Hospital Course

- Initial vitals included temperature 98.4, HR 110, BP 146/60, RR 20 with oxygen saturation 100% on room air.
- Initial vitals were stable with tenderness to palpation of the lumbar/thoracic spinal and paraspinal regions present on exam. No skin/mucosal lesions, hepatosplenomegaly, or neurological deficits were appreciated.
- There was baseline normocytic anemia, with Alkaline phosphatase 127 U/L, CRP 1.8, ESR 16, and normal CXR.
- Patient continued prophylactic Azithromycin/Bactrim and ART was held due to previous non-adherence.
- Right iliac biopsy pathology was positive for HHV-8 Kaposi's sarcoma (Fig 2). Liver biopsy on 10/13/2020 revealed atypical spindle cell proliferation with vascular channel formation and rare hyperchromatic atypical cells (Fig 3). Both biopsies had positive HHV8 immuno-stains and CD31, CD34, and ERG endothelial markers.

Discussion

- Of the extra-cutaneous KS lesions, osseous are very rare. Narita et al. describes 17 cases in a sample of 1489 epidemic KS patients over 20 years with only 6 biopsy-confirmed (2020). Osseous lesions have been reported in all types of KS but are usually seen throughout the axial skeleton in epidemic KS versus endemic/classic KS where cutaneous lesion extend into the peripheral skeleton (1).
- Epidemic KS with disseminated osseous lesions is usually accompanied by cutaneous lesions, although isolated osseous as seen here has only been previously described in 4 publications (1,4).

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Chronic binge alcohol (CBA) administration upregulates antioxidative gene expression in peripheral blood mononuclear cells of SIV-infected macaques

Anna M. Catinis, Patrick McTernan, Robert Siggins, Liz Simon, Patricia E. Molina

Department of Physiology, Comprehensive Alcohol Research Center, Alcohol and Drug Abuse Center of Excellence, LSUHSC, New Orleans, LA

Background

- Persons living with Human Immunodeficiency Virus (PLWH) have higher prevalence of Alcohol Use Disorder (AUD) than uninfected population.
- Mitochondrial homeostasis including optimal substrate utilization and energy production is critical in PBMCs, particularly CD8 T cells, to destroy HIV infected CD4 T cells.
- Though HIV is associated with oxidative stress, few studies have examined the compensatory response of T cells in HIV disease.

Research Question

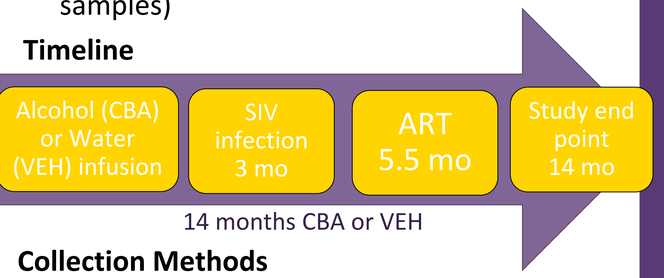
- Does CBA administration dysregulate PBMC gene expression implicated in mitochondrial homeostasis and oxidative stress?

Methods

Animals

- Female simian immunodeficiency virus (SIV)-infected rhesus macaques (n=37 animals, 72 samples)

Timeline



Collection Methods

- qPCR for mitochondrial gene expression in PBMCs collected at study end.

Mitochondrial Genes Analyzed

PCG-1β	Master regulator of biogenesis & respiration
NRF2	Regulates antioxidant protein expression
SOD2	Encodes antioxidant protein
MFN2	Regulates fusion & morphology

Expression of genes regulating and encoding anti-oxidant protein expression are significantly increased in PBMCs of CBA/SIV macaques.

Alcohol-associated increase in PBMC anti-oxidant markers may reflect a compensatory or adaptive mechanism against oxidative stress.

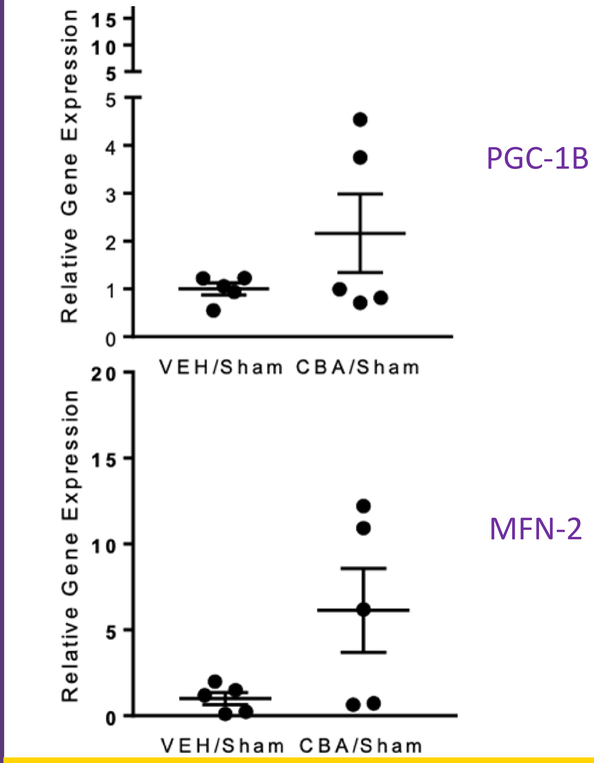
LSU Health NEW ORLEANS School of Medicine

Our research is generously supported by LSU Health New Orleans Physiology Department Funds, the National Institutes of Health, and the National Institute on Alcohol Abuse (AA09803). NIH/NIAAA P60 009803. *The above image was created with BioRender.com.*

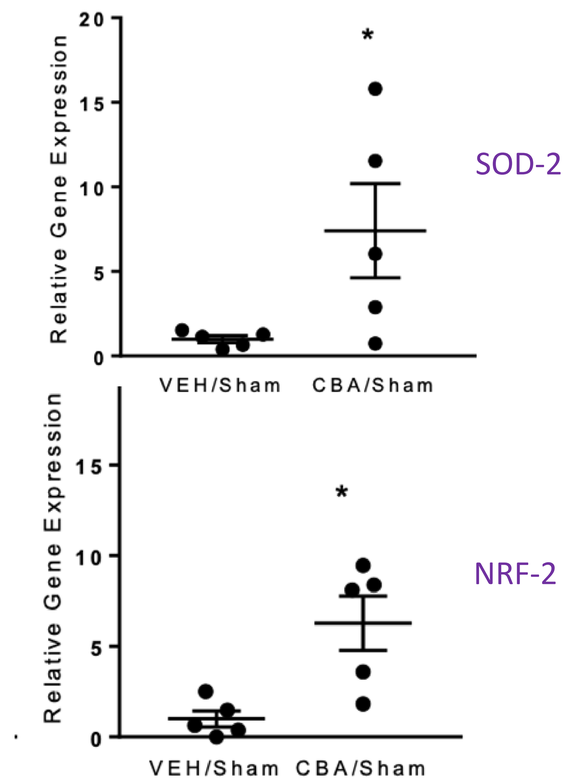
NIH National Institute on Alcohol Abuse and Alcoholism

Time remaining: 0:00

PGC1β and MFN2 Expression in PBMCs



SOD2 and NRF2 Expression in PBMCs



Ongoing Studies

- Determine the functional relevance of the CBA-mediated increase in PBMC antioxidant markers, specifically in T cells.
- Determine whether chronic alcohol alters mitochondrial bioenergetics in HIV/SIV.

Time remaining: 0:00

A Case of Symmetrical Drug-Related Intertriginous and Flexural Erythema, FKA "Baboon Syndrome"

Elizabeth Dao, Taylor Dickerson, M.D., Keith LeBlanc, M.D.

Department of Dermatology
LSU Health Sciences Center, New Orleans, LA

Case Presentation

- A 65 year old male with a past medical history of type 2 diabetes mellitus, hepatitis C, hypertension, and chronic kidney disease was admitted to the hospital for cellulitis, osteomyelitis of the great toe, and MRSA bacteremia. Initial medical treatment included intravenous antibiotics. Surgical treatment included mid-foot amputation.

- On day five of hospitalization, the patient was noted to have an erythematous rash on his groin and buttocks bilaterally (Figs. 1-4). Lesions were sharply demarcated, blanchable, brightly erythematous macules that coalesced to symmetric patches. They were non-pruritic and non-painful, but associated with a slight burning sensation. The patient was afebrile and otherwise asymptomatic.

- The patient was initially given clotrimazole cream which alleviated the burning sensation but not the progression of the rash itself. By day eight, the rash progressed to involve both axilla, at which point the dermatology service was consulted.

- Given the distinctly symmetric distribution of the rash, its time course, and the otherwise lack of systemic symptoms, a diagnosis of symmetrical drug-related intertriginous and flexural erythema (SDRIFE) was made.

- The patient reported a history of a similar reaction to piperacillin-tazobactam, described as an erythematous, pruritic rash in a similar distribution, followed by sloughing of the involved skin.

- Therefore, piperacillin-tazobactam was assumed to be the offending agent and added to the patient's allergy list. However, neither a punch biopsy nor a patch test were obtained, and the patient did not follow up as an outpatient with dermatology, thereby limiting our case.

Figures 1-4: Bright, erythematous patches confined to gluteal, inguinal, and axillary regions, characteristic of SDRIFE.

Drug eruption chart	Day 1	Day 2	Day 3	Day 4	Day 5 (rash onset)	Day 6	Day 7	Day 8
Piperacillin-tazobactam	+							
Cefepime		+	+					
Contrast		+						
Acetaminophen	+	+	+		+	+		+
Vancomycin*		+	+	+	+	+		

Table 1: List of patient's medications that had been previously associated with SDRIFE.

*While not previously reported to be associated with SDRIFE, vancomycin-induced red man syndrome was considered on the differential diagnosis for this patient.

Discussion

- Five defining clinical criteria of SDRIFE:
  - (i) Onset after initial or repeated exposure to a systemically administered drug (contact allergens excluded)
  - (ii) Sharply demarcated erythema in the gluteal/perianal area and/or V-shaped erythema in the inguinal/perigenital region
  - (iii) Involvement of at least one other intertriginous/flexural fold (e.g., axillae, antecubital fossae)
  - (iv) Symmetrical distribution
  - (v) Absence of systemic involvement

- Diagnosis is usually made clinically although KOH prep or Woods light exam may be done to rule out infectious etiology. A skin biopsy or patch test can confirm the diagnosis.

- Differential diagnosis: drug-related cutaneous reactions such as allergic/irritant contact dermatitis, fixed drug eruption, acute generalized exanthematous pustulosis, drug reaction with eosinophilia and systemic symptoms, as well as non-drug-related skin conditions such as candidal intertrigo, inverse psoriasis, tinea cruris, or erythrasma

- Histology: Variable, but most often superficial perivascular infiltrate composed of mononuclear cells and occasional neutrophils and eosinophils

- Mechanism and pathogenesis: Thought to be mediated by T cells via a type IV hypersensitivity reaction. May involve a recall phenomenon associated with previous mechanical stimulation or intertrigo of the flexural areas.

- Most commonly triggered by beta-lactam antibiotics, SDRIFE has also been reported to occur with radio contrast media, NSAID-analgesics, anti-fungals, and anti-virals, among other drugs.

- The rash is benign and self-resolving following cessation of the offending drug, although topical steroids and anti-histamines may be employed to aid the healing process.

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Time remaining: 0:00

Hypoxic Hypercapnic Respiratory Failure in the Setting of Laryngeal Mass

Peter Yager, MS-3, Kyle Hoppens, M.D., Saunders Alpaugh, M.D., John Amoss, M.D.
Department of Internal Medicine
LSU Health Sciences Center, New Orleans, LA

Introduction

- Head and neck cancers account for more than 650,000 cases and 330,000 deaths annually worldwide
- Hoarseness is the most common symptom in laryngeal cancer with over half of patients reporting
- Respiratory failure has been reported in cases of complete obstruction of airway from a laryngeal mass

Case Presentation

- 85-year-old African American man with history of hypertension, hyperlipidemia, presented with two weeks of altered mental status, increased somnolence, worsening cough, and chest congestion
- Patient had 11-month history of persistent hoarseness prior to presentation, imaging negative for anatomical cause 8 months prior
- Patient reports 30 pack year history of smoking, quit 30 years ago
- No substantial alcohol use

Hospital Course

- Patient presented to the ED obtunded, moving extremities spontaneously, unresponsive to noxious stimuli
- Initial blood gas on room air in ED showed respiratory acidosis with pH 7.13, pCO2 143, pO2 147, HCO3 46
- Patient failed BiPap, intubated on first attempt with no complications or mention of anatomical obstruction
- Remained intubated for 6 days
- Last ABG pre-extubation showed pH 7.45, pCO2 45, pO2 88, HCO3 30 on 30% FiO2, TV 400, PEEP 5, Rate 12
- Post-extubation ABG showed pH 7.31, pCO2 60, pO2 78, HCO3 30 on Nasal cannula 24% FiO2, subsequent ABGs showed continued CO2 retention despite corticosteroid and duo-neb use
- ENT was consulted post extubation to assess hoarseness in relation to acute respiratory failure
- CT Neck showed a large mass at the level of and above the left sided true vocal cord, along the left side of the larynx extending up to the left-sided laryngeal ventricle
- Visualization with laryngoscope and biopsy showed a laryngeal mass extending from the left laryngeal ventricle to false vocal cord and true vocal cord, across the anterior commissure to the entire left false and true cord extending down to the subglottis, Airway was not appreciable and fully obstructed with tumor
- Tracheostomy was performed to provide ventilation access
- Prior to discharge, ABG showed pH 7.44, pCO2 44, pO2 56, HCO3 29 on room air with tracheostomy tube
- Biopsy revealed squamous cell carcinoma, negative HPV

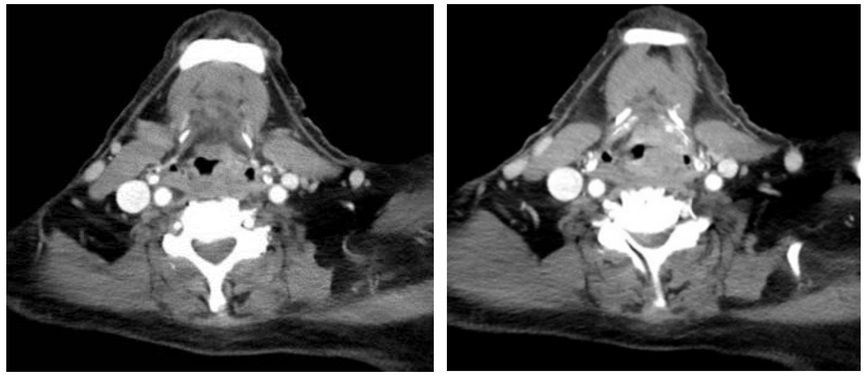


Fig.1: Axial CT Neck with contrast demonstrating mass extending from left wall of the larynx with partial obstruction of the airway

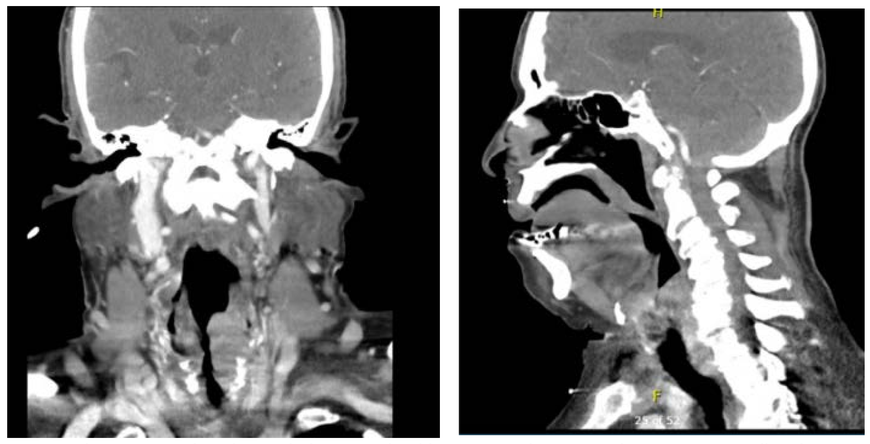


Fig.2: Coronal and Saggital CT Neck with contrast demonstrating mass extending from left wall of the larynx with partial obstruction of the airway

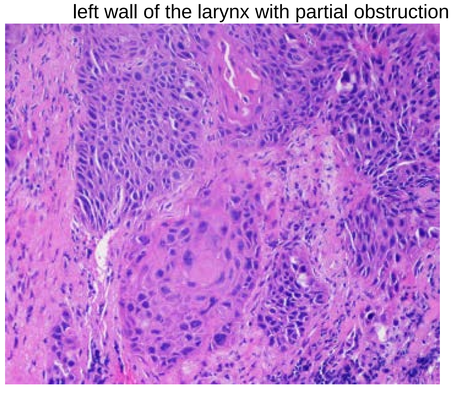


Fig.3: Biopsy from patient's laryngeal mass revealing squamous cell carcinoma

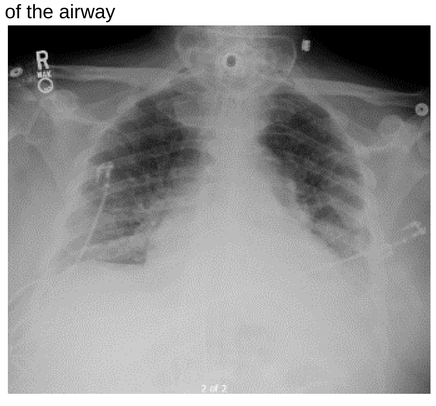
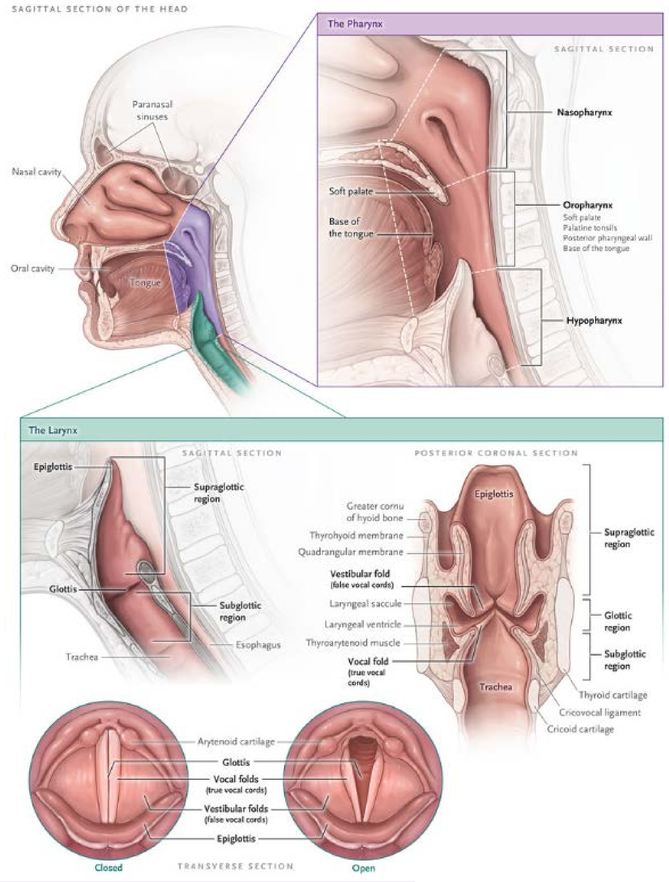


Fig. 4: Chest X-Ray post tracheostomy

Discussion

- The incidence of laryngeal cancer is approximately 50 percent higher in African American men compared to Non-African American men
- A UK study of 28 cancers found that laryngeal cancer had the third longest patient interval (time from symptom onset to first consultation) and the fifth-longest primary care interval time (time from first consultation to specialty referral)
- Current guidelines suggest urgent referral for suspected laryngeal cancer in patients presenting with persistent unexplained hoarseness
- Clinical suspicion is needed for patients with laryngeal masses who present with hypercapnic respiratory failure
- BiPap was not a suitable bridging option in this case, though there are reports of success in a similar disease presentation



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Time remaining: 0:00

Does Immobilization Inhibit Return to Daycare Following Pediatric Fractures?

Matthew Nungesser[1], Bryant Song[2], Claudia Leonardi, Ph.D[3] , Michael Heffernan, MD[4]
Department of Orthopaedic Surgery, Children's Hospital of New Orleans

Introduction

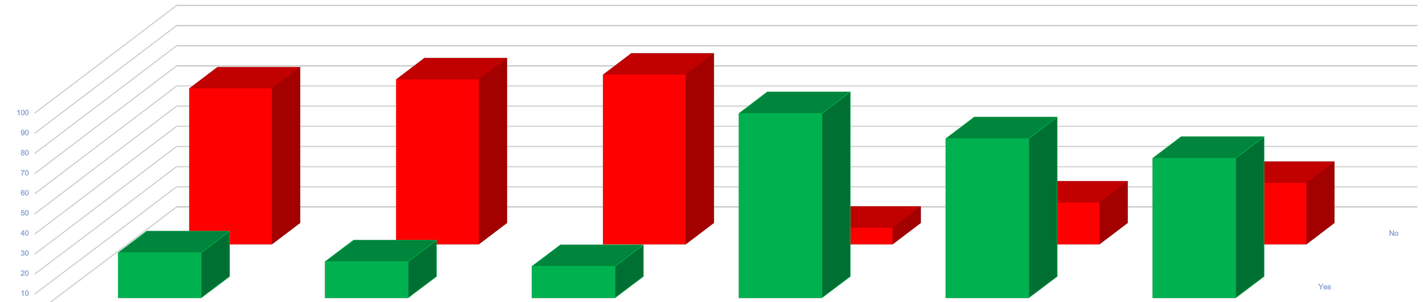
- Pediatric fractures are overall a common occurrence, making immobilization following fracture just as common
- The trend of single parent and dual working families are on the rise with more than a quarter of children being placed in daycares
- With pediatric fractures lasting 4-12 weeks on average, this can place burden both families and the daycare services offered
- The purpose is to investigate whether increasing immobilization will decrease acceptance

Methods

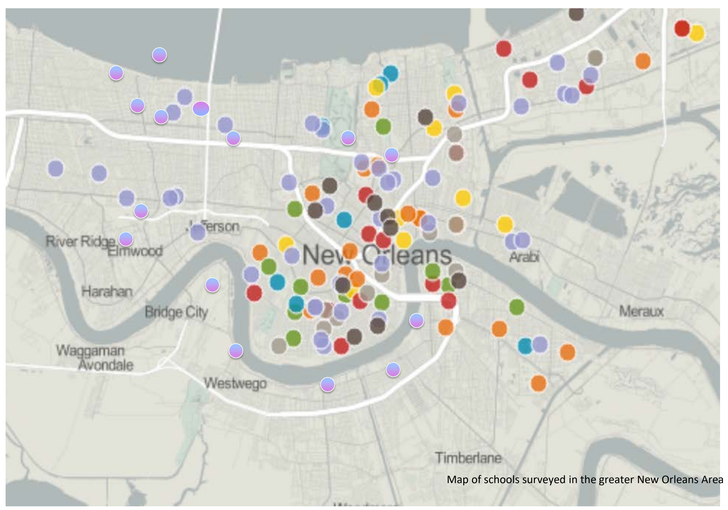
- A 40-question survey was administered to daycare facilities that serviced a total of 6500 children from ages <1 to 4 years old within 10 miles of the New Orleans city center.
- Facilities were randomly selected from the Louisiana Department of Education's database.
- 282 facilities met inclusion criteria and 85 were randomly selected to be interviewed to allow for a 15% non-response rate
- A power analysis was conducted, and it was established that 73 of those 85 facilities was necessary to estimate a 50% prevalence within ± 10% margin of error.
- Prevalence, p-values, and confidence intervals were estimated using a finite population correction (n = 282).

Results

- Childcare facilities median (min – max) number of children was 40 (6 – 1,250) and number of personnel was 8 (1 - 200).
- Upper extremity casts were more readily taken than lower extremity casts (p-value <.005)
- Among the lower extremity casts, long leg casts were turned away more than short leg casts, 49.32% and 27.40% denied respectively (p-value <.0001)
- Spica casts showed significantly less acceptance rates in comparison to upper extremity, lower extremity casts, and surgically repaired femurs with an acceptance of 22.2% (p-values at <.0001).



	Single Leg Spica	1.5 Leg Spica	Two Leg Spica	Upper Extremity Cast	Lower Extremity Cast	Surgical Rod
Yes	22.54	18.06	15.71	91.67	79.17	69.44
No	77.46	81.94	84.29	8.33	20.83	30.56



Map of schools surveyed in the greater New Orleans Area

Accepted

Not Accepted

Discussion

- Upper extremity immobilization does not determine return to daycare
- Increasing immobilization of the lower extremities decreases rates of acceptance back into daycare programs.
- Most of the daycare facilities surveyed would not allow children with spica casts to return until cast removal
- Surgery for femur fractures (titanium nails without cast) had a significantly higher acceptance in comparison with spica casts
- Discrepancy on acceptance places a large burden on single parent families and families with two working parents when caring for a child in a spica cast
- Surgeons need to be aware of the socioeconomical implications of their fracture treatments on children

Isolating the Role of Early Mobilization in Spine Deformity Rapid Recovery Protocols

Matt Nungesser, BS, Bryant M. Song, MS, Claudia Leonardi, PhD, Michael J. Heffernan, MD
Department of Orthopaedic Surgery, Children's Hospital of New Orleans

Background

- Rapid recovery protocols have gained traction in pediatric spine surgery
- Previous studies have assessed outcomes before and after implementation of a bundle of concurrent interventions
- Previous work has not identified the relative importance of each bundle component
- Role of early mobilization has not been specifically established

Objectives

- Purpose of this study was to compare early mobilization to standard mobilization protocols with all other factors constant
- We hypothesized that early mobilization would reduce length of hospital stay following surgery for adolescent idiopathic scoliosis

Methods

- Retrospective review of 96 children treated for femur fracture between 2014 and 2019 at a tertiary pediatric hospital
- Patients were grouped based on standard mobilization or early mobilization
- Demographic, clinical, and radiographic comparisons were made between these two groups

POD 0
PCA
Ice Chips
Reinforcement of Patient Expectations

POD 1
PCA discontinued (6 AM)
A-line discontinued (6 AM)
PO hydrocodone (6 AM)
PO diazepam (6 AM)
Foley discontinued (PM)
Ambulate TID
Advanced Diet as Tolerated

POD 2
Continue Ambulation TID

POD 3
Discharge by noon

Results

- Mean length of stay (LOS) was 4.1 vs. 3.2 days for the SM vs. EM group (p<.0001)
- Pain medication requirements were similar between the two groups during first 3 days of hospital stay (Day 1, p=0.148; Day 2, p=0.981; Day 3, p=0.2701).
- There were no readmissions within 30 days in either group

Item	Standard Mobilization (SM)	Early Mobilization (EM)	P Value
Length of stay (days)	4.1	3.2	<.0001
Pain medication (mg)			
Day 1	21.1	27.7	0.148
Day 2	31.2	30.4	0.981
Day 3	24.7	19.6	0.27
30-day readmission	0	0	1

Discussion

- Early mobilization independently led to a decreased LOS following PSF for adolescent idiopathic scoliosis while controlling for other factors such as diet, nursing, and medication protocols.

Key Components

- **Early mobilization at POD 1 vs. POD 2**
- **Multimodal pain management**
- **Management of patient expectations**

Time remaining: 0:00

An Unusual Cause of Abdominal Pain Following High-Altitude Travel

George M. Jeha[1] ; Seth Vignes, MD[1,2]

Louisiana State University Health Sciences Center, New Orleans, LA[1]; University Medical Center, New Orleans, LA[2]

Fig. 1: Patient Presentation

Patient Info
39-year-old Black male
Chief complaint: left flank pain x5d

Medical History
Personal: none
Family: none
Surgical: Larynx, ACL

Review of Systems
(+) fever, chills, SOB, flank pain & pleuritic chest pain
(-) nausea, vomiting, cough, GU/GI

Social History
Ø EtOH, Ø Tb, Ø IVDU. Flight to CO 5 days prior.

Vitals:
Afebrile
BP 124/58
HR 84
RR 17

Physical Exam
Lungs: ↓ breath sounds & vocal & tactile fremitus; dullness to percussion LLL

MSK: Left flank pain & tenderness to palpation

Fig. 2: CT AP demonstrating splenic infarct **(A)** and evidence of subsegmental PE **(B)**

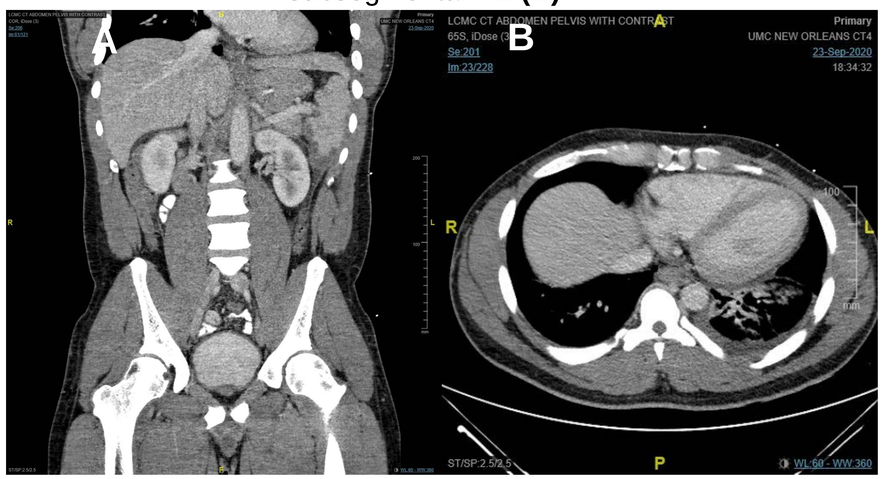
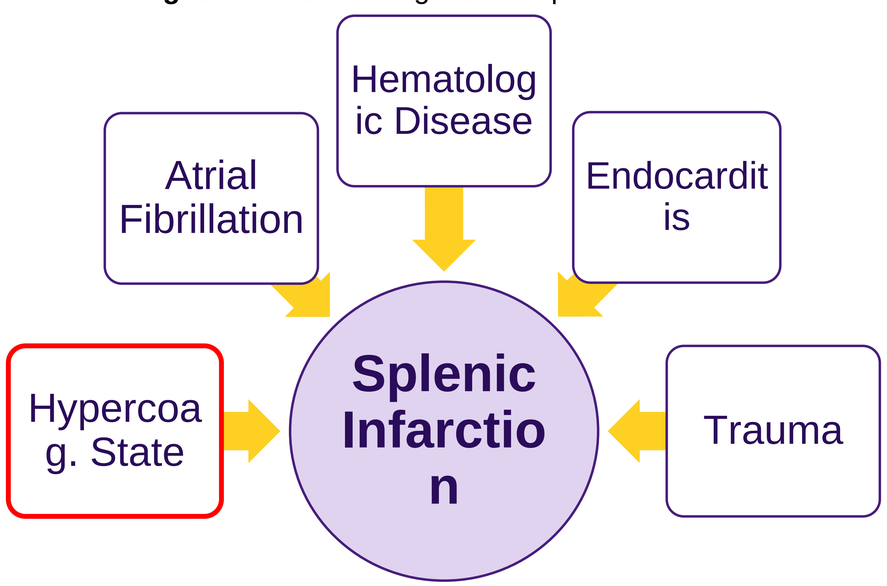


Fig. 3: Differential diagnosis of splenic infarction



Background and Discussion

Background

- Splenic infarction may result from arterial or venous occlusion
- Most common presentation: left-sided abdominal pain in patient with underlying risk factor (Fig. 3)
- In patients with sickle cell hemoglobinopathies: episodes of hypoxia or acidosis RBCs transform into abnormal shapes crystallization and vascular occlusion

Discussion

- We report the case of a previously healthy patient with unexplained spleen and lung infarcts following high altitude
- Lack of medical history, young age, and race raised suspicion for sickle cell disease
- However, sickle cell solubility testing was initially reported as negative; workup was broadened to include an array of hematologic and rheumatologic testing, resulting in an inappropriate presumptive diagnosis and treatment of antiphospholipid syndrome (APS)
- Diagnosis of APS was discarded once serum electrophoresis returned with definitive diagnosis of sickle cell trait

Conclusion

- Although splenic infarction is a rare cause of abdominal pain, it should be considered for all patients with severe abdominal pain
- Hypercoagulable states secondary to hemoglobinopathies such as sickle cell disease or trait should be considered in a patient with unexplained splenic infarction, even in the absence of personal or family history of sickle cell disease

Patient attitudes toward telehealth approaches during the COVID-19 pandemic in New Orleans, LA

TRIAD
Tulane Research Innovation for Arrhythmia Discovery

Saihariharan Nedunchezhian, BS[1]; Lilas Dagher, MD[1]; Ashley Russell, MD[1]; Abdel Hadi El-Hajjar, MD[1]; Christopher Pottle, MS[1]; Nassir F. Marrouche, MD[1]

[1] Tulane Research Innovation for Arrhythmia Discovery (TRIAD), Tulane University School of Medicine, New Orleans LA

Tulane University
SCHOOL OF MEDICINE

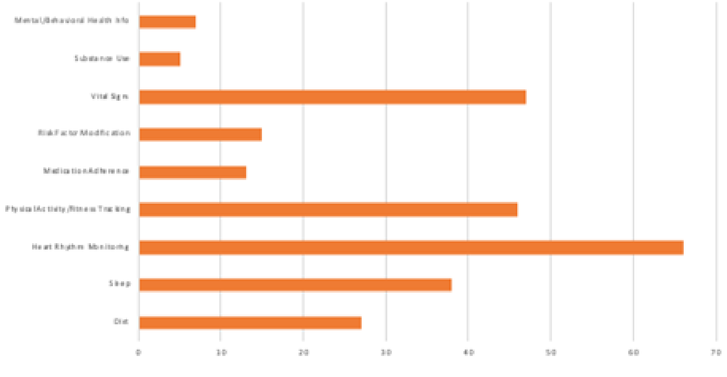
Background

Wearables are portable electronics worn by patients that provide sensitive and clinically valuable health information. Advancements in wearable technology allow for enhanced care of patients not only in cardiology but in all medical fields, especially in the COVID era. However, minimal research exists to evaluate education on digital health and barriers to increased acceptance. The Digital Health Survey aims to identify predictors of wearables use in New Orleans to ultimately identify and bridge disparities in digital health.

Methods

The Digital Health Survey was distributed to Tulane University Cardiology clinic patients from September 2020 to December 2020. One hundred three patients were included in this cross-sectional analysis. Participants were surveyed regarding demographics, medical comorbidities, use of wearables before and after COVID, along with their opinions of wearables and telemedicine.

Figure 2A: Information Desired from Telemedicine



Figures

Figure 1A: Preference of Telemedicine vs. Wearables Use by Demographics

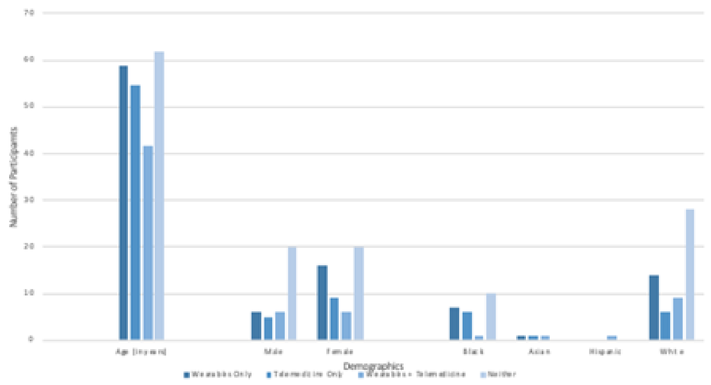
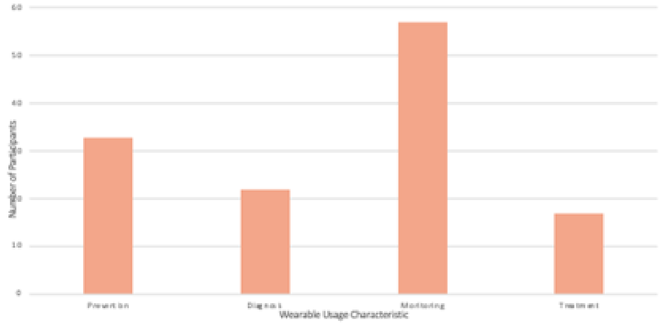


Figure 1B: Positive Impact of Telemedicine on SDOH

Figure 2B: Reasons to Use Wearables



Results

- Mean age of patients is 55.66 years. 63% were White and 29% African Americans. 23% reported high school education, and 74% reported college and higher education status. **Figure 1A explains telemedicine or wearable preferences based on demographics.**
- Comorbidities: hypertension (24%), sleep apnea (12%), atrial fibrillation (11%), and diabetes (10%).
- Younger patients are significantly likely to currently telemedicine (p= 0.0055), or both (p= 0.0035).
- Patient with a combination of common health insurances were more receptive to wearable devices incorporation in medical care (74.1%, p= 0.0786).
- Telemedicine effectively noted to address four healthcare barriers: financial costs (86.7%), connecting with physicians (84.3%), transportation (81.0%), and social distancing (86.7%) (**Figure 1B**).
- Patients indicated wanting to use wearables primarily for disease prevention and monitoring (Figure 2A).
- Patients are more specifically interested in using wearables for monitoring of sleep, heart rhythm, daily vital signs, and physical activity (Figure 2B).

Conclusion

Although digital health utilization has increased during COVID-19, patient understanding of telemedicine and wearable health devices remains limited. Primary limitations of this study are the small survey size and limited population diversity in the responses. Further education and interventions are needed to increase awareness, understand patient perceptions, tackle demographic disparities, and promote wearable device acceptance amongst patients.

Breast Cancer Screening: Which Guideline Do You Follow?

Cassie Clark L4, Victoria Thibodeaux L4, Tina Benoit-Clark MD MBA FACP
Louisiana State University Health Sciences Center at Ochsner University Hospital & Clinics
Department of Internal Medicine - Lafayette, LA

Introduction

In the United States, breast cancer is the second leading cause of cancer death in women following lung cancer with the average woman having a 12.9% chance of being diagnosed with breast cancer in their lifetime (Howlader et al., 2020). There are several factors that may impact this risk including female sex, increasing age, personal history (age of menarche, age of menopause, childbirth history, history of hormone therapy, radiation), breast history (prior biopsies, breast density, history of cancer), and family history (gene mutation, Ashkanzi Jewish inheritance) (Diagram 1). It is widely accepted that screening mitigates some of this risk, though guidelines vary. The current United States Preventative Services Task Force (USPSTF) guidelines recommend screening at age 50 for all women with average risk of developing breast cancer (2016). The American Cancer Society (ACS) and the American College of Obstetrics and Gynecologists (ACOG) both suggest offering screening at ages 40 and recommend screening no later than 50 and 45 years of age respectively (2015, 2017). The National Comprehensive Cancer Network recommends screening at age 40 (2016). This study was designed to look at the number of patients diagnosed with breast cancer at Ochsner University Hospital and Clinics (OUHC) in Lafayette, LA during 2015-2019 and evaluate which guidelines are better applicable to the population in this area.

Methods

A retrospective analysis was performed. Medical records of patients diagnosed with breast cancer between 2015-2019 at OUHC were evaluated with the age of diagnosis documented. This study included 359 females. Ages ranged from 25-95 with 56% identified as black, 41% as white, and 3% as other. The EMR Cerner and Excel were used for data collection and analysis. Family histories of patients diagnosed <50 were identified and were obtained by reviewing the patient's first oncology note or notes around the date of diagnosis. Lifetime risk of breast cancer is defined as 0-15% for average risk, 15-20% for moderate risk, and >20% for severe risk. Moderate risk for breast cancer was determined using NCCN guidelines which define moderate risk as having one or more first-degree and/or two second-degree relatives with breast and/or ovarian cancer. Based off these guidelines and EMR documentation of family history, patients diagnosed <50 years of age were determined to be either average or moderate risk.

Chart 1: Breast Cancer Cases at UHC from 2015-2019

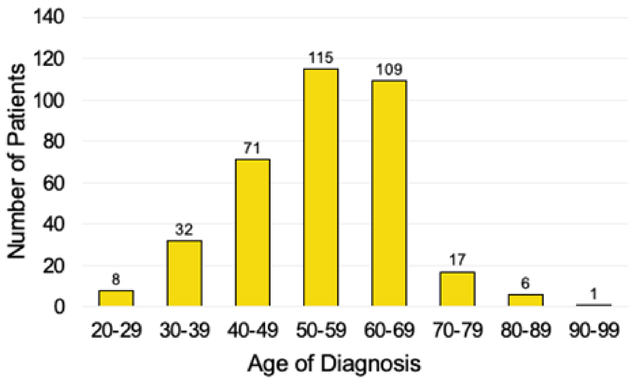


Diagram 1:

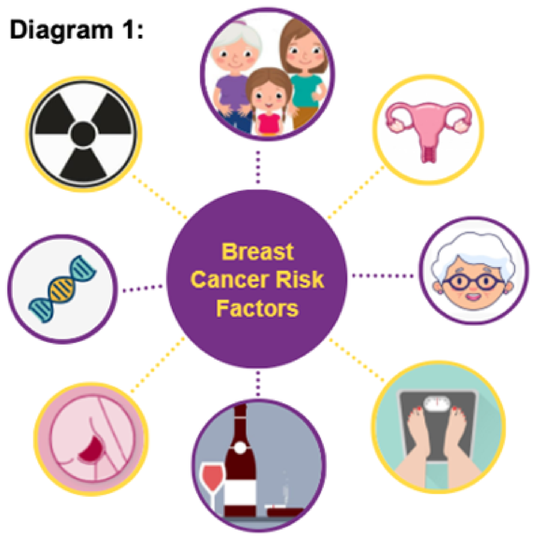
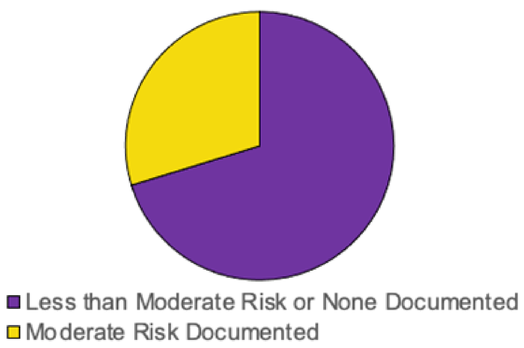


Chart 2: Documentation of Family History of Breast Cancer in Patients Diagnosed <50 yo



Results

Of those 359 patients included in this study, the average age of diagnosis was 54 years old (Chart 1). About 69% were ≥ 50 years of age at diagnosis and 31% were <50 (111 patients). Among those diagnosed <50 years old, 18.5% were <45 and 12% were <40 years of age and 30% had a family history qualifying them as moderate risk by NCCN guidelines. The remaining 70% did not qualify as moderate risk or did not have family history documented (Chart 2).

Conclusion

With 31% of patients diagnosed with breast cancer before the age of 50, following the current USPSTF guidelines could potentially miss the early diagnosis of breast cancer in the population at OUHC. It would be more beneficial to follow the ACOG guidelines and start the conversation of screening at age 40 and recommend screening no later than age 50. It is important to note that while family history plays a significant role in the determination of a patient's lifetime risk for breast cancer, other factors can impact a person's lifetime risk as well. These additional risks can then be used to calculate a lifetime risk in order to assist in the decision-making of when to screen patients.

Limitations of this study include it being a retrospective study in nature; therefore, the data collection was limited to what was documented in the EMR. Other risk factors also were not evaluated. Improvements of this study include contacting the patients or family members directly to verify information. Project expansion can include obtaining additional risk factors and determining the lifetime risk of patients at diagnosis and whether they were able to be screened beforehand.

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