1 MULTIDIMENSIONAL ALLOSTATIC LOAD SCORE INDEPENDENTLY ASSOCIATES WITH CORONARY ARTERY DISEASE BURDEN IN PSORIASIS (3367949)

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Purpose of Study Psoriasis is a chronic inflammatory disease associated with accelerated development of asymptomatic coronary artery disease (CAD) by coronary computed tomography angiography (CCTA). Allostatic load score is a multidimensional measure related to chronic stress which incorporates cardiovascular, metabolic and inflammatory indices. We studied the association between allostatic load score and subclinical CAD in psoriasis.

Methods Used Consecutive psoriasis patients (n=275) underwent CCTA for assessment of CAD (QAngio, Medis). Allostatic load score was determined using established methods (table 1 footnote). The association between CAD and allostatic load score was assessed using multivariate regression (STATA 12).

Summary of Results Psoriasis patients were middle-aged and predominantly male, with low cardiovascular risk by Framingham risk and moderate-severe psoriasis severity (table 1). Allostatic load score associated with total coronary burden (β=0.39; p<0.001) and non-calcified coronary burden (β=0.40; p<0.001) in unadjusted analyses. In multivariate models, allostatic load score associated with total coronary burden (β=0.35; p<0.001) and non-calcified coronary burden (β=0.38; p<0.001) independent of traditional CVD risk factors, statin use and biologic therapy.

Abstract 1 Table 1

Variable	Psoriasis cohort (n=275)
Demographic and Clinical Characteristics	
Age, years	49.8 ± 13.0
Males	163 (59)
White	218 (79)
Hypertension	80 (29)
Hyperlipidemia	118 (43)
Type-2 diabetes mellitus	28 (10)
Anti-hypertensive therapy	67 (24)
Statin therapy	78 (28)
Diabetes therapy	25 (9)
Current smoker	33 (12)
Body mass index	28.6 (25.1-32.9)
Waist-hip ratio	0.95 (0.90–1.00)
Framingham risk score	1.89 (0.48-5.36)
Clinical and Lab Values	
Systolic blood pressure, mmHg	122 (112-131)
Diastolic blood pressure, mmHg	72 (66-78)
Pulse, beats per minute	67 (60-78)
Total cholesterol, mg/dL	183 (158-208)
HDL cholesterol, mg/dL	52 (44-66)
LDL cholesterol, mg/dL	104 (84-123)
Triglycerides, mg/dL	102 (76-141)
Glucose, mg/dL	96 (90-105)
Albumin, g/dL	4.3 (4.1-4.5)
Homocysteine, µmol/L	10 (8-12)
Hemoglobin A1c	5.4 (5.1-5.8)
High-sensitivity C-reactive protein, mg/L	1.8 (0.8-4.2)
Allostatic load score	3.00 (1.00-5.00)
Psoriasis Characterization	
Psoriasis area severity index score	6.00 (3.00-10.30)
Biologic therapy	83 (30)
Vascular Characterization	
Total coronary artery burden, mm^2 (x100)	1.22 ± 0.55
Non-calcified coronary artery burden, mm^2 (x100)	1.16 ± 0.54
Dense calcified coronary artery burden, mm^2 (x100)	0.06 ± 0.11

Allostatic load score was determined using a count-based summation method designed by Chyu *et al*. We assigned one point for each index of allostatic load score: body mass index; systolic and diastolic blood pressure; evidence of anti-hypertensive, lipid-lowering or diabetes medication; pulse; total cholesterol; HDL; homocysteine; albumin; glucose; high sensitivity C-reactive protein. Race was self-identified. Values are reported as Mean ± SD or Median (IQR) for continuous data and N (%) for categorical data. P-value<0.05 was deemed significant

Conclusions Allostatic load score related to chronic stress may drive asymptomatic CAD in psoriasis. Further study is needed to understand the CVD effects of stress (and stress reduction) in this population.

2 POSITIVE REMODELING INDEX IS ASSOCIATED WITH HIGH-SENSITIVITY TROPONIN-T IN PSORIASIS IN A PROSPECTIVE OBSERVATIONAL COHORT STUDY (3343283)

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Purpose of Study Psoriasis is a chronic inflammatory condition associated with accelerated coronary atherosclerosis and early myocardial infraction. This is driven through increased prevalence of rupture-prone high-risk coronary plaque (HRP) features which includes positive remodeling (PR) and a large lipid-rich necrotic core (LRNC). High-sensitivity troponin (hs-cTnT) is a highly specific serum biomarker used to detect myocardial injury. We hypothesized that HRP features are associated with increased plasma hs-cTnT in psoriasis.

Methods Used Consecutive psoriasis patients (n=130) underwent CCTA (320-detector, Toshiba Aquilion) to characterize LRNC and remodeling ratio (vascuCAP, Elucid Bioimaging) as part of an ongoing cohort study (PACI). PR index was defined as a remodeling ratio $\geq$ 1.4. Circulating plasma hs-cTnT levels were measured by immunoassay (Roche, Switzerland). Logistic regression was used to assess the association between PR index and LRNC with hs-cTnT levels in unadjusted and adjusted models. (STATA 12).

Summary of Results Psoriasis patients were middle-aged and predominantly male, with a low cardiovascular disease risk as measured by 10-year Framingham risk score and mild-moderate psoriasis (table 1). PR index was significantly associated with a positive hs-cTnT adjusted for Framingham risk score, body-mass-index, statin use and presence of left ventricular hypertrophy on EKG (unadjusted OR 3.74 (1.42 – 9.88),

Abstract 2 Table 1 Baseline characteristics of psoriasis cohort

Parameters	(n=130)
Demographic and Clinical Characteristics	
Age, years	50.7 ± 11.8
Male sex, n (%)	81 (62)
Hypertension, n (%)	31 (24)
Hyperlipidemia, n (%)	53 (41)
Type-2 diabetes, n (%)	10 (8)
Current smoker, n (%)	36 (28)
Lipid Treatment, n (%)	14 (11)
Body mass index (kg/m^2)	29.2 ± 6.1
Framingham risk score	2.5 (0.8 - 5.6)
Clinical and Lab Values	
Total cholesterol (mg/dL)	184.0 ± 36.1
Triglycerides (mg/dL)	120.9 ± 72.4
HDL cholesterol (mg/dL)	56.4 ± 16.9
LDL cholesterol (mg/dL)	103.0 ± 27.8
Glucose (mg/dL)	99.0 ± 16.5
C-reactive protein (mg/l)	1.9 (0.7 - 4.5)
High-Sensitivity Troponin >6 ng/dL, n (%)	46 (35)
Psoriasis Characterization	
Total Body Surface Area Index	4.6 (2.3 - 10.4)
Psoriasis Area and Severity Index	5.3 (2.8 - 8.9)
Qualitative Coronary Artery Analysis	**(n=390)**
High risk plaque by visual read, n (%)	84 (23)
Remodeling index	1.12 (1.06 – 1.25)
Positive remodeling present (>1.4 mm), n (%)	48 (12)
Lipid-rich necrotic core (mm^2)	2.51 (1.61–3.68)

p=0.008; adjusted OR 4.35 (1.43 – 13.27), p=0.010). However, LRNC did not associate with having a positive hs-cTnT (unadjusted OR 1.62 (0.89 – 2.95), p=0.114; adjusted OR 1.63 (0.84– 3.17), p=0.149).

Conclusions In psoriasis, elevated PR index associates with positive hs-cTnT beyond traditional CV risk factors and LVH, implying positive arterial remodeling may be associated with downstream myocardial injury.

3 A REGIONAL MODEL OF DIRECT TO CONSUMER TELEMEDICINE: EXPANDING ACCESS TO PEDIATRIC SPECIALTY CARE (3368884)

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Purpose of Study The goal of this study was to describe the impact of a direct to consumer telemedicine program on access and utilization and track metrics for consultations.

Methods Used This was a retrospective observational study utilizing data from finance, the electronic health record and telemedicine platform. Descriptive statistics were used to summarize visit metrics.

Summary of Results From April 2016 to October 2019, we performed 1441 DTC telemedicine visits. Mean patient age was 13.4 years; 54% were females. Payer categories were: 64% commercial, 33% public, 3% uninsured or 'other'. The average wait time in the virtual waiting room for DTC visits was 2.2 minutes, compared to the average wait time of 11 minutes and travel time of 34 minutes for in-person health care services. DTC telemedicine resulted in a 95.1% relative reduction in time when compared to average time for wait and travel for in-person professional health services. On average DTC telemedicine saved 64,845 miles travelled (45 miles/consult). 25 subspecialties provided DTC telemedicine care. Highest visit volumes were provided by behavioral health, endocrinology neuropsychology, gastroenterology, and pulmonary medicine. The grant for underserved children funded 376 DTC telemedicine visits for 272 underserved children.

Conclusions Travel and wait times for health care services in the US remained stagnant from 2006 to 2017. Our DTC telemedicine program resulted in a significant reduction in travel and wait times. DTC telemedicine may be the technologic solution to reduce the burden of travel and wait time for patients.

4 EPINEPHRINE IS INVOLVED IN THE PATHOPHYSIOLOGY OF HYPOGLYCEMIA ASSOCIATED AUTONOMIC FAILURE (HAAF) (3369787)

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Purpose of Study Recurrent hypoglycemia leads to HAAF, with blunted counterregulatory hormone responses to subsequent hypoglycemic episodes. Since adrenergic receptor blockade prevents HAAF, we investigated to what extent the rises in plasma epinephrine (EPI) associated with hypoglycemia predict the development of HAAF.

Methods Used Protocol 1: We assessed EPI responses to successive episodes of hypoglycemia and its role in inter-individual differences in susceptibility to HAAF: 18 non-diabetic subjects (age 43±2yrs) underwent two 2-hour hyperinsulinemic hypoglycemic clamp studies(glucose nadir 54 mg/dl; separated by a 2-hour euglycemic break) on Day 1, followed by a third 2-hour hypoglycemic clamp on Day 2. Blood samples were collected at 15-min intervals for measures of plasma EPI during Day 1 and Day 2. Reduction of the peak EPI levels by at least 20% between the 1st and the 3rd hypoglycemic clamp was considered as HAAF. Protocol 2: To specifically define the role of EPI in the pathogenesis of HAAF, we challenged an additional 7 non-diabetic subjects (age 32±4 years) with two 2-hour infusions of EPI (0.03 μg/kg/min;0–2h and 4–6 h) on Day 1 followed by 200-min stepped hypoglycemic clamp (90, 80, 70 and 60 mg/dl, each for 50 min) on Day 2, with evaluation of EPI responses and hypoglycemic symptoms.

Summary of Results Protocol 1: Ten out of 18 subjects developed HAAF by the 3rd hypoglycemic episode (peak EPI 1st vs. 3rd episode: HAAF subjects, p=0.001). Peak plasma EPI levels during the 1st hypoglycemic episode were ~64% higher in the subjects who developed HAAF compared to those who did not (p=0.02). Protocol 2: Compared to saline, EPI infusion on Day 1 of Protocol 2 induced 40% and 28% reductions in EPI response to hypoglycemia at the 70 and 60 mg/dl glucose steps on Day 2, respectively (all p<0.05). There were parallel reductions in hypoglycemic symptoms (all p<0.05). The rate of glucose infusion was higher at all steps after EPI infusion (all p<0.05).

Conclusions Rises in EPI similar to those seen with hypoglycemia reproduce key features of HAAF in non-diabetic subjects. Marked inter-individual variability in EPI levels in response to hypoglycemia may explain why some people are more prone to develop HAAF.

5 FAST TRACK EXTUBATION IN PATIENTS WITH CORONARY ARTERY BYPASS GRAFTING (CABG) SURGERY; ARE WE DOING MORE HARM THAN GOOD? (3372420)

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Purpose of Study Fast-track extubation (FTE) protocol is perioperative anesthetic management that aims to facilitate tracheal extubation of patients within 6 h of cardiac surgery.[1] Early extubation time results in massive cost savings in terms of reduction in intensive care unit stay (ICUS). Here, we present the effect of peri-operative ventilation duration on FTE protocol, and the effects of FTE on ICUS.[2]

Methods Used A retrospective chart review of Abington Hospital-Jefferson Health over a span of two years was performed. Data on coronary artery bypass surgery (CABG) was collected and analyzed using an independent sample student t-test on SPSS 22.

Summary of Results A total of 90 CABG patients comprising of 73% male and 27% female were included in the study. The main risk factors for coronary artery disease were hypertension (80%), Diabetes Mellitus (46%), and hyperlipidemia (61%). Other comorbidities included were a history of stroke, chronic kidney disease (CKD), and COPD in 33%, 14%, and 8% of patients, respectively. Only two patients were re-intubated within 48 hours of the post-CABG extubation period. The mean duration spent on a mechanical ventilator was 11.5 ±12 for patients with early reintubation versus 9.8±9 for those who were not reintubated. The mean difference was 1.6 (95% CI -11–14 days), not significantly different between the two groups (t-0.2, df=86, p=0.8). The average ICUS for reintubated was 18±21 compared to only 8±4 days for patients not requiring re-intubation. The mean difference in ICUS between the two groups was 9.4 (95% CI 2–16 days), significantly lower in the non-reintubated patients (t=2.7, df=86, p=0.008).

Conclusions Adherence to FTE protocol and avoidance of reintubation can substantially reduce the post-CABG ICUS. In this era of health-care cost escalation, this can effectively reduce the burden on the health-care system without compromising patient outcomes.

REFERENCES

1. Zhu F, Lee A, Chee YE. Fast-track cardiac care for adult cardiac surgical patients. The Cochrane Database Syst Rev. 2012;**10**:CD003587
2. Cheng DC. Fast track cardiac surgery pathways: early extubation, process of care, and cost containment. *Anesthesiology* 1998;**88**:1429–1433.

6 IMPACT OF CSF MENINGITIS/ENCEPHALITIS PANEL ON HOSPITALIZATION AND ANTIBIOTIC USE FOR FEBRILE INFANTS 60 DAYS AND YOUNGER (3370702)

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Purpose of Study Management of febrile infants ≤60 days is variable. The BioFire FilmArray Meningitis/Encephalitis Panel PCR (MEP) tests for pathogens in cerebrospinal fluid (CSF) with a turnaround time of ~1 hour. We evaluated whether use of MEP is associated with decreased hospital length of stay (LOS), antibiotic duration, and acyclovir use for febrile well-appearing infants ≤60 days.

Methods Used Retrospective chart review of infants at our pediatric ED with chief complaint of fever with a CSF culture from July 2017 to April 2019. Patients excluded if ill-appearing, admitted to an intensive care unit, or had a diagnosis of focal or systemic infection. We used the Mann-Whitney U test to compare hospital LOS and antibiotic and acyclovir duration, and odds ratios to compare antibiotic and acyclovir initiation for infants with and without MEP. Subgroup analyses were performed on infants ages 0–28 days and infants 29–60 days.

Summary of Results 241 patients met study criteria (86 with MEP, 155 without MEP). There was no difference in hospital LOS (42 h with MEP vs. 40 h without MEP, p=0.18). Almost all (>96%) infants in both groups received antibiotics. Of patients receiving antibiotics, those with MEP received 32 hours compared to 30 hours for those without MEP (p=0.01). Odds of acyclovir initiation for infants with MEP was twice that of those without MEP (34% with MEP vs. 19% without MEP; OR 2.1, 95% CI 1.2–3.9). Of infants receiving acyclovir, those with MEP had a median of 1.0 hour of acyclovir use compared to 7.5 hours among those without (p=0.07). For infants ages 0–28 days, 42% with MEP received acyclovir compared to 17% without MEP (OR 3.5, CI 1.6–7.9). For infants 29–60 days, 21% of infants in both MEP groups received acyclovir.

Conclusions Use of MEP was not associated with decreases in hospital LOS, antibiotic initiation, or acyclovir duration in well-appearing infants with fever. MEP use was associated with acyclovir initiation in younger infants, suggesting clinicians might preferentially order MEP for more severe presentations or have a lower threshold to start acyclovir if HSV results have a faster turnaround time.

7 THE RACE IN DIAGNOSIS AND MANAGEMENT OF HEMOPHAGOCYTIC LYMPHOHISTIOCYTOSIS (3369863)

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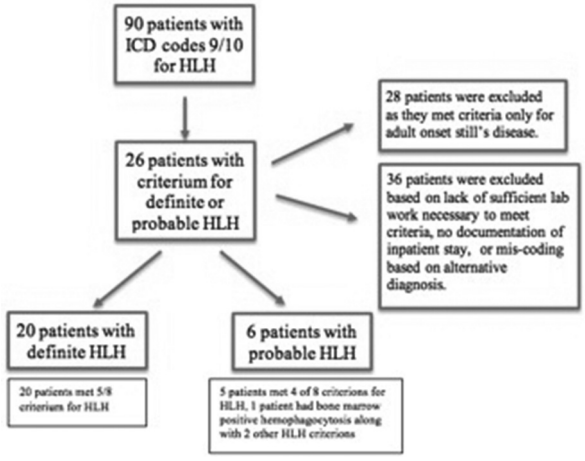
Purpose of Study To compare time from admission to HLH consideration, sub-specialty consultation, and initiation of immunosuppressive therapy between HLH patients who were discharged alive and those who died during their inpatient stay.

Methods Used After IRB approval, Montefiore Electronic Medical Record database was queried between 2006–2019 to identify all the patients who had ICD coding for HLH. Patients >18 years old with definite HLH diagnosis (meeting 5/8 diagnostic criterion) or probable HLH (meeting 4/8 diagnostic criterion or positive tissue biopsy) were included in the study. Statistical analysis was performed with Wilcoxon rank-sum tests, Chi-squared tests and Fisher's exact tests.

Summary of Results After retrospective review, 26 patients met criteria for the study. (figure 1) Baseline demographics



Abstract 7 Figure 1 Flowchart inclusion exclusion

Abstract 7 Table 1 Median time from day of admission to HLH consideration, immunosuppression initiation and delta time from HLH consideration to immunosuppression initiation between the two groups

	Total (N=26)	Discharged Alive (N=15)	In-Hospital Death (N=11)	
Day of first consultation, median (IQR)	2.0 (1.0, 3.0)	1.0 (1.0, 2.0)	2.0 (2.0, 3.0)	**0.0187**
Day HLH first considered, median (IQR)	5.5 (2.0, 9.0)	5.0 (1.0, 7.0)	8.0 (2.0, 12.0)	0.1822
Days from HLH consideration to immunosuppression started, median (IQR) [n=2 missing]	2.0 (0.0, 3.0)	0.0 (0.0, 2.0)	3.5 (2.0, 13.0)	**0.0011**
Day immunosuppression started, median (IQR)	8.5 (3.0, 12.0)	5.0 (1.0, 9.0)	12.0 (5.0, 18.0)	**0.0133**

revealed that majority of patients were hispanic (39%, p=0.62) and male (62%, p=0.43) with a median age of 38 (p=0.63). Infection was the most common secondary cause for HLH (46%, p=0.95). Majority of patients presented with fever (92%, p=0.5), anemia (77%, p=0.35), thrombocytopenia (73%, p=0.66), and ferritin >10,000 (58%, p=0.37). 57% of patients had biopsy positive for hemophagocytosis (p=0.66, n=5 missing). In patients with in-hospital deaths, the median time to 1st sub-specialty consultation was 2.0 days, time to HLH consideration was 8.0 days, time from consideration of HLH to immunosuppression was 3.5 days and overall time to immunosuppression was 12 days. (table 1).

Conclusions Time to subspecialty consultation, HLH consideration, and immunosuppression initiation was later amongst HLH patients with in-hospital deaths compared to those discharged alive. Future study prospects include creating a multidisciplinary hospital-based protocol for early identification and treatment for HLH.

8 ASSOCIATION BETWEEN VISCERAL ADIPOSE TISSUE VOLUME AND CORONARY ARTERY BURDEN OVER TIME IN PSORIASIS (3367703)

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Purpose of Study Psoriasis, a chronic inflammatory disease, is associated with early MI as well as increased cardiometabolic risk including adipose tissue dysregulation. We have previously shown that volume-based CT measurement of visceral adipose tissue (VAT) associates with subclinical vascular disease by FDG PET but this has not been evaluated by CTA. CTA effectively captures early coronary disease. Therefore, we sought to investigate the association between VAT and non-calcified coronary artery burden (NCB) in psoriasis over time.

Abstract 8 Table 1

Parameter	Decreased VAT			Increased VAT			
	Baseline	One-year	p-value	Baseline	One-year	p-value	p-value*
Demographics and Medical History	n=67	n=67		n=71	n=71		
Age, years	52.4 ± 13.8	53.5 ± 13.8	**<0.001**	47.8 ± 10.8	49.0 ± 10.7	**<0.001**	**0.03**
Males	39 (58)	39 (58)	1.00	44 (62)	44 (62)	1.00	0.73
Hypertension	21 (31)	20 (67)	0.65	18 (25)	14 (20)	0.10	0.46
Hyperlipidemia	32 (48)	36 (54)	0.21	29 (41)	28 (39)	0.71	0.49
Type 2 diabetes mellitus	8 (12)	8 (12)	1.00	4 (6)	3 (4)	0.32	0.23
Current smoker	6 (9)	5 (7)	0.32	14 (20)	6 (8)	**0.01**	0.09
Statin use	25 (37)	25 (37)	1.00	19 (27)	17 (24)	0.16	0.20
Body mass index	30.4 ± 6.3	29.3 ± 6.1	**0.001**	28.9 ± 5.3	29.8 ± 5.4	**<0.001**	0.15
Waist-to-hip ratio	0.95 ± 0.08	0.95 ± 0.07	0.50	0.96 ± 0.09	0.97 ± 0.07	0.29	0.52
Clinical and laboratory							
Total cholesterol, mg/dL	181.0 ± 35.2	176.3 ± 40.4	0.31	184.5 ± 37.7	189.9 ± 39.5	0.11	0.57
HDL cholesterol, mg/dL	54.6 ± 16.9	55.0 ± 17.4	0.75	54.8 ± 17.6	58.2 ± 23.0	**0.02**	0.94
LDL cholesterol, mg/dL	102.7 ± 28.4	98.1 ± 35.8	0.25	104.5 ± 30.6	104.4 ± 33.1	0.96	0.73
Triglycerides, mg/dL	122.0 ± 79.5	118.9 ± 56.2	0.71	125.8 ± 78.4	137.1 ± 77.4	0.21	0.78
Framingham risk score	3.4 (0.8-10.1)	3.8 (1.0-7.1)	0.49	2.1 (0.6-5.4)	2.0 (1.0-5.0)	0.09	0.13
High sensitivity c-reactive protein, mg/L	2.3 (0.9-4.2)	1.3 (0.7-3.6)	**0.004**	1.5 (0.6-4.2)	1.4 (0.7-3.8)	0.53	0.26
Psoriasis characterization							
Psoriasis area severity index score	6.4 (3.2-12.5)	3.6 (2.2-5.7)	**<0.001**	4.4 (2.3-7.3)	2.8 (1.5-5.3)	**0.004**	**0.02**
Systemic biologic treatment	18 (27)	31 (46)	**<0.001**	26 (37)	41 (58)	**<0.001**	0.43
Coronary characterization							
Non-calcified burden (x100)	1.22 ± 0.53	1.11 ± 0.47	**0.004**	1.10 ± 0.52	1.21 ± 0.65	**0.007**	0.05
Adipose characterization							
Visceral adiposity	17572.1 ± 9120.7	14947.1 ± 8214.2	**<0.001**	15154.1 ± 9031.4	17258.9 ± 9252.4	**<0.001**	0.12
Subcutaneous adiposity	22833.3 ± 13507.2	20136.9 ± 11119.4	**<0.001**	18012.5 ± 8868.7	19395.0 ± 9143.5	**<0.001**	**0.01**

All values are reported as Mean ± SD or Median (IQR) for continuous variables and as N (%) for categorical variables.
*p-value between baseline groups

Methods Used Consecutively recruited psoriasis patients (N=138) underwent CCTA and CT scans at baseline and one-year to measure NCB and VAT respectively. VAT volume was quantified from vertebral level T10 to pelvis by CT. Coronary artery burden was assessed using dedicated semi-automated software (QAngio, Medis, Netherlands).

Summary of Results Psoriasis patients (n=138) were middle aged, predominantly male, with low CV risk by Framingham risk score and moderate skin disease severity (table 1). In those who reduced VAT at one year (17572.1 ± 9120.7 vs. 14947.1 ± 8214.2, p=<0.001) there was a reduction in NCB (1.22 ± 0.53 vs. 1.11 ± 0.47, p=0.004). In contrast, patients with increased VAT at one-year (15154.1 ± 9031.4 vs. 17258.9 ± 9252.4, p=<0.001) had an increase in NCB (1.10 ± 0.52 vs. 1.21 ± 0.65, p=0.007). Finally, change in VAT between baseline and one-year was associated with change in NCB beyond adjustment for traditional risk factors, subcutaneous adiposity changes, baseline subcutaneous adiposity, prevalent coronary plaque, statin use and biologic therapy (b=0.20, p=0.009).

Conclusions A worsening VAT at one-year was associated with a worsening NCB at one-year follow up. These findings underscore the importance of VAT as a relevant biomarker that may capture the metabolic risk associated with NCB outside of traditional risk factors. Larger prospective studies will be required to validate these relationships and should include adipose tissue studies.

9 FACTORS ASSOCIATED WITH PERCEPTION OF LIFE EXPECTANCY IN ASSAULT-INJURED URBAN YOUTH (3372680)

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Purpose of Study Assault-injured youth are at-risk for negative health outcomes, including future assault-related injuries and homicide. This study aimed to identify factors associated with perception of minimized life expectancy in this at-risk population.

Methods Used Assault-injured youth (n =188; ages 10–15 years; 61% male; 96% black) were recruited from two urban pediatric emergency departments (Baltimore, MD and Philadelphia, PA) to participate in a mentoring intervention to prevent future violence. At enrollment, youth were asked 'Do you think you will live to 35?'; youth responding 'yes' (optimistic life expectancy) were compared to youth responding 'maybe' (uncertain life expectancy) using descriptive statistics, t-tests and chi-square analysis. Demographics, prior experiences, opinions about violence, and perceived self-control were some of the factors analyzed as cross-sectional predictors.

Summary of Results Of 188 eligible youth, 59 (31.4%) were defined as having an uncertain life expectancy. Youth with an uncertain life expectancy were more likely to have a family member injured by violence in the past (61.0% vs. 43.4%, p=0.028) or who belonged to a gang (42.1% vs. 19.2%, p=0.002) and reported being less likely to take steps to avoid a fight (57.6% vs. 76.7%, p=0.01) and to think about consequences before acting (70.7% vs. 87.6%, p=0.007). These youth were more likely to believe that revenge is a good thing (47.4% vs. 29.0%, p=0.019), report getting in many fights (49.1% vs. 21.3%, p<0.001), report hanging around with kids who get into trouble (52.6%, vs. 29.9%, p=0.005), report to have previously threatened someone with a knife or a gun (20.7% vs. 7.0%, p=0.011), and think about suicide (42.9% vs. 7.9%, p<0.001). Finally, youth with an uncertain life expectancy felt less likely to go to college, less likely to have a successful career, and more likely to have difficulty finding a good job as an adult.

Conclusions One third of assault-injured early adolescents expressed uncertainty of living until age 35. Several risk factors and behaviors were identified as being associated with perception of minimized life expectancy, including thoughts of suicide. Future violence prevention interventions should consider these factors and investigate the impact an uncertain life expectancy has on future behaviors and response to violence prevention interventions.

10 NILOTINIB AS AN INNOVATIVE TREATMENT FOR ALZHEIMER'S DISEASE: A CELL CULTURE EVALUATION (3342847)

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Purpose of Study No disease-modifying treatments are currently available for Alzheimer's disease (AD). New therapies are needed urgently. The tyrosine kinase inhibitor (TKI) nilotinib, an FDA-approved leukemia drug, is undergoing clinical trials for AD. This study analyzes effects of nilotinib on expression of genes relevant to neuronal function and amyloid processing in SH-SY5Y human neuroblastoma cells. Information gleaned from these experiments may be useful in predicting efficacy of nilotinib and the TKI drug class in AD.

Methods Used SH-SY5Y were exposed to nilotinib at 0, 1, 5 and 10μM for 24h, N=5 per condition. Expression of critical genes in amyloid precursor protein (APP) processing were measured by QTR-PCR. These genes include APP, β-secretase (BACE)1, which initiates Aβ formation and α-secretase (ADAM10), that leads to non-amyloidogenic pathway. Also quantified: 27-hydroxylase (27-OHase) and LDL-receptor related protein (LRP), vital for brain cholesterol balance, acetylcholinesterase (AchE), target of blockers in AD therapy, nuclear respiratory factor 1 (NRF1) and mitochondrial transcription factor A (TFAM) – 2 regulators of mitochondrial biogenesis.

Summary of Results There was a concentration-dependent trend towards increased AchE (p=0.08) and LRP (p=0.08) mRNA levels with nilotinib. 27-OHase mRNA increased significantly with increasing nilotinib concentration (p=0.03). In the presence of 5% AD patient plasma, nilotinib increased ADAM10 compared to 5% AD plasma without nilotinib (p=0.07). Nilotinib did not change significantly other mRNAs evaluated.

Conclusions Possible mechanisms of favorable effects of nilotinib in AD may be attributed to increases in ADAM10 and LRP. ADAM10 is anti-amyloidogenic while LRP directly protects against loss of neurons and promotes amyloid clearance. Any increase in AchE could aggravate AD by impairing transmission at cholinergic synapses. Increased 27-OHase would generate more of the blood-brain barrier permeable 27-hydroxycholesterol. Effects of this metabolite are

unpredictable, but may enhance brain cholesterol egress, improving balance. The impact of nilotinib suggests that developing a treatment to directly upregulate LRP and ADAM10 without unwanted off-target effects might be a novel approach to AD.

11 FACTORS ASSOCIATED WITH SUCCESSFUL MENTOR MATCHING IN AN INTERVENTION STUDY OF YOUTH VIOLENCE (3372700)

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Purpose of Study One challenge of conducting intervention studies is ensuring that study participants complete the intervention. For instance, in our randomized controlled trial of Take Charge!, an emergency department-based, mentor-implemented and research-informed violence prevention program that partners with one-on-one community-based mentoring agencies, only 50% of intervention youth were successfully matched with a mentor, which was a key component of the intervention. Understanding differences between those who complete the intervention and those who do not can further inform the implementation of future studies.

Methods Used Between June 2014-June 2016, we recruited 188 assault-injured youth aged 10–15 years from two urban pediatric emergency departments (Baltimore, MD and Philadelphia, PA). Participants were randomized to receive an intervention that included referral to Big Brothers Big Sisters for pairing with a mentor (n=98) or a comparison group that received usual care (n=90). Of the intervention group, 49 (50.0%) youth were successfully matched with a mentor and 49 (50.0%) were not matched. Using descriptive statistics, t-tests and chi-square analysis, we compared matched and unmatched youth with regard to demographics, time from injury to study enrollment, perceived seriousness of injury, willingness to change, risk behaviors, and a measure of household chaos.

Summary of Results Youth who were successfully matched with a mentor did not differ significantly from youth who were not matched in terms of gender (57.1% male vs. 61.2% male, p=0.84), mean age (13.1 ± 1.6 years vs. 13.7 ± 1.4 years, p=0.15), race (100% vs. 95.9% African American, p=0.49) or socioeconomic status (32.6% vs. 20.4% with household income < $25,000/year, p=0.25). The mean number of days between the emergency department visit for treatment of the assault-related injury and study enrollment did not differ between the groups (71.1 vs 78.2, p=0.67). Youth who were successfully matched with a mentor were more likely to perceive the injury as very serious or somewhat serious compared with unmatched youth (95.9% vs. 79.6%, p=0.028). All other factors (willingness to change, risk behaviors, and household chaos) were not significantly associated with successful mentor matching.

Conclusions Youth perception of seriousness of injury was associated with successful mentor matching in our study population. This may be related to the youth's motivating factors for prevention of future injury. Future violence prevention interventions should consider youth perceptions as a factor that may influence the successful completion of desired interventions.

12 PSORIASIS AND TREATMENT WITH STATINS: A DESCRIPTIVE ANALYSIS IN AN ONGOING COHORT STUDY (3368200)

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Purpose of Study Psoriasis is a chronic inflammatory disease associated with increased risk of cardiovascular disease (CVD). While statins minimize CVD risk by lowering plasma LDL, they are underutilized. We sought to understand prevelence of statin treatment in psoriasis.

Methods Used 284 consecutive psoriasis patients from the Psoriasis Atherosclerosis Cardiometabolic Initiative were stratified based on statin use to understand treatment patterns of hyperlipidemia.

Summary of Results Psoriasis patients on statins were older (58.1 ± 10.2 vs. 46.9 ± 12.4, p≤0.001), more predominantly male (75% vs. 52%, p≤0.001), and had a higher Framingham risk score (4.9 vs. 1.4, p≤0.001) (table 1). Psoriasis patients on statins had higher prevalence of hypertension (51% vs. 22%, p≤0.001), hyperlipidemia (95% vs. 21%, p≤0.001), and type-2 diabetes (22% vs. 5%, p≤0.001). Psoriasis patients on statins had lower total cholesterol (163 mg/dL vs. 191 mg/dL, p≤0.001), LDL (83 mg/dL vs. 110 mg/dL, p≤0.001) and HDL (49 mg/dL vs. 55 mg/dL, p=0.006); however, patients on statins had increased non-calcified coronary burden (1.16 mm2 vs. 0.97 mm2, p≤0.001) and dense-calcified coronary burden (0.028 mm2 vs. 0.013 mm2, p≤0.001), which attenuated when adjusting for traditional risk factors (p=0.646).

Abstract 12 Table 1 Baseline description of psoriasis patients dischotomized by statin therapy

Variable	No Statin Therapy N=203	Statin Therapy N=81	P-Value
Demographic and Clinical Characteristics			
Age, years	46.9 ± 12.4	58.1 ± 10.2	**<0.001**
Males	106 (52)	61 (75)	**<0.001**
Hypertension	45 (22)	41 (51)	**<0.001**
Hyperlipidemia	43 (21)	77 (95)	**<0.001**
Type-2 diabetes	11 (5)	18 (22)	**<0.001**
Body mass index	28.1 (24.9-31.9)	29.6 (26.1-35.3)	**0.02**
Current smoker	26 (12)	8 (9.8)	0.47
Clinical and Lab Values			
Total cholesterol, mg/dL	191 (166-216)	163 (142-185)	**<0.001**
HDL cholesterol, mg/dL	55 (46-70)	49 (40-63)	**0.006**
LDL cholesterol, mg/dL	110 (90-129)	83 (68-105)	**<0.001**
Triglycerides, mg/dL	97 (68-138)	115 (90-172)	**0.003**
Framingham risk score	1.4 (0.3-3.7)	4.9 (1.8-10.7)	**<0.001**
High sensitivity c-reactive protein, mg/L	1.3 (0.8-4.8)	1.3 (0.7-3.2)	0.06
HbA1c, %	5.3 (5.0-5.7)	5.7 (5.5-6.2)	**<0.001**
Psoriasis Characterization			
Psoriasis area severity index score	6.2 (3.0-10.8)	5.1 (3-9.2)	0.32
Biologic treatment	59 (29)	27 (34)	0.44
HOMA-IR and GlycA			
HOMA-IR	2.5 (1.6-4.1)	3.8 (2.4-6.3)	**<0.001**
GlycA	398 (353-451)	406 (367-442)	0.47
Coronary Characterization			
Non-calcified coronary burden, mm^2 (x100)	0.97 (0.78-1.32)	1.16 (0.88-1.6)	**<0.001**
Dense-calcified coronary burden, mm^2 (x100)	0.013 (0.003-0.05)	0.028 (0.008-0.095)	**<0.001**

Values reported in the table as Mean ± SD Median (IQR) for continuous data and N(%) for categorical data. HOMA-IR: Homeostasis Model Assessment of Insulin Resistance

Conclusions Psoriasis patients with traditional risk factors are usually treated with statins. However, when these patients lack traditional risk factors, they are not treated with statins despite having higher cardiometabolic risk, supporting recent ACC/AHA guidelines on early initiation of statins in psoriasis.

13 RELATIONSHIP BETWEEN BODY MASS INDEX, PSORIASIS SEVERITY, AND CORONARY ARTERY BURDEN IN PSORIASIS OVER TIME(3367447)

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Purpose of Study Psoriasis is a chronic inflammatory disease associated with higher prevalence of cardiovascular risk factors as well as increased non-calcified coronary artery burden (NCB). Body mass index (BMI) and inflammation as assessed by Psoriasis Area and Severity Index (PASI) are strong predictors of NCB. We sought to assess whether both improvement in BMI and markers of inflammation may associate with changes in coronary artery burden in psoriasis compared to improvement in one of these factors alone.

Methods Used 157 consecutive psoriasis patients underwent coronary CTA to assess NCB using QAngio (Medis, Netherlands). PASI improvement was defined as 50% or greater improvement in skin disease severity. Baseline and one-year characteristics were explored for four groups: patients who improved neither PASI nor BMI, patients who improved only PASI, patients who improved only BMI, and patients who improved both BMI and PASI at one-year (STATA 12).

Summary of Results Psoriasis patients were middle-aged, male, overweight, and had low Framingham risk score (table 1). Patients that had improvement in neither BMI (29.7±6.4 vs. 30.7±6.6, p=<0.002) nor PASI (4.2 (2.1–6.2) vs. 4.4 (2.8–6), p=0.20) at one-year had an 11.7% increase in NCB (1.16 ±0.51 vs. 1.23±0.56, p=0.04) at one-year follow-up. Concurrently, patients that had improvement of PASI only (6.6 (4.0–12.5) vs 1.3 (0.6–2.8)) or BMI only (29.3±5.4 vs. 27.6±5.1, p<0.001) at one-year had no significant change in their NCB (1.23±0.57 vs. 1.18±0.55, p=0.22) and (1.10±0.43 vs. 1.09 ±0.49, p=0.76), respectively, at one-year follow-up. However, patients that improved both PASI (10.4 (6.6–20.4) vs. 2.5 (1–3.6), p<0.001) and BMI (30.2±6.1 vs. 28.9±6.0, p<0.001) at one-year had a 6.9% reduction in NCB (1.30±0.68 vs. 1.21±0.70, p=0.04).

Conclusions Improvements in both BMI and inflammation assessed by PASI at one year were associated with reduction in NCB compared to improvement in BMI or PASI alone. These findings suggest that lifestyle intervention such as weight loss along with treatment of chronic inflammation may have beneficial effects on vascular health in psoriasis.

Abstract 13 Table 1 Description of psoriasis patient at baseline and one year

Parameter	No BMI Improvement without PASI 50 Improvement			No BMI Improvement and PASI 50 Improvement			Improvement in BMI without PASI 50 Improvement			Improvement in BMI and PASI 50 Improvement			At baseline*
	Baseline (N=50)	One-year (N=50)	P-value	Baseline (N=34)	One-year (N=34)	P-value	Baseline (N=42)	One-year (N=42)	P-value	Baseline (N=31)	Four-year (N=31)	P-value	P-value (baseline)
Demographic and Clinical Characteristics													
Age, years	51.6 ± 11.3	52.6 ± 11.4	**<0.001**	50.5 ± 11.0	51.7 ± 10.9	**<0.001**	49.0 ± 13.4	50.2 ± 13.4	**<0.001**	51.7 ± 12.5	52.7 ± 12.4	**<0.001**	0.73
Males	33 (66)	33 (66)	1	24 (71)	24 (71)	1	21 (50)	21 (50)	1	21 (68)	21 (68)	1	0.24
Hypertension	13 (26)	13 (26)	1	9 (26)	9 (26)	1	14 (33)	14 (33)	1	6 (20)	6 (20)	0.32	0.49
Hyperlipidemia	20 (40)	20 (40)	1	16 (47)	16 (47)	1	17 (40)	19 (45)	0.48	11 (35)	14 (45)	0.48	0.82
Type-2 diabetes	1 (2)	1 (2)	1	3 (9)	3 (9)	1	7 (17)	7 (17)	1	1 (3)	1 (3)	1	0.05
Current smoker	7 (14)	4 (8)	0.18	5 (9)	3 (9)	0.16	8 (19)	5 (17)	0.32	2 (6)	1 (3)	0.32	0.52
Statin use	14 (28)	14 (28)	1	11 (32)	15 (44)	0.05	13 (31)	14 (33)	0.56	7 (23)	7 (23)	1	0.84
Clinical and Lab Values													
Total cholesterol, mg/dL	190.3 ± 39.7	184.8 ± 40.8	0.18	175.6 ± 40.5	173.5 ± 35.7	0.77	179.6 ± 39.6	184.2 ± 37.2	0.41	191.2 ± 32.3	187.1 ± 40.1	0.43	0.21
HDL cholesterol, mg/dL	55.6 ± 17.3	54.7±19.3	0.56	54.3 ± 24.2	54.3 ± 15.1	0.34	56.5±18.4	60.3±20.4	0.02	57.4±19.1	57.5±17.6	0.95	0.93
LDL cholesterol, mg/dL	108.2 ± 32.7	101.8±33.1	0.11	98.0±32.5	95.4±35.6	0.65	99.0±27.4	99.9±27.5	0.85	110.3 ± 25.3	105.9±34.9	0.34	0.13
Triglycerides, mg/dL	127.7 ± 85.6	140.6 ± 92.8	0.26	122.9 ± 113.5	124.7 ± 62.6	0.91	120.4 ± 63.6	120.1 ± 66.0	0.97	117.8 ± 64.5	119.1±61.6	0.88	0.84
Framingham risk score	2 (1-5)	2 (1-5)	0.40	2 (0-6)	1 (1-7)	0.74	1 (0-5)	1 (1-4)	0.62	4 (1-8)	4 (1-6)	0.85	0.17
Hs-CRP, mg/L	1.3 (0.9-3.1)	1.8 (0.9-3.2)	0.48	1.2 (0.7-3.0)	1.1 (0.7-3.0)	0.80	2.3 (0.7-3.8)	2.0 (0.7-4.4)	0.88	2.2 (0.7-5.9)	1.1 (0.6-3.7)	0.02	0.74
Body Mass Index (BMI)	29.7±6.4	30.7±6.6	**<0.001**	29.3±6.4	30.4±6.5	**<0.001**	29.3±5.4	27.6±5.1	**<0.001**	30.2±6.1	28.9±6.0	**<0.001**	0.92
Glucose mg/dL	96.7±12.3	101.7±13.4	**0.001**	97.8±13.9	100.7±12.6	0.05	101.4±20.2	105.5±29.1	0.33	101.3±16.8	98.6±14.3	0.13	0.43
HOMA-IR	2.0 (1.5-3.5)	2.8 (1.5-4.7)	**0.04**	3.2 (1.4-4.7)	4.6 (1.8-6.7)	**0.03**	2.98 (2.0-5.6)	2.6 (1.9-5.1)	0.89	3.3 (2.2-5.4)	2.4 (1.5-5.2)	**0.02**	0.08
Psoriasis Severity													
PASI	4.2 (2.1-6.2)	4.4 (2.8-6)	0.20	6.6 (4.0-12.5)	1.3 (0.6-2.8)	**<0.001**	4.3 (3.0-7.7)	5.1 (2.6-9.3)	0.83	10.4 (6.6-20.4)	2.5 (1-3.6)	**<0.001**	**<0.001**
Biologic treatment	15 (30)	23 (46)	**0.01**	10 (29)	27 (80)	**<0.001**	14 (33)	16 (38)	0.32	8 (26)	24 (77)	**<0.001**	0.14
Coronary Characterization													
Non-calcified burden, mm^2 (x100)	1.16±0.51	1.23±0.56	**0.04**	1.23±0.57	1.18±0.55	0.22	1.10±0.43	1.09±0.49	0.76	1.30±0.68	1.21±0.70	**0.04**	0.47

HS-CRP: High sensitivity C-reactive protein. HOMA-IR: Homeostatic Model Assessment of Insulin Resistance. PASI: Psoriasis Area and Severity Index. Values reported in the table as Mean ± SD (95% CI) or Median (IQR) for continuous data and N(%) for categorical data. P-value less than 0.05 was deemed significant. P-values were derived form a single paired t-test and ANOVA for parametric variables and a chi-squared test for categorical data. Non-parametric variables were compared using the kruskal-Wallis and Wilcoxon rank-sum tests.

14 DIFFERENTIAL EFFECTS OF IFN-λ AND IFN-γ IN THE HUMAN INFANT AIRWAY EPITHELIUM(3372638)

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Purpose of Study Understanding how human infant airway epithelial cells (AEC) respond to viral infections is essential to advance our knowledge of the pathogenesis of viral bronchiolitis and childhood asthma. The goal of this study was to define human infant AECs responses to interferon lambda (IFN-λ) and interferon gamma (IFN-γ). These antiviral molecules are present in the airways of human infants during viral respiratory infections and the AEC has abundant receptors for both IFN-λ and IFN-γ. Notably, while IFN-γ is predominantly produced by immune cells, IFN-λ is exclusively secreted by the epithelium. Since these antiviral molecules have very different airway sources we postulated they may also have distinct regulatory actions in the AEC. Specifically, we tested the hypothesis that IFN-λ and IFN-γ have differential effects in the infant AEC expression of chemokines that dictate trafficking and homing of immune cells to the airway mucosa.

Methods Used We generated conditionally reprogrammed cells (CRC) from nasal AECs harvested from three different infant donors (6–12 months). After CRC reversal, human infant AEC (monolayer cultures) were separately exposed to IFN-λ or IFN-γ in a dose and time response manner. Experiments were repeated in combination with double-stranded (ds) RNA to examine the effects of IFN-λ or IFN-γ in the presence of viral stimuli. RNA isolated from human infant AEC exposed to IFN-λ or IFN-γ was used for genome-wide transcriptomic analysis with enrichment for AEC chemokines.

Summary of Results We found that human infant AEC exposed to dsRNA, IFN-λ or IFN-γ showed similar upregulation of antiviral and IFN signature genes including IFIT1, IFI44L, RSAD2, CXCL11 and CXCL10. However, IFN-λ and IFN-γ induced a very distinct AEC chemokine signature characterized by IFN-λ-mediated induction of B cell-attracting chemokine 1 (BCA1/CXCL13), which was strongly downregulated by IFN-γ. Conversely, IFN-λ did not induce the NK/TH1 cell chemoattractant molecule CXCL9, which was strongly upregulated by IFN-γ. These IFN-λ or IFN-γ chemokine signature pattern was replicated in AEC from all human infant donors.

Conclusions IFN-λ and IFN-γ have differential effects in the human infant AEC expression of chemokines that regulate the trafficking of B-cell or NK/TH1 cells to the airway mucosa. This represents a new IFN-λ/IFN-γ-mediated mechanism by which the human infant AEC may regulate the nature of mucosal immune responses during early-life viral respiratory infections. Further examining the balance of IFN-λ and IFNγ actions in the human infant airway may provide new insights into the pathogenesis of viral bronchiolitis and childhood asthma.

15 RESVERATROL MODULATES NEURO-LUPUS IN AN ATHEROSCLEROSIS-PRONE LUPUS MURINE MODEL (3372733)

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Purpose of Study Neuropsychiatric lupus (NPSLE) is a result of central nervous system involvement in the autoimmune disorder systemic lupus erythematosus (SLE). Neurologic and psychiatric manifestations are broad and vary in severity. They range from headache and cognitive dysfunction to memory loss, psychosis and seizures. The pathogenesis, while not well-understood, is inflammation-based. Along with CNS effects, SLE elevates risk for cardiovascular complications, such as atherosclerosis, stroke, and myocardial infarction. Poor vascular health related to lupus can exacerbate neurologic and cognitive dysfunction. Patients with NPSLE have increased morbidity and mortality and do not always respond well to the traditional anti-inflammatory and immunomodulatory treatments utilized in the standard care of SLE. It has been postulated that this lack of efficacy may indicate a direct correlation between the cognitive changes involved in this complication of lupus and the interaction between vascular disease and chronic inflammation. Previously, the bioactive nutraceutical compound resveratrol, was found to have neuroprotective effects on the cognitive deficits in ApoE/Fas double knockout (DKO) atherosclerosis-prone lupus mice as measured by behavioral tests. The goal of this study was to correlate behavioral findings and cellular changes in the brain. We hypothesized that resveratrol treatment of atherosclerosis-prone lupus mice would attenuate cellular changes in the hippocampus associated with neuroinflammation, consistent with higher cognitive function in treated animals.

Methods Used Brain sections from ApoE/Fas DKO resveratrol-treated (1% resveratrol in water) and untreated mice were stained with hematoxylin and eosin to visualize the hippocampus. Tissues were then examined and photographed under light microscopy and captured images analyzed. Dentate gyri (DG) were outlined and measured using ImageJ for volume. Brains were also stained with Iba1 antibody (1:500) and confocal microscopy was used to quantify number of microglia in the hippocampus.

Summary of Results Resveratrol treated ApoE/Fas DKOs had significantly larger DG areas (160.7 ± 9.7 pixels) compared to untreated mice (124.4 ± 7.2 pixels; $t(8) = 2.997$, $p = 0.017$). Resveratrol- treated ApoE/Fas DKOs had more Iba1 + cells (2323 ± 418 cells) compared to untreated mice (1445 ± 426 cells) but this difference did not reach significance ($t(2) = 1.471$, $p = 0.279$).

Conclusions Preliminary results indicate that resveratrol has a positive impact on the anatomical and cellular features of the hippocampus and exhibits ameliorating effects in atherosclerosis-prone lupus mice. This is consistent with known neuroprotective effects of resveratrol and may indicate a role for this compound in human neurolupus, a grave complication for which current treatment options are limited.

16 IDIOPATHIC PULMONARY FIBROSIS: LUNG EPITHELIAL CELL PRO-FIBROTIC CHANGES MITIGATED BY ASTAXANTHIN (3361138)

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10.1136/jim-2020-ERM.16

Purpose of Study Idiopathic pulmonary fibrosis (IPF) is a progressive fibrosing interstitial pneumonia with a poor prognosis and limited treatment options. Small airway epithelial cells (SAEC) play a prominent role in the pathogenesis of IPF by producing key pro-fibrotic mediators. Astaxanthin (ASTX), a non-provitamin A carotenoid and potent antioxidant, ameliorates pulmonary fibrosis in murine models. This study examines the effect of ASTX on cultured human SAEC. Understanding how ASTX attenuates fibrosis can open the door to IPF treatment through carotenoid-sensitive pathways.

Methods Used SAEC from normal human lung tissue, consisting of alveolar epithelial cells type 1 and 2, were grown in small airway epithelial growth media with supplements. When they reached confluence, the cells were exposed to the pro-fibrotic cytokine TGFβ (5ng/ml, 72h) followed by ASTX (25mM , 48h) or DMSO vehicle control for 48h. Expression of Type I collagen and the intracellular signal transducer and transcriptional modulator SMAD3, both critical genes in IPF pathology, were measured by SYBR-Green-based real-time PCR using specific primers for each gene and normalized to the housekeeping gene GAPDH.

Summary of Results Treatment of SAEC with TGFβ increased expression of Type I collagen mRNA by 500% (95%CI: 327 to 766%). The addition of ASTX to TGFβ-treated SAEC reduced the expression of SMAD3 mRNA by 73% (95%CI: 1 to 900%) and reduced expression of Type I collagen mRNA by 15% (95%CI: 35 to 212%).

Conclusions IPF is characterized by over-accumulation of extracellular matrix and excess deposition of collagens. TGFβ is the most critical fibrogenic factor in IPF and SMAD3 is the main activation protein of the TGFβ/SMAD signalling pathway, regulating genes that promote fibroblast differentiation and proliferation and inducing collagen synthesis. This study shows that ASTX antagonizes TGFβ-mediated SMAD3 mRNA expression and reduces collagen expression in human SAEC. This proof-of-concept study suggests that ASTX acts through SMAD3 to counter TGFβ-induced collagen overproduction. This negative regulation of the fibrosis-promoting pathway by ASTX may explain its potential as an anti-fibrotic and lead to development of carotenoid-based targeted treatment for IPF.

17 CHOLESTEROL DEFICIENCY AS A MECHANISM FOR AUTISM: A VALPROIC ACID MODEL (3367755)

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10.1136/jim-2020-ERM.17

Purpose of Study Autism spectrum disorders (ASDs) are neurodevelopmental disorders with lifelong consequences and poorly understood pathophysiology. Dysregulated cholesterol metabolism is implicated in ASD etiology. Cholesterol is essential for neuroactive steroid production, myelin sheath formation, and normal brain development. Early postnatal or in utero exposure to the antiepileptic drug valproic acid (VPA), a branched short-chain fatty acid, causes autism-like neural and behavioral deficits in humans and rodents. This study examines the link between VPA and cholesterol deficit in cultured human neurons and microglia.

Methods Used SHSY-5Y human neuroblastoma cells and HMC3 human microglial cells were exposed to VPA at 0, 250, 1000 and 5000 μM for 24h, N=3 per condition. Expression of critical genes that regulate cholesterol transport were quantified by RT-PCR using specific primers for each. These include the efflux proteins ABCA1, ABCG1, 27-hydroxylase (27-OHase) and 24-hydroxylase (24-OHase), and the influx scavenger receptor CD36 - all vital for brain cholesterol balance. Expression of these target genes was normalized to concurrently measured GAPDH mRNA levels.

Summary of Results In SH-SY5Y neurons, VPA exposure caused a concentration-dependent increase in ABCA1 ($P < 0.001$), ABCG1, 27-OHase ($P < 0.001$) (figure 1), and CD36 ($P = 0.015$). In HMC3, VPA exposure caused a concentration-dependent increase in ABCG1 (80-fold at highest dose, $P \leq 0.001$) and 24-OHase ($P < 0.001$) with a reduction in ABCA-1 ($P = 0.002$) and an increase in CD36 ($P < 0.001$).

Conclusions This study shows that VPA has a dramatic hypocholesterolemic effect on two key cell types that compose the developing brain. The net impact of the changes observed in these cholesterol-related genes would be outflow and metabolism. Further, enhanced 27-OHase activity produces an oxysterol metabolite with neurotoxic effects that include downregulating synaptic proteins and decreasing neurite number and length. Together, our results suggest that VPA impairs brain cholesterol homeostasis. A better understanding of the involvement of cholesterol in the mechanisms by which VPA leads to ASDs may translate into novel preventative therapies for this serious disorder.

18 CHANGES IN CYTOKINE PROFILE WITH PROSTATE CANCER TREATMENTS: A POTENTIAL TOOL FOR DETERMINING PROGNOSIS AND DESIGNING OPTIMAL SYNERGISTIC THERAPY (3363597)

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10.1136/jim-2020-ERM.18

Purpose of Study Activating the immune system and altering the tumor microenvironment are promising new strategies for prostate cancer (PCa) treatment with the goal of harnessing the patient's intrinsic anti-tumor immune response. Therapeutic options for men with PCa have varying effects on the immune system. The goal of this study is to evaluate the immune response in men after either total prostate cryotherapy (TC, Group 1), radical prostatectomy (RP, Group 2), focal prostate (hemiablation) cryotherapy (FC, Group 3) or stereotactic body radiation therapy via CyberKnife (SBRT, Group 4). Documentation of changes in the cytokine environment provoked by different treatments can elucidate signaling mechanisms activated by each approach and aid in determining appropriate adjunct therapies to improve outcome.

Methods Used This 4-arm study enrolled 32 patients treated as described in Groups 1–4 for histologically proven prostate adenocarcinoma. Patients with evidence of metastatic disease or known immunologic disease were excluded. Urine samples were analyzed at 3 time points: before PCa treatment, immediately following treatment (2 ± 1 week) and 3 months post-treatment. A comprehensive cytokine panel was obtained for each sample. Technicians performing analyses were blinded to study conditions.

Summary of Results We performed an interim analysis on PCa urine from Groups 1–4. Interleukin 10 (IL10) levels increased during visit 2 in the radical prostatectomy cohort, then decreased close to baseline during visit 3. IL10 has a significant interaction (p=0.036). A similar trend was seen with IL6 and IL1a, although the interaction did not reach significance. IL1a changed significantly over time (P= 0.0175). In the TC and FC cohorts, IL1a levels increased at visits 2 and 3 relative to baseline. In the SBRT group, IL1a levels only increased at visit 3, exhibiting the largest percent change in this group. Interferon-y (IFN-y) also changed significantly over time (P=0.0099). Like IL1a, IFN-y levels rose slightly during visits 2 and 3 in TC and FC cohorts. Additionally, the SBRT group demonstrated the largest percent increase at visits 2 and 3. IL4 displayed a similar trend as a significant change was observed over time (P=0.0299), and levels rose steadily from baseline to visit 3 in the TC and FC cohorts. However, IL4 levels rose only rose slightly at visits 2 and 3 in the SBRT cohort

Conclusions Pre- vs. post-treatment cytokine levels differ in patients receiving SBRT, RP, TC, or FC. In SBRT, IFN-y elevation is sustained. However IL-10, IL-6, and IL8, and IL1a in the RP group drops at visit 3. Interestingly, levels of IL4 seemed to gradually rise postoperatively in 2 out of the 4 groups. Inflammatory cytokine profile may therefore be a useful indicator of therapeutic response and prognosis. In the PCa tumor microenvironment, cancer-derived mediators support immune evasion. Evaluation of changes in cytokine profile evoked by different PCa therapies may allow a precision medicine approach in designing synergistic immunotherapies leading to more favorable outcomes.

19 BETA-LACTAM EXPOSURE IS ASSOCIATED WITH RECOVERY OF MICROBIAL DIVERSITY IN THE CF AIRWAY (3369653)

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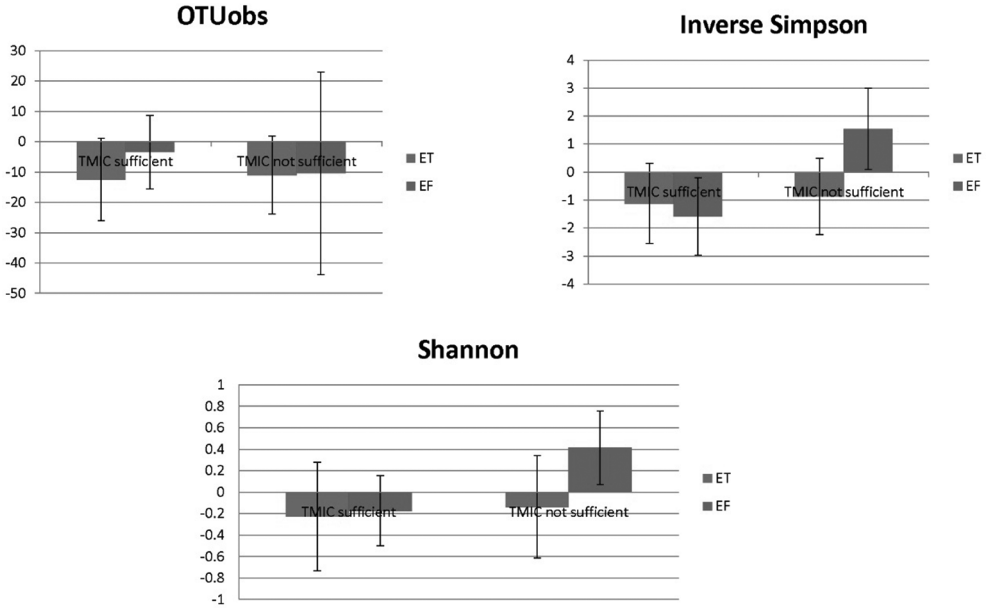
10.1136/jim-2020-ERM.19

Purpose of Study Cystic fibrosis (CF) is a chronic suppurative lung disease characterized by acute pulmonary exacerbations (PEx) that are frequently treated with antibiotic therapy. The impact of antibiotics on airway microbial diversity remains a critical knowledge gap, as decreased diversity is associated with decreased lung function. We sought to define the impact of pharmacokinetics/pharmacodynamics (PK/PD) on richness and alpha diversity.

Methods Used Twenty-seven children <18 years of age with CF participated in the prospective study. Airway samples were collected at hospital admission for PEx, end of antibiotic treatment (Tr), and >1 month in follow up (FU). Bacterial DNA was extracted and shotgun whole genome sequencing was performed. MetaPhlAn2 was used to assign sequencing reads to bacterial taxa. Alpha diversity measures were determined using vegan in R; differential abundance of taxa were determined using MaAsLin2. Serum beta-lactam levels were collected and measured using LCMS/MS, and PK/PD modeling to determine time above the minimum inhibitory concentration (T>MIC) was done with MW/Pharm. Differences in demographics and microbial diversity were measured using Chi-square and generalized linear models.



Abstract 19 Figure 1 Changes in richness and alpha diversity

Summary of Results 52% of study participants had sufficient T>MIC for optimal bacterial killing. No significant differences were noted in the demographics or PEx characteristics, excepting F508del homozygosity (69% TMIC insufficient vs 21% TMIC sufficient, p=0.020). No significant differences were noted in richness, alpha diversity, or the presence of particular bacterial taxa at any time point between the two groups. Additionally both groups experienced a decrease in richness and alpha diversity at Tr compared to PEx. However, alpha diversity remained decreased at FU compared to PEx in those with sufficient T>MIC but increased in those with insufficient T>MIC (figure 1 Shannon -0.175 vs 0.415, p=0.016 and inverse Simpson -1.585 vs 1.541, p=0.003).
Conclusions These findings suggest beta-lactam T>MIC influences recovery of alpha diversity following the antibiotic exposure period.

20 LEUKOCYTOSIS AND HYPERGLYCEMIA AS ADDITIONAL INDICATORS OF INTRACRANIAL INJURY IN PEDIATRIC TRAUMA PATIENTS (3371880)

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10.1136/jim-2020-ERM.20

Purpose of Study The PECARN Pediatric Head Injury/Trauma Algorithm is the current standard to determine which patients with blunt head injury should undergo head CT. While CT is recommended for high-risk patients, the decision is less definitive for intermediate-risk patients, who then often require 4–6 hours of observation. Elevated serum glucose and/or WBC count have been previously associated with abnormal CT findings in adult patients with mild head trauma. Currently, there is no consideration of serum glucose or WBC when determining risk of head injury in pediatric patients. Our objective is to determine if serum glucose and/or WBC can be used as predictors of head injury in pediatric trauma patients.
Methods Used Single center retrospective study of all pediatric patients (age 0–18) from January 2018 - January 2019 meeting institution criteria for trauma team activation. Exclusion criteria were cardiac arrest or peri-arrest, drowning, history of recent infection, immunosuppression, metabolic or hematologic disorders. The primary outcome variable was the presence of intracranial injury identified on radiography. Charts were reviewed in the medical record and laboratory values and imaging results were abstracted. We used student's t-test to test for statistically significant differences in lab values between patients with and without intracranial injury and used a p-value < 0.01 as our cutoff for significance.
Summary of Results We reviewed 123 patient encounters meeting criteria for trauma team activation. There were 22 cases of intracranial injury found on CT who were evenly divided between high-risk and intermediate-risk patients based on the PECARN algorithm. Patients with intracranial injury had statistically significant higher average WBC 14.2k (SD=5) vs. 9.8k (SD=4.1) and serum glucose 132 (SD=59) vs. 107 (SD=24) when compared to patients without injury.
Conclusions Our data suggest that serum glucose and WBC count are additional, objective data points that may help to further stratify patients at low risk for intracranial injury that are currently classified as intermediate risk by the PECARN algorithm. These patients may be able to be discharged or undergo a shorter observation period.

21 SOCIOECONOMIC FACTORS AND OUTCOMES FROM EXERCISE-RELATED SUDDEN CARDIAC ARREST IN HIGH SCHOOL STUDENT-ATHLETES (3342817)

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10.1136/jim-2020-ERM.21

Purpose of Study A recent study reported that survival from sudden cardiac arrest (SCA) was lower in minority student-athletes compared to white non-Hispanic athletes. The current study examined the relationship between high school indicators of socioeconomic status (SES) and survival in student-athletes with SCA.
Methods Used Exercise-related SCA in high school student-athletes was prospectively identified from July 1, 2014 to June 30, 2018 by the National Center for Catastrophic Sports Injury Research. Medical examiner and public records were used to determine race. High school indicators of SES included: 1) median household and family incomes by school zip codes, and 2) proportion of students on free/reduced lunch.
Summary of Results 112 cases were identified during the 4-year study period (mean age 15.7, 88.4% male, 49.1% white non-Hispanic). Overall survival was 67% (75 survivors, 37 deaths). Survival was higher in white non-Hispanic (41/55; 74.5%) versus all minority (24/47; 51.1%) student-athletes (difference 23.4%; P=0.014). The mean household and family incomes were higher in schools with survivors (difference = $3760 and $5308, respectively) but did not reach statistical significance. Survival was also higher in the highest 10% for both median household and family income (10/12; 83.3%) versus the lowest 10% (7/12; 58.3%) although did not reach statistical significance (P=0.371). For the 2014/15–2015/16 school years, survival was higher in schools with the lowest 10% (4/5; 80%) for free/reduced lunch versus the highest 10% (0/5; 0%) for free/reduced lunch (difference 80%; P=0.048), but this difference was not maintained across the 4-year study period (7/9; 77.8% versus 5/9; 44.4%; difference 33.4%; P=0.620).
Conclusions Minority student-athletes with exercise-related SCA on high school campuses have a lower survival rate than white non-Hispanic athletes, but this difference is not fully explained by markers of SES for the school. However, all SES indicators suggest a possible relationship between higher SES in schools and SCA survival. Further research is needed to understand racial/ethnic differences in outcomes from SCA in student-athletes. Intrinsic factors rather than school resources alone should be explored.

22 ADMINISTERING OR WITHHOLDING ANTIHYPERTENSIVES ON THE DAY OF ELECTIVE SURGERY; A DOUBLE-EDGED SWORD (3372410)

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10.1136/jim-2020-ERM.22

Purpose of Study Hypotension is a common occurrence in up to 75% of patients in the early postoperative (post-op) period. In this study, we sought to explore the potential causes of post-op hypotension in patients undergoing elective surgical procedures.

Methods Used A retrospective chart review at Abington Hospital-Jefferson Health from January 2017–' December 2018 identified a total of 100 patients undergoing elective surgical procedures such as hernia repair or laparoscopic cholecystectomy. Data was analyzed with chi-square statistics and independent sample t-test. Alpha criteria for significance was set at a p-value of less than 0.05 using SPSS version 22.

Summary of Results The mean age of the included population was 69±13 years with 63% male and 37% female. The mean preoperative hemoglobin (Hb) was 13.6 g/dL, post-op Hb was 12.2 g/dL and post-op Hb drop was 1.1 g/dL. Of all patients, 23% underwent laparoscopic cholecystectomy, while 52% and 25% had an inguinal hernia and umbilical hernia repair, respectively. Twelve percent of the patients who took antihypertensives had postoperative hypotension as compared to twenty percent of the patients who did not take antihypertensives had postoperative hypotension. Chi-square value for preoperative use of antihypertensive medication effect on post-op hypotension did not reach statistical significance (p=0.29). Similarly, the use of intravenous fluids before any surgical procedure or length NPO duration (8–22 hours) had no association with post-op hypotension (p=0.19 and p=0.88, respectively.). Interestingly, the only significant association of post-op hypotension was with the amount of post-op Hb drop (p=0.04). Of note, an independent t-test based on the overall duration of NPO status from 8 to 22 hours had no significant effect on postoperative hypotension (p=0.91).

Conclusions This study shows that antihypertensives can safely be administered in the perioperative period and they don't pose any threat such as postoperative hypotension. This holds true even for those elective surgeries which get postponed up to 22 hours. Efforts should be made to optimize Hb levels to reduce the risk of post-op hypotension.

23 FREQUENCY OF OPIOID PRESCRIPTION FILLING AFTER DISCHARGE FROM THE PEDIATRIC EMERGENCY DEPARTMENT (3372898)

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10.1136/jim-2020-ERM.23

Purpose of Study Little is known about the drivers of prescription filling of pain medicine for children. In adult populations, Caucasians and patients with public insurance are more likely to fill opioid prescriptions than patients of other races and those with private insurance. Our objective was to determine if there are demographic or clinical factors that are associated with differences in opioid prescription fill rates after discharge from the pediatric emergency department (ED).

Methods Used In this retrospective cross-sectional study, we identified all patients younger than 19 years old who were discharged with a prescription for an opioid from either of two pediatric EDs associated with an academic tertiary care children's hospital in 2018. We collected patient and prescription data and information about prescription fill status from the electronic health record. We performed multivariable logistic regression to measure associations between prescription filling and demographic and clinical factors.

Summary of Results 287 patients were prescribed opioids at discharge, of which 115 (40%) were filled. The majority of patients identified were male (53%), African-American non-Hispanic (69%) and had public insurance (55%). There were no significant associations between filling and patient age, insurance status or race/ethnicity. Patients with sickle cell disease were more likely to fill their prescriptions (Odds ratio (OR) 3.68 (95% CI 2.04–6.68). In addition, patients without an identified primary care provider (PCP) were less likely to fill their prescriptions than patients with one (OR 0.15 (95% CI: 0.03–0.73). There was no difference in return visits to the ED within 72 hours between patients who filled and did not fill their prescriptions.

Conclusions Less than half of opioid prescriptions prescribed at discharge from a pediatric emergency department are filled. Patient age, insurance status and race/ethnicity are not associated with opioid prescription filling. Patients with sickle cell disease and those with a PCP are more likely to fill their opioid prescriptions. We propose future studies to determine if the low fill rate is associated with meaningful patient outcomes and if so, what are the drivers of this low fill rate.

MP1 GENE EXPRESSION PROFILE OF PULMONARY MACROPHAGES IS ALTERED FOLLOWING RESECTION OF THE PRIMARY TUMOR IN AN OSTEOSARCOMA MODEL (3337755)

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10.1136/jim-2020-ERM.24

Purpose of Study Macrophages have been implicated in mechanisms underlying surgery-accelerated metastasis. Here, we assess gene expression changes in pulmonary macrophages following complete surgical resection of the primary tumor in a model of osteosarcoma.

Methods Used Balb/c mice were divided into three groups: control (C), tumor-bearing (TB), and amputation (AMP). TB and AMP mice were injected intra-tibially with syngeneic osteosarcoma K7M2 cells. The AMP group underwent amputation of the primary tumor-bearing limb one week after tumor inoculation. After an additional three weeks, animals were sacrificed, lungs were excised, and Fluorescence-activated cell sorting (FACS) was used to isolate F4/80+/CD45+ macrophages. Macrophage RNA was isolated and analyzed using a Qiagen qPCR array of 84 immunologically and oncologically relevant genes. Fold change (2-ΔΔCT) was computed by comparing gene expression normalized to housekeeping genes in the experimental groups compared to gene expression

normalized to housekeeping genes in the control group. Student's t-tests were used for statistical analysis.

Summary of Results Tumor implantation showed a trend toward decreased macrophage expression of several genes associated with immune responses (Ccr1, Ccl2, IL-12, IL-4) and a trend toward increased macrophage expression of several genes known to have anti-immune functions (STAT3, STAT1, TFG-b). Primary tumor amputation lead to a 10.5 fold increase in macrophage CCR2 gene expression ($p=0.05$), a 4.7 fold increase in macrophage expression of the CCR1 gene ($p=0.05$), and a 4 fold decrease in macrophage gene expression of interferon-gamma (IFN-γ) ($p<0.05$).

Conclusions We demonstrate that surgical excision of a primary tumor in a model of osteosarcoma alters the gene expression profile of pulmonary macrophages weeks after surgery. CCR1 and CCR2 are two receptors known to be involved in the recruitment and retention of tumor supportive metastasis-associated macrophages (MAMs), and their gene expression in lung macrophages is highly upregulated following surgery. Interestingly, macrophage gene expression of the immunogenic IFN-γ is reduced after surgical excision. This suggests that the pro-metastatic effects of surgery occur as a result of a pro-tumor immunosuppressive environment that is generated within the metastatic niche.

MP2 VIRAL RESPIRATORY INFECTIONS IN SEVERELY PREMATURE INFANTS: IS IT APPROPRIATE TO CALL IT VIRAL BRONCHIOLITIS? (3368264)

Jered Weinstock, Maria Arroyo, Kyle Salka, Elizabeth Chorvinsky, Karima Abutaleb, Xilei XuChen, Geovanny Perez, Maria J Gutierrez, Dinesh Pillai, Susana Gaviria, Gustavo Nino. *Pediatric Pulmonology, Children's National Hospital, Washington, DC, USA*

10.1136/jim-2020-ERM.25

Purpose of Study The goal of this study was to test the hypothesis that premature infants have distinct clinical features and outcomes during early viral respiratory infections compared to full-term babies and that these differences are present from the first episode of severe viral infection. Our motivation was to show that the term viral bronchiolitis is inadequate to describe viral respiratory infections in severely premature infants.

Methods Used We compared respiratory phenotypical features during hospitalization due to viral respiratory infection in children (0–3 yrs) born full-term (n=76) vs. severely premature (<32 weeks GA, n=63). Data collection was through electronic medical record and included demographics, personal history, clinical respiratory assessment and respiratory illnesses within 12 months before and after enrollment. Nasal protein levels of IFNγ, IL-10, IL-4, IL-13, IL-1β, TNFα were quantified in all subjects.

Summary of Results A total of 139 children hospitalized with PCR-confirmed viral respiratory infection were enrolled (mean age 12 months). We identified that severely premature babies had a more severe clinical course of viral respiratory infection with higher respiratory distress scores ($p<0.01$). We also found that relative to full-term babies, premature babies were more likely to have multiple (>1) respiratory hospitalizations during the study period (OR=4.9, $p<0.01$). Premature babies were also more likely to have wheezing or sub-costal retractions relative to full-term subjects independently of virus type or individual airway cytokine responses ($p<0.05$).

Conclusions Premature infants have a more severe clinical presentation during early viral respiratory infections compared to full-term babies. These differences are independent of virus type and are present from the first episode requiring hospitalization. These data indicate that the terminology used to describe the first episode of viral respiratory infection in full-term babies (viral bronchiolitis) is inadequate for severely premature infants. Studying the pathobiology of viral respiratory infections in premature babies is urgently needed to guide new diagnostic and therapeutic interventions for this population.

MP3 EVALI: ON THE RISE (3372988)

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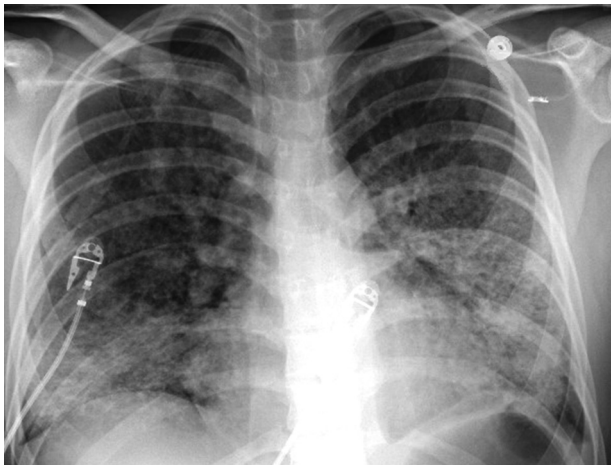
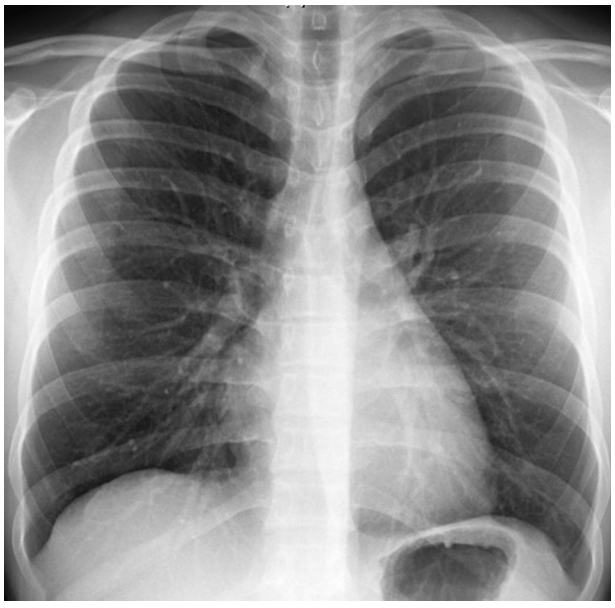
10.1136/jim-2020-ERM.26

Purpose of Study Introduction E-cigarette or Vaping product use associated lung injury(EVALI) is a new respiratory illness that is potentially life-threatening caused by vaping nicotine and cannabis products. We present a case of a young male who presented with respiratory illness and diagnosed with EVALI and how we treated. Case Presentation Twenty-year-old male with no past medical history presented to the hospital with high-grade fever, productive cough and shortness of breath for ten days. He completed a course of Azithromycin with persistent symptoms. On presentation, he was hemodynamically stable but febrile with a temperature of 101.2 saturating at 87% on room air. His initial blood work was unremarkable. His chest x-ray showed moderately diffuse bilateral lower lobe infiltrates (figure 1). Blood cultures and sputum cultures were negative. On further questioning, he mentioned about vaping for two and a half years. He uses nicotine and tetrahydrocannabinol(THC) components which were not oil-based. He denied smoking or the use of other illicit drugs. He was initially started on broad-spectrum antibiotics which were later stopped. He was started on intravenous(IV) methylprednisolone 80 mg per day. He started to show improvement. He was transitioned to oral prednisone starting with 1 mg/kg. He was discharged on a tapering dose of steroids. A repeat chest x-ray two weeks later showed complete resolution of infiltrates (figure 2). Discussion Vaping is a process in which an aerosol is inhaled by heating a liquid or a wax. The wax or liquid contains different substances such as nicotine, THC, cannabidiol, and additives like glycerol, propylene glycol. The first case of EVALI was recognized in the summer of 2019. According to CDC, as of October 2019, 1604 cases of EVALI have been reported with 34 deaths. Among the 19 EVALI patients who died and for whom CDC had available data on substances used, 84% reported any use of THC-containing products, 37% reported any use of nicotine-containing products, 63% reported exclusive use of THC-containing products, and 16% reported exclusive use of nicotine-containing products. The pathogenesis of EVALI is currently unknown. No single constituent has been proven to be the pathogen. Vitamin E oil was recently postulated as the culprit but it remains inconclusive. Only a few patients of EVALI underwent lung biopsy. The pathology noted includes acute fibrinous pneumonitis, diffuse alveolar damage, lipid-laden macrophages, and organizing pneumonia.



Abstract MP3 Figure 1



Abstract MP3 Figure 2

Clinical features include predominantly respiratory symptoms. Constitutional symptoms and gastrointestinal symptoms were also seen. Progression to respiratory failure is common. The majority of patients on imaging showed bilateral ground-glass opacities. Optimal treatment is unknown. Firstly infection should be ruled out. Systemic steroids have been routinely used but its efficacy is unknown. Prognosis is variable with risk factors and progression to death was unknown at this point. At this time, CDC advises to completely avoid all e-cigarettes and vaping products in all age groups until more is known about it.

Conclusions EVALI is a new respiratory disease on the rise with a unclear pathogenesis. There are no standard treatment guidelines but the management includes ruling out infection first and routine use of steroids with unknown efficacy. Current recommendations from CDC is to completely avoid all e-cigarettes and vaping products in all age groups until more is known about it.

MP4 BIOMARKER IDENTIFICATION IN TRIPLE NEGATIVE BREAST CANCER (TNBC) PATIENTS (3370679)

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10.1136/jim-2020-ERM.27

Purpose of Study To identify methylation signatures predictive of progression toward metastatic disease in peripheral blood mononuclear cells (PBMCs) of triple negative breast cancer (TNBC) patients.

Methods Used Peripheral Blood Mononuclear cells (PBMCs) were obtained from 16 TNBC patients (7 metastatic, 9 non-metastatic). The DNA methylation status was assayed in these samples using Illumina's EPIC methylation platform. Methylation beta values and differentially methylated regions were determined using the minfi package. Bulk RNA sequencing was conducted on tumor biopsies from the same patients and differential expression analysis was conducted using the DESeq2 package. Correlation between promoter methylation and RNA expression was assessed using COHCAP package. All data analysis was conducted in the UNIX/R programming environment

Summary of Results A total of 67 differentially methylated regions were identified (> 30% variation, $p < 0.05$). Of these, 40 were open sea regions, 13 shores, 10 shelfs, and 4 islands. The strongest variation was observed for the DLG5 gene, which was hypermethylated in metastatic samples. However, RNA-seq from tumor biopsies did not reveal significant variation in its expression, which suggests modification of methylation status in cancer tissue compared to germline tissue. Considering DLG5 downregulation has been previously implicated in some metastatic cancers, it poses an intriguing target for further analysis. We also correlated PBMC methylation status with RNA seq from tumor biopsies. As would be expected, we observed both negative and positive correlation ($p < 0.05$, $r > 0.5$) between promoter methylation and RNA expression. In particular, it is likely that the positively correlated regions are indicative of differential methylation between germline and tumor tissues. These genes therefore warrant further study; a study comparing methylation status between tumor and germline tissue could provide deeper insight into these genes and their regulation

Conclusions We observed significant and divergent variations in methylation pattern between metastatic and non-metastatic TNBC patients, which warrant further study.

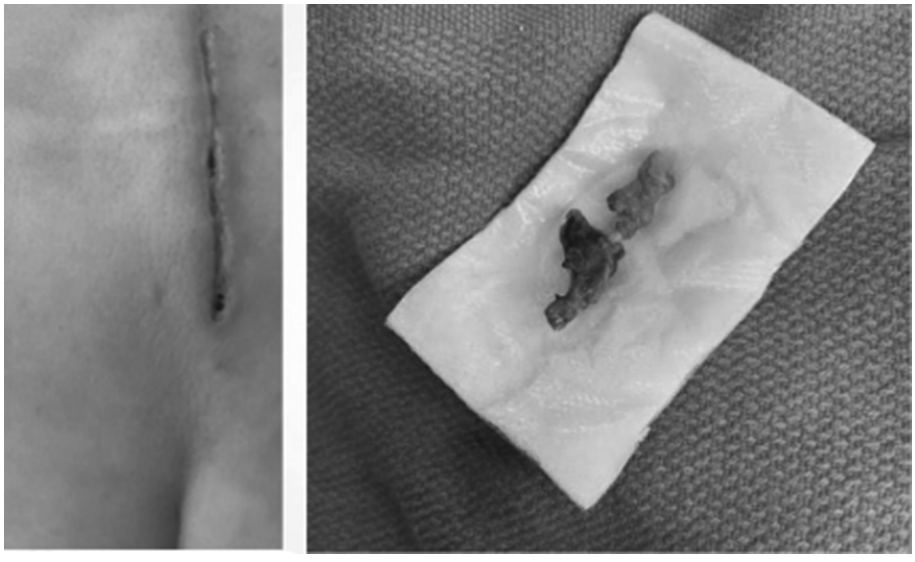
MP5 CASE OF A PEDIATRIC SPINAL DORSAL DERMAL SINUS TRACT WITH SPINAL ABSCESS AND RECURRENT MENINGITIS (3373003)

Amy Painter, Fatma Levent, Kaveh Asadi-Moghaddam, Sandra Vaz. *Pediatrics, Adventhealth for Children, Orlando, FL, USA*

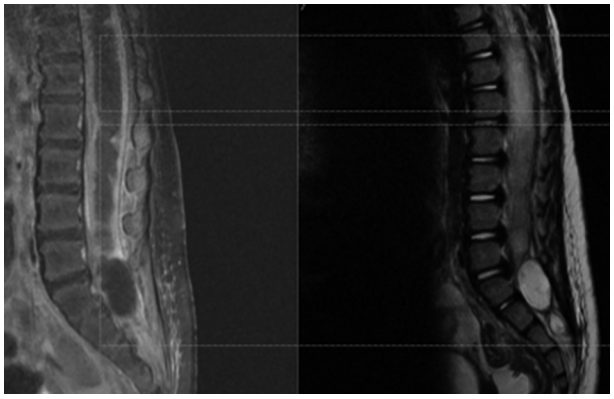
10.1136/jim-2020-ERM.28

Purpose of Study Baby A presented at 11 months of age with fever of unknown origin for 1 week accompanied by vomiting, lethargy, and feeding intolerance. She was initially treated for a presumed urinary tract infection as an outpatient but was brought to the ED when treatment was refractory. She had a pertinent past history of Cri du Chat syndrome,

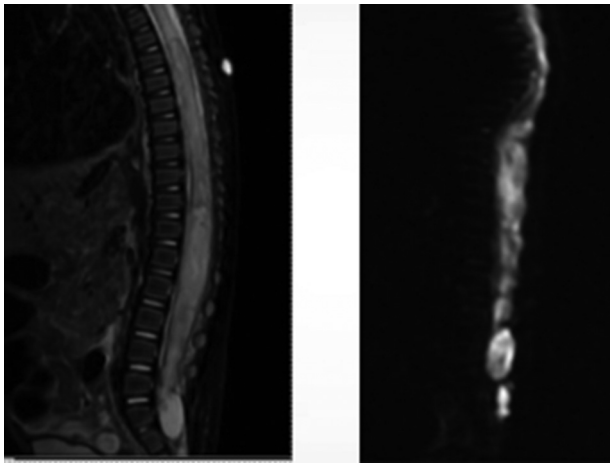
coarctation of the aorta, ASD, VSD, tracheostomy, gastrostomy, ventriculostomy, VP shunt, and bilateral hydronephrosis. She had two previously admissions where she was treated for bacterial meningitis. Initial workup showed a negative MRI and shunt series. Cultures blood and sputum initially showed no growth. A respiratory PCR was positive for rhinovirus. CMP and CBC were within normal limits except WBCs of 18.29 and CRP of 158.7. On physical exam she had a dysmorphic appearance consistent with Cri du Chat syndrome however had new findings of a mottled appearance, prolonged capillary refill, and new hypotonia and flaccidity to her lower extremities bilaterally. A rectal exam showed a loose anal sphincter and a sacral dimple without drainage. Per parent, the leg weakness and hypotonia had been present for the last few weeks. In the PICU she was kept NPO and started on Vancomycin and Cefepime IV. Consults were placed to Neurosurgery and Infectious Disease. A urinalysis showed trace leukocyte esterase. A renal ultrasound and MRI lumbar sacral spine were ordered. Imaging results were as follows: MRI brain and shunt series stable from previous Renal US hydronephrosis left greater than right slightly increased with simple free pelvic fluid MRI L Spine extensive large syrinx, suggestive of tethered cord, focal T2 lesion MRI Cervical and Thoracic Spine with large central syrinx with cord expansion, concern for intramedullary cystic collection as with an infectious process such as epidermoid cyst MRI Spine T2 to L2 spinal cord collection improved however residual present MRI Spine worsening of edema with large intramedullary abscess, severe hydrocephalus, T1 to T2 hypointense intrathecal vs subdural phlegmon collection (figure 1, 3, and 4). Surgical management included a shunt tap, sacral and lumbar laminectomies with tethered cord release as well as partial resection of intraspinal extramedullary epidermoid incision and drainage. She also underwent excision of dermal sinus tract and intradural and extradural dermoid cyst with placement of Jackson Pratt drain and cutaneous fistula repair after several days of treatment (figure 1). Postoperative management included Ceftriaxone and Flagyl, repeat imaging and rehab therapies. Cultures from surgery included a CSF culture showed colorless, clear, nucleated cells 138, glucose 34, protein 269. The CSF PCR and fungal cultures were negative. The wound culture showed gram neg rods, E. coli, and Finegoldia magna beta lactamase negative. She continued to follow up for long term antibiotic therapy with Ceftriaxone and Flagyl as an outpatient and continued to improve clinically and on repeat imaging at 30 and 60 days respectively. Spinal dorsal dermal sinus tract or DST is a rare congenital dysraphism that occurs in approximately one in every 2500 live births. It comes to clinical attention by cutaneous abnormalities, neurological deficits or infection. It is a tract lined by epithelium which traverses by variable depth into the underlying structures and in many instances terminates within the thecal sac. Spinal DSTs may have diverse and occasionally serious presentations. For example, skin lesions such as spinal dimple, hypertrichosis, sinus ostium, lipoma, aplasia of skin, telengiectasisa, or CSF leaks. They also may present as isolated or recurrent meningitis or abscess. They may be associated with tethered cord, inclusion tumors, and split cord malformations. The neurological examination is reported to be normal in the early childhood, but deficits can increase with age including motor weakness, urological issues, and pain. Benign sacral dimple and pilonidal sinus are mimics of DST. The areas in which termination points of DST lie are dorsal to spine is 6 to 7 percent, extradural 10 to 20 percent, and intradural 58 to 65 percent. DST can cause severe complications as it is a portal of entry into the intraspinal compartments that can cause meningitis or abscess formation. This may be extradural, subdural, and intramedullary or infection of associated tumor. Aseptic meningitis can occur by spillage of inclusion tumor contents or other dermal elements into the cerebrospinal fluid. Half of all dermal sinuses are associated with dermoid or epidermoid tumor, usually at the termination of these tracts, but they may be located anywhere between the skin and the neural tube. Post-operative complications include bowel and bladder incontinence. Currently no imaging modalities can accurately show intraspinal details. Heavily TI weighted MR sequences should be obtained and supplemented with sonogram in infants and with CT myelography in older children. One should have a high index of suspicion for all of the dimples above the intergluteal fold, despite a normal examination or neuroradiologic studies. All patients with spinal DSTs should be offered aggressive surgical treatment in the form of total excision of



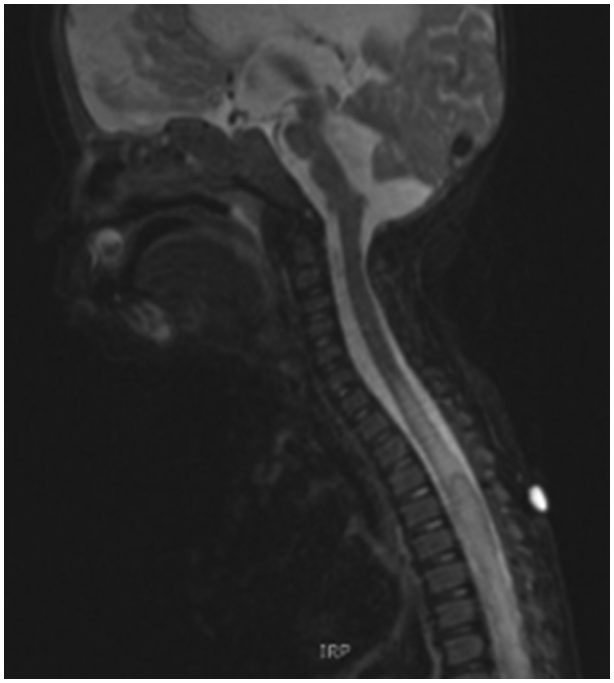
Abstract MP5 Figure 1



Abstract MP5 Figure 2



Abstract MP5 Figure 3



Abstract MP5 Figure 4

sinus tract. All dermal sinuses above the sacrococcygeal region should be explored operatively regardless of neuroimaging findings. Correction of spinal malformation should be performed as soon as diagnosed since chances of preserving and/or improving neural function are high 95 percent. There are limited case presentations of DST in published literature. In conclusion, this patient presented with recurrent bacterial meningitis and sacral dimple and was found to have a dermal sinus tract with spinal abscess that was previously undiagnosed. New clinical findings of hypotonia in lower extremities bilaterally helped lead to further investigation and imaging of her spine which elucidated the abscess and cord compression. There is currently no imaging modalities which can accurately show intraspinal details and all dermal sinuses should be explored operatively regardless of findings. In Baby A she underwent repair of the tethered cord and DST as well as incision and drainage of the abscess and cyst. Clinically she continued to show improvement post-operatively.

MP6 TRACHEAL DIVERTICULUM: DIAGNOSIS, IMPLICATIONS, AND TREATMENT OPTIONS (3372636)

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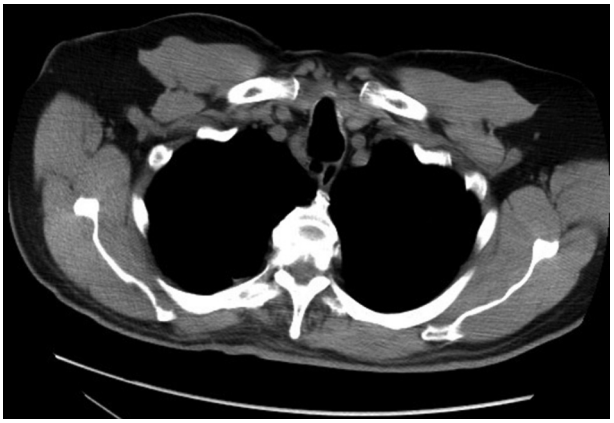
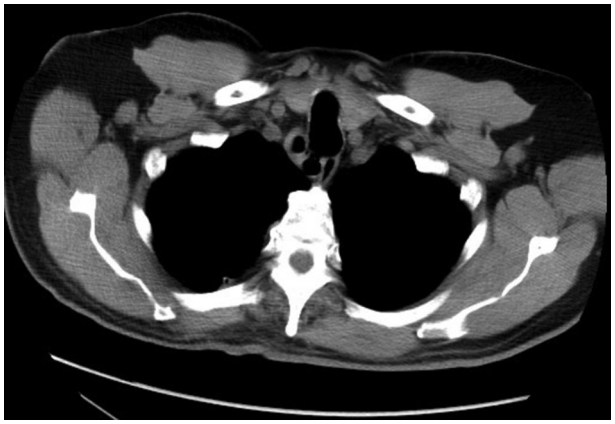
10.1136/jim-2020-ERM.29

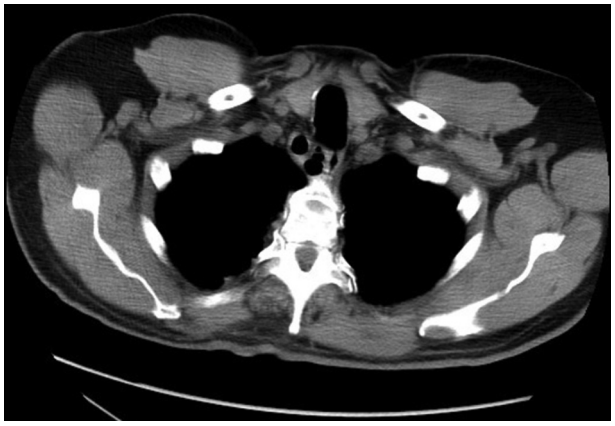
Purpose of Study Tracheal Diverticulum is a rare and often incidental diagnosis found on chest imaging in a asymptomatic patient with underlying lung disease, often seen incidentally in asymptomatic patients with underlying obstructive lung disease. Congenital and acquired types exist and have characteristic features on CT imaging and histopathologic exam. Although benign, has the potential to cause specific symptoms such as chronic upper respiratory symptoms and cough. Management includes medical and surgical depending on age and symptoms but due to its rarity, there is no standard treatment. Case 1: 72 years old male with PMH of mild intermittent asthma, chronic sinusitis, right lung lobectomy after MVA and BPH presented to the ED with complaints of dizziness on exertion and mild SOB for 1 day. The patient reported chronic cough, denied smoking history or fumes exposure. Chest CT ruled out PE but revealed incidental finding of pockets of air in superior mediastinum along the right posterior tracheal wall.



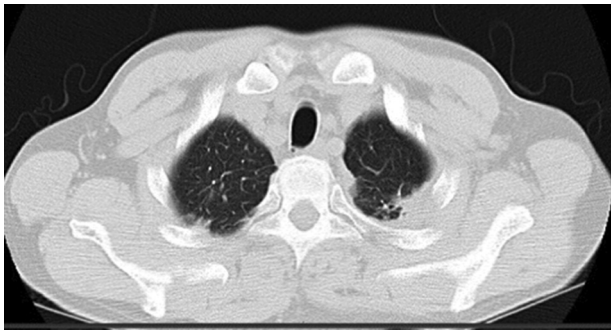
Abstract MP6 Figure 1



Abstract MP6 Figure 2



Abstract MP6 Figure 3



Abstract MP6 Figure 4

Subsequent HRCT confirmed diagnosis of TD. The patient was medically managed for acute asthma exacerbation (figure 1–3). Case 2: A 63 year old male with a PMH of treated TB, bladder cancer, HTN and hypothyroidism presented with a one-month history of progressive cough productive of blood-tinged sputum. Cough was associated with pleuritic-type chest pain and SOB, subjective fever, chills, night sweats and loss of appetite. Pt is an ex-smoker with previous 35-pack-year smoking history. Previous PFTs showed mild obstructive defect with positive bronchodilator response. CXR showed prominent hilar markings and increased cardiac silhouette. Chest CT revealed biapical pleural thickening with parenchymal nodularity,2 4 mm right lobe nodules and focal air density along the right posterolateral margin of the trachea consistent with tracheal air cyst or tracheal diverticulum (figure 4).

Methods Used

Summary of Results Tracheal diverticulum (TD) is a benign and often incidental finding on chest imaging and CT represents an effective and affordable diagnostic tool.According to their location, size, histopathology,TD can be classified in either congenital or acquired. Acquired TD has a wide opening, can be found at any level in the thoracic cavity and occurs as a result of herniation of the weakened tracheal wall due to increased luminal pressure in the trachea. Congenital TD on the other hand is thought to represent a malformation of the supernumerary branches of the trachea and usually occurs above the carina with small neck openings. The histopathological difference between them is the presence of smooth muscle and cartilage in congenital TD while acquired TD lacks these structures.Both acquired and congenital TD are often asymptomatic and conservative care is an adequate treatment in most cases. Medical management of TD include physiotherapy, mucolytic and antibiotics. When symptomatic, patients may present with cough, hemoptysis and recurrent respiratory infections due to either the compression of adjacent organs or secondary bacterial infections. In symptomatic patients, surgical treatment and endoscopic laser cauterization have been reported to be effective and safe.Either a medical or surgical approach can be chosen according to age and the presence of co-morbidities.There is a lack of consensus regarding indications for treatment due to the rarity of this cases.

Conclusions Tracheal diverticulum is defined as a benign outpouching of the tracheal wall due to structural weakness that can be congenital or acquired in origin. Most cases are found incidentally since majority of patients are asymptomatic. Uncomplicated TDs are usually asymptomatic, but when symptoms do occur,they usually present with non-specific symptoms like pharyngeal discomfort, cough, dyspnea, and recurrent respiratory infection. Asymptomatic TDs usually require no treatment and managed conservatively while surgical excision is indicated in cases of recurrent infections or compression of adjacent organs

MP7 THE INCIDENCE OF ACUTE KIDNEY INJURY IN PATIENTS UNDERGOING RIGHT HEART CATHETERIZATION (3372677)

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10.1136/jim-2020-ERM.30

Purpose of Study Contrast induced nephropathy (CIN) or contrast-induced acute kidney injury is considered an iatrogenic complication of procedures involving the intravascular administration of iodinated contrast material, and because there is no therapy for CIN, all efforts are directed towards prevention. However, more recent studies have challenged the reported incidence of contrast nephropathy, ascribing at least some cases to fluctuations in serum creatinine independent of the administration of contrast. We compared the incidence of nephropathy defined the same way as CIN is defined in patients undergoing only right heart catheterization.

Methods Used We studied 869 consecutive patients at a Veterans Administration Medical Center who underwent only right heart catheterization, which does not involve the administration of iodinated contrast.
Summary of Results Creatinine values at 72 hours after the right heart catheterization were available in 608 patients and creatinine values at 3 months were available in 769 patients. The mean age was 61.9 and 847 (97.5%) were male. The incidence of acute kidney injury (defined as an increase in serum creatinine of 0.5 mg/dL or 25% compared to baseline) at 3 days was 52 (6.0%). The incidence of nephropathy at 3 months was 127 (14.6%). Compared to patients without acute kidney injury and without nephropathy, patients with acute kidney injury and/or with nephropathy had a higher mortality at 6 months (hazard ratio [HR] 1.8, 95% confidence interval [CI] 1.2–2.6; p=0.002).
Conclusions The incidence of acute kidney injury defined as a rise in serum creatinine was significant in patients undergoing right heart catherization, despite the fact that these patients received no contrast dye. The patients who had acute kidney injury/nephropathy had poorer long-term outcomes than patients who did not have acute kidney injury/nephropathy. This suggests that serum creatinine is an unspecific diagnostic marker for contrast-induced kidney injury and that kidney injury, whether caused by administration of contrast or by other causes is associated with poorer outcomes.

MP8 DETECTION OF BACTERIAL EXTRACELLULAR VESICLES IN BLOOD FROM HEALTHY HUMANS (3372978)

[1,2]Kylie Krohmaly, [1]Claire Hoptay, [1,2]Andrea Hahn, [1,2]Robert Freishtat. *[1]Children's National Hospital, Washington, DC, USA; [2]The George Washington University, Washington, DC, USA*

10.1136/jim-2020-ERM.31

Purpose of Study Bacteria constitutively produce biologically active extracellular vesicles (EVs), which contain RNA, DNA, and/or proteins. Bacteria use these EVs for communication with other bacteria and recent research suggests bacterial EVs can also affect host cells. For example, bacterial EVs and their contents have been shown to induce cytokine production and regulate JAK-STAT signaling in T cells and HeLa cells, respectively. Given these findings, it is necessary to examine the role bacterial EVs may play in disease pathology. Current methods of bacterial EV isolation from bodily fluids cannot distinguish between bacterial series but there is utility in examining EVs from specific species, as bacterial species and their EVs may contribute to disease pathology differently. Therefore, our goal was to isolate circulating EVs specifically from Escherichia coli (Ec) and Haemophilus influenzae (Hi), two common bacteria known to be both colonizers and pathogens in the gut and airway, respectively.
Methods Used Total EVs were isolated from blood of six healthy volunteers via precipitation and size exclusion chromatography. Hi and Ec EVs were then positively selected via a novel latex bead-based fluorescent antibody sandwich construct targeting species-specific outer membrane proteins. We used flow cytometry to evaluate the isolated EVs.
Summary of Results Using the technique we established, we were able to isolate and detect EVs from Ec and Hi. Between trial variation was high, but Ec EVs were saturated at a concentration of 11.5µg of antibody per 1 mL of plasma, as geometric means at and above 11.5µg of antibody were nearly equal, but the geometric mean for 5.8µg of antibody was 52.8% lower. Hi EVs were detectable using 48µg of antibody per 1 mL of plasma, but more experiments are needed to determine saturation.
Conclusions In the future, the size and type of EV will be validated via electron microscopy and PCR, respectively. Furthermore, this technique will be modified so that specific bacterial EVs from body fluids can be used for downstream applications. This is the first time that bacterial EVs from targeted bacterial species have been detected in blood from healthy humans.

MP9 BRINGING BACTRIM TO THE FRONT LINE FOR TOXOPLASMOSIS THERAPY (3370096)

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10.1136/jim-2020-ERM.32

Purpose of Study Pyrimethamine is a life-saving drug used in the treatment of toxoplasma encephalitis. Since the outrageous 5000% price increase of pyrimethamine in 2015, its availability is very limited in the United States. While attempts have been made to lower the staggering increase in costs, its pricing structure has remained the same 4 years later. Alternative treatment involves the use of trimethoprim-sulfamethoxazole (TMP-SMX), a cost effect drug that is widely available. Here we present a case where TMP-SMX was used as a first-line drug for toxoplasmosis of the central nervous system (CNS).
Summary of Results A 52-year-old male with a past medical history of autoimmune deficiency syndrome and toxoplasma encephalitis infection 2 years ago presented to the emergency room with left leg weakness. During his recent visit to Honduras, he was not compliant with his antiretroviral treatment (ART) medication. Physical exam revealed left lower extremity weakness, rated 2 out of 5 without sensory deficits. Laboratory studies revealed a leukocyte count of 3.74 K/mm and a CD4 count of 40 cells/mcL. Magnetic resonance imaging showed new ring enhancing lesions in the right frontoparietal region. Lumbar puncture had normal opening pressures and positive IgG antibodies against toxoplasma gondii. TMP-SMX was started, as pyrimethamine was not available in the hospital pharmacy. After 5 days of TMP-SMX treatment, the lower extremity weakness completely resolved. The hospital pharmacy was finally able to obtain pyrimethamine which was started on hospital day 6. Discharge was delayed several days due to the complicated process surrounding the insurance procurement of pyrimethamine. Follow up was not possible as the patient returned to Honduras.
Conclusions Our case highlights how TMP-SMX was successfully used to treat the initial symptoms of toxoplasmosis of the CNS. Literature review reveals only one prior randomized trial comparing pyrimethamine versus TMP-SMX in patients diagnosed with toxoplasma encephalitis. The study concluded that there was no difference in clinical efficacy between the two therapies. Considering the current obstacles surrounding pyrimethamine, it is becoming necessary to further investigate the true viability of bactrim as a first-line drug in the treatment of toxoplasmosis of the CNS.

MP10 HIGH THYMIC STROMAL LYMPHOPOIETIN BRONCHOALVEOLAR LAVAGE LEVELS ARE LINKED TO DISEASE SEVERITY IN A SUBSET OF CHILDREN WITH SEVERE ASTHMA (3368300)

[1]Elizabeth Chorvinsky, [1]Gustavo Nino, [2]Milena Villamil-Osorio, [3]Sonia M Restrepo-Gualteros, [4]Josephina ZakZuk, [2]Oscar Ramirez-Camacho, [1]Kyle Salka, [1]Zhour Barnawi, [1]Samira Naime, [1]James H Jackson, [1]Dinesh Pillai. *[1]Research, Children's National Hospital, Washington, DC, USA; [2]Hospital De La Misericordia, Bogota, Colombia; [3]FUNDACION SANTAFE, Bogota, Colombia; [4]University of Cartagena, Cartagena de Indias, Colombia*

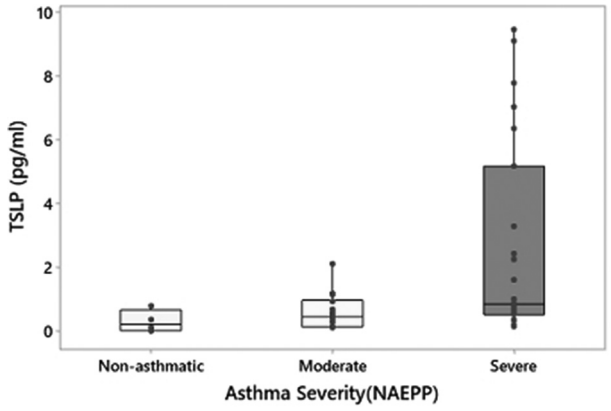
10.1136/jim-2020-ERM.33

Purpose of Study TSLP has been shown to be a key mediator of disease in airway cell based studies. Based on this knowledge, anti-TSLP biologic therapy has been developed for the treatment of uncontrolled asthma in adults(NEJM 2017). It is still unclear if baseline TSLP levels in the lungs of asthmatic children correlate with disease severity. Here we aim to determine if TSLP plays a role in driving TH2 allergic responses in this population to determine if it may be a novel therapeutic target for severe uncontrolled pediatric asthma.

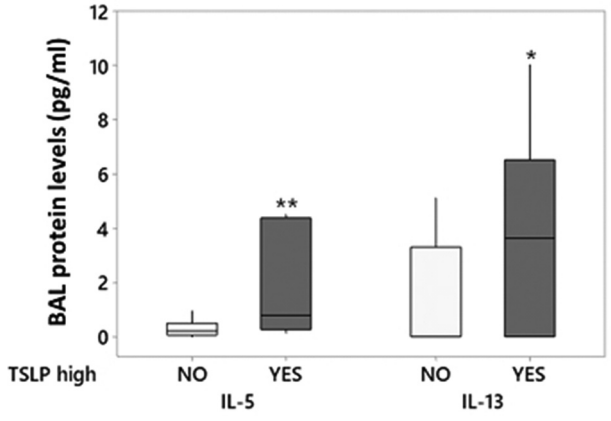
Methods Used Bronchoalveolar lavage(BAL) samples and clinical data were collected from children undergoing clinically-indicated bronchoscopy for moderate to severe refractory asthma from two pediatric pulmonary centers. BAL protein levels of TH1, TH2 and TH17 cytokines were quantified by electrochemiluminescence. We correlated BAL results with relevant individual clinical characteristics. Asthma severity was categorized using NAEPP guidelines.

Summary of Results We enrolled 71 children (median 8.4 yo). In our intial cohort(Children's National, Washington D.C., n=41), those with severe asthma(SA) had higher BAL TSLP protein levels at baseline than moderate or non-asthmatic subjects (p=0.01, figure 1). To explore this subset of children with SA and elevated TSLP, we recruited children with SA from another site (Fundación HOMI, Bogota, CO, n=30). In both sites, high TSLP levels (>75th%) were associated with elevated TNF-α, IL-21, IL-13 and IL-5, which showed the strongest association and found to be significantly elevated compared to those without high TSLP (p=0.001, figure 2).

Conclusions We show for the first time that high BAL TSLP levels are linked to disease severity in a subset of asthmatic children. High TSLP levels were associated with increased IL-5 levels, suggesting that TSLP plays a key role in mediating allergic TH2 responses in the lung and disease pathogenesis of asthma in children as previously demonstrated in adults. These data provide initial support to investigate the potential use of anti-TSLP biologics to treat SA in children.



Abstract MP10 Figure 1



Abstract MP10 Figure 2

MP11 MAGNESIUM SUPPLEMENTATION AND RISK OF DIABETES MELLITUS AND HEART FAILURE (3376528)

[1,2]Yan Cheng, [1]Jiayu Tan, [2]Ali Ahmed, [2]Helen Sheriff, [3]Becky Costello, [2]Marc Blackman, [1,2]Qing Zeng-Treitler. *[1]George Washington University, Washington, DC, USA; [2]Washington DC VA Medical Center, Washington, DC, USA; [3]National Institutes of Health, Bethesda, MD, USA*

10.1136/jim-2020-ERM.34

Purpose of Study The goal of this study is to understand whether Magnesium (Mag) supplement prescription is associated with a lower risk of incident diabetes (DM) and heart failure (HF).

Methods Used We used both the VA Corporate Data Warehouse (CDW) data and Cerner Health Facts data. From the VA data, we identified 4,013,679 of Veterans with serum Mag measurement(s). Among them, 313,755 had lower than normal Mag levels. We also identified 1,551,557 patients prescribed with single compound Mag exposure and 1,037,614 patients with potential Mag exposure (i.e. multivitamin, mineral, etc). We compared the incident DM rates in between those with and without single compound Mag exposure, and performed a logistic regression analysis to assess the relationship between incident DM and single compound Mag exposure using age, gender, ethnicity, and Charlston Comorbidity Index as covariates. From the Cerner data, we identified 428,252 DM patients aged 40 years or above who were also free of HF at baseline, among whom 5,030 and 11,891 were prescribed with single compound Mag and potential Mag exposure, respectively. We compared the HF incidence between patients with and without Mag exposure and conducted with a multivariate Cox regression to estimate the association between Mag exposure and HF risk.

Summary of Results Veterans who received single compound Mag had lower incident rate of DM than those without Mag exposure (18.5% vs 27.4%) during the mean follow-up of 6 years. Both Mag level and single compound Mag

treatment are associated with reduced risk of DM (lower Mag: Adjusted Odds Ratio [OR] = 1.20, 95% Confidence Interval [CI] = 1.19–1.22; single compound Mag: Adjusted OR = 0.66, 95% CI = 0.65`–0.68). DM patients from the Cerner who received Mag had higher HF incidence than those without Mag exposure (5.0% vs 3.6%) during the mean follow-up of 1 year. But the multivariate Cox regression shows that Mag exposure is associated with reduced risk of HF (Adjusted Hazard Ratio [HR] = 0.83, 95% CI=0.74–0.94).

Conclusions Mag supplementation is associated with lower risk of DM and HF. Although additional analyses are needed, initial results from the study suggest that the use of Mag supplementation may be a promising approach for DM and HF prevention.

MP12 THE DIFFERENTIAL EXPRESSION OF MICRO RIBONUCLEIC ACID OF VARIOUS STAGES OF DUCTAL AND LOBAR NEOPLASMS (3370008)

Zhongning Chen, Yadav Pandey, Emily Sander. *Internal Medicine, University of Arkansas, Little Rock, AR, USA*

10.1136/jim-2020-ERM.35

Purpose of Study In the setting of breast cancer, clinical staging and expression of hormone receptors are very import for both prognosis and treatment. Radiographic imaging may sometimes be unreliable and invasive testing can both be finically burdensome and puts patients at risk. Peripheral blood testing may help physicians make better clinical decisions. The focus of this study is to isolate specific miRNA that are differentially expressed at various stages of breast cancer. We also investigated unique miRNA that are expressed based on the status of estrogen (ER) and progesterone receptor (PR) expression from normal breast tissues.

Methods Used The data were mined from The Cancer Genome Atlas (TCGA) database under the TCGA-BRCA project. Normal breast tissues were compared with tumor tissues at various stages. Similarly, the expression levels of ER+ and PR+ were computed. These differential expressions are computed using the R package: edgeR. TargetScan and miRBase databases were also used to make sure the genes that transcribes these differentially expressed miRNA were conserved. The significance of the log count data compared to normal tissue were computed using the two sided t-test.

Summary of Results This study was able to computed a panel of miRNA were differentially expressed that can characterize the various stages of breast cancer. Some miRNA were almost independently successful in differentiating these stages. Most notably, stage I: down regulation of hsa-mir-10b (p=0.0005862), stage IIa: down regulation of hsa-mir-28 (p=1.195e-05), stage IIb: up regulation of hsa-mir-21 (p=4.008e-12), stage III: down regulation of hsa-mir-100 (p=4.62e-07). ER+: down regulation of hsa-mir-181b-1 (p=0.0005862), and PR+: down regulation of hsa-mir-146b (p=0.1606).

Conclusions The miRNA expression plays an important role in the up and down regulation of genes. The association of miRNA to clinical staging can be both beneficial clinically, but also gives insight into the mechanism into of breast cancer progression.

MP13 AN UNCOMMON ETIOLOGY OF SEPTIC SHOCK IN A TERM INFANT (3372678)

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10.1136/jim-2020-ERM.36

Purpose of Study Background: Burkholderia cepacia is an aerobic, non-fermenting gram negative bacillus with a multi-drug resistant profile that rarely causes sepsis in neonates. Unless there are predisposing factors such as prematurity, intensive care unit stay, chronic lung disease, or history of multiple indwelling devices, the bacillus is usually of low virulence. Case reports identify nosocomial transmission through moist environments like intravenous fluids, disinfectants, or nebulizer solutions. The challenge for physicians is that this organism usually presents in the hospital from contaminated sources; however, can cause a devastating infectious cascade unless quickly identified.

Case Presentation We report a rare case of B. cepacia infection resulting in septic shock in a previously healthy 6-week-old term male with fever, a lung mass later identified as pneumonia, and transaminitis. The patient was started on ceftriaxone for coverage of common suspected bacteria for age. Initial blood, urine, and CSF cultures remained negative. Not until the patient acutely decompensated with severe hypoglycemia and circulatory arrest was B. cepacia bacteremia identified along with a polymicrobial sputum culture with B. cepacia. Vasopressors, mechanical ventilation, and broader spectrum antibiotics were initiated. Ultimately, disseminated intravascular coagulation evolved and blood products were insufficient to reverse coagulopathy. He suffered from multi-system organ failure and died within 48 hours.

Conclusion This case provides evidence that although rare, B. cepacia sepsis can occur in presumed healthy infants without known personal or family immunodeficiency. Cystic fibrosis and chronic granulomatous disease need to be considered in the work up alongside this microbial diagnosis regardless of initial presentation and health history. Neonatal sepsis with B. cepacia picture may not be recognized if there is partial or inappropriate treatment as the organism has sensitivity only with select antibiotics. Considering the elusive presentation, a high index of suspicion must be kept ordering the appropriate studies if persistent fevers and consistently high inflammatory markers amongst a background of a pneumonia not improving with antibiotics in an otherwise well looking neonate.

MP14 A CASE OF PURULENT PERICARDITIS IN A 13 MONTH OLD (3372830)

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10.1136/jim-2020-ERM.37

Purpose of Study Purulent pericarditis is a rare condition in otherwise healthy children. Primary Streptococcus pneumoniae (S. pneumo) pericarditis in children is uncommon. We present a case of purulent pericarditis due to S. pneumo in an unimmunized toddler presenting with respiratory distress and lethargy. He failed medical management and required

pericardiectomy. A 13 month old previously healthy, unimmunized male presented to the ED for two weeks of grunting, tachypnea, and intermittent tactile fevers. He received steroids and albuterol with minimal improvement in symptoms over the two weeks prior to presentation. In the ED, he was afebrile, with tachycardia to 150, respiratory rate in the 60's and normal oxygen saturation and blood pressure. The remainder of his exam was notable for grunting and tachycardia in the absence of abnormal lung sounds or cough. Labs demonstrated a normal WBC count, anemia, thrombocytosis, elevated ESR and CRP, and mild hypoalbuminemia. A CXR showed cardiomegaly. His EKG showed sinus tachycardia. An echocardiogram by cardiology demonstrated moderate pericardial effusion with fibrinous strands without tamponade or constrictive physiology. The patient was admitted. The patient was discharged with presumed viral pericarditis on NSAIDS. He returned 2 days later with respiratory distress and dehydration and a WBC count of 47 with neutrophilic predominance. CXR was unchanged. He was admitted and started on IV ceftriaxone. Pericardiocentesis returned 50 cc's of purulent fluid Vancomycin was added. He developed ascites, pleural effusions, and transaminitis with elevation of his INR. After diuresis, liver function improved. Culture of the pericardial effusion grew S. pneumo. His developed constrictive physiology and a pericardiectomy was performed. He was discharged home on IV Ceftriaxone. At follow up he had normal cardiac function on echocardiogram and persistent thickening of his remaining posterior pericardium. This case illustrates a rare cause of respiratory distress in an otherwise healthy unimmunized child. Purulent pericarditis is a rare but associated significant morbidity and mortality. Clinicians should create a broad differential when considering causes of respiratory distress. Early treatment of purulent pericarditis is important in preventing mortality.

MP15 MULTIPLE SCLEROSIS: MYCOTOXIC LEUKOENCEPHALOPATHY (3303967)

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10.1136/jim-2020-ERM.38

Purpose of Study Etiology of MS.
Methods Used Clinical, laboratory and imaging 15-year follow-up of study group.
Summary of Results A cluster of 42 patients was identified, out of 652 who were employed at a California courthouse. The worksite had 20 years of water intrusion and mold growth, including the toxigenic Stachybotrys chartarum. Environmental testing confirmed the presence of air borne mold amplification, distributed by a contaminated HVAC system. Surface and bulk mycotoxin levels were uniformly elevated from micro- to milligram ranges for trichothecenes, satratoxins and aflatoxins. Elevated mold hypersensitivity pneumonitis ELISA panels and ELISA mycotoxin panels for trichothecenes, satratoxins, and aflatoxins in over 95% of the employees. Immune function testing was abnormal in over 95%, with decreases in Interleukin-2 and Natural Killer Cell (T-lymphocyte) number and function. Forty-two of the employees had neurological deficit including memory loss, cognitive dysfunction, dizziness, abnormalities of executive functioning, headaches, visual disturbances, sensory and motor deficits, ataxia and positive Romberg Signs. These patients had positive MRI and FDG-PET scan findings consistent with areas of demyelinationand hypometabolism. Neurological antibody testing was positive for myelin associated glycoprotein, glutamate receptors, myelin basic protein, chondroitin sulfate, and crystalline. These 42 patients were diagnosed with mycotoxic leukoencephalopathy, causing their Multiple Sclerosis (MS) syndrome. Treatment including removal of the patient from the building resulting in improvement, with not further exacerbations of the illness. The areas of demyelination and hypometabolism also improved or resolved in 40 of 42 patients, after a year with removal from the building and treatment.
Conclusions The incidence of MS is 1 per 100,000 so a cluster of 42 patients out of 652 from a single building known as a site of chronic biotoxin associated illness due to mold growth and mycotoxin contamination, far exceeds a billion to one probability that it is not due to chance ($p \leq 0.0001$). Mycotoxic leukoencephalopathy is the cause of this cluster of Multiple Sclerosis. Cases of MS (Mycotoxic Leukoencephaloathy) should be investigated for a similar cause.

P1 RATE OF TROPONIN RISE AS A PROGNOSTIC TOOL IN NON-ST ELEVATION MYOCARDIAL INFARCTION (3338689)

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10.1136/jim-2020-ERM.39

Purpose of Study Non-ST elevation myocardial infarction (NSTEMI) patients present a wide spectrum of severity and its management may vary based on the magnitude of myocardial injury. Different tools have been used to prognosticate this population of patients, most notably the TIMI score for NSTEMI. We hypothesize that the rate of troponin rise would be a more objective measure of the extent of myocardial injury and hence may better predict the severity of an event.
Methods Used We performed a retrospective chart review of 100 patients who were admitted to Abington Hospital – Jefferson Health with a primary diagnosis of NSTEMI. The rate of troponin rise was derived by calculating the difference between the first and second, second and third, and first and third troponin values, and dividing these differences by the time between the respective lab draws (referred to as: rate-T1T2, rate-T2T3, and rate-T1T3). TIMI score was also calculated for all patients. Outcomes included death, cardiogenic shock, mechanical complications of MI, ventricular arrhythmias, cardiogenic pulmonary edema, emergent left heart catheterization, or conversion to a STEMI. Data were summarized using descriptive statistics including means, medians, and percentages. The rate of troponin rise data was skewed hence the Mann Whitney U test was used for comparisons with all outcomes. Independent t test was used for normally distributed continuous variables (i.e., TIMI score).
Summary of Results When rate-T1T2, rate-T2T3, and rate-T1T3 values were compared for patients who had the outcomes with those who did not, rate of troponin rise between

second and third troponin values (rate-T2T3) was found to be significantly higher in patients who developed pulmonary edema (p=0.044), ventricular arrhythmias (p=0.044), and for patients who developed two or more outcomes (p=0.046). Patients who developed cardiogenic pulmonary edema were found to have significantly higher TIMI scores than those who did not (mean 4.50 vs. 3.39, p=0.005). None of the other outcomes were found to have a significant correlation with TIMI score.

Conclusions Rate of troponin rise between the second and third values was found to be predictive of adverse outcomes in NSTEMI.

P2 PCOR OPPORTUNITIES AND CHALLENGES WITH ADAPTABLE STUDY AT MONTEFIORE SITE

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10.1136/jim-2020-ERM.40

Purpose of Study New Patient Centered Oriented Research (PCOR) involves patients as partners in all aspects of a clinical trial. ADAPTABLE is a PCORI multicenter, pragmatic trial comparing the effectiveness of aspirin 81 mg vs 325 mg for secondary prevention in patients with atherosclerotic cardiovascular disease. Novel features include leveraging of electronic health records, patients' participation via internet connectivity and low cost. We analyze recruitment and patient follow up data at Montefiore Medical Center (MMC).

Methods Used A computable phenotype linked patient lists with clinic schedules. Voice, text, and email invitations were sent to eligible patients prior to their visits after checking for opt-out by their cardiologist. Out of 6047 patients who were computer screened, 85.8% were contacted about the study, 16.5% requested not to be contacted further. Golden tickets numbers (GTN) were emitted for those willing to enroll. They were then enrolled online with the help of a research assistant in the clinic either before or after their cardiologist visit. Follow up information was obtained electronically or by study personnel. We analyzed data as percentages and with the chi-squared test.

Summary of Results At MMC, 516 patients were randomized, representing 77.48% from the GTNs emitted: 87.5% non-white. The non-internet enrollment was 57.3% after 2 years, significantly higher compared to the national non-internet enrollment rate of 17.4% (p<.01). That increased to 68.41% at the end of the enrollment. Follow up was lower at our institution compared to the national rate: 46% vs. 74.7% (p<.01) for six month visit and 32% vs. 71.1% (p<.01) for 12 month. The retention declined to 43.13% for the 15 month and to 38.56% for the 18 month.

Conclusions For patients in Bronx, NY, a community of socio-economically disadvantaged minorities, recruitment and follow-up had the highest success with in-clinic efforts. Direct patient interaction and physician involvement helped overcoming challenges to their inclusion. These findings bring authentic lessons to conducting pragmatic trials among populations lacking access and knowledge about the internet and clinical research. PCOR in areas with underrepresented populations may benefit from outreach methods to help educate patients about the benefits of clinical research.

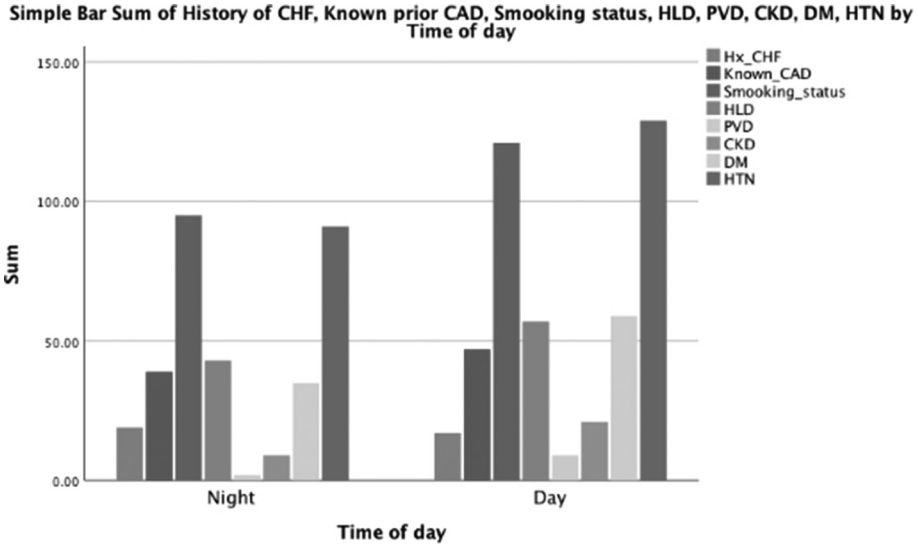
P4 ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION DURING THE NIGHT SHIFT-IS IT A BAD OMEN FOR THE PATIENT? (3372391)

[1]Muhammad Arslan Cheema, [1]Khadija Cheema, [1]Waqas Ullah, [2]Sadia Asghar, [3]Samra Asghar Cheema, [1]Asoka Balaratna. *[1]Internal Medicine, Abington Jefferson Health, Abington, PA, USA; [2]Niazi Medical College, Sargodha, Pakistan; [3]Fatima Jinnah Medical University, Lahore, Pakistan*

10.1136/jim-2020-ERM.41

Purpose of Study It is believed that short staffing at nighttime may lead to a lapse in the delivery of effective, efficient and timely medical intervention. In this study, we evaluated the occurrence, duration and impact of time delays to primary percutaneous coronary intervention (PCI) in ST-segment elevation myocardial infarction (STEMI) patients.

Methods Used A retrospective chart review of 370 patients revealed 261 daytime and 109 nighttime PCI procedures. The



Abstract P4 Figure 1 Baseline patient characteristics

door to balloon (DTB) time was correlated against the post PCI troponin level and ejection fraction (EF) using an independent t-test on SPSS 23. Baseline characteristics of the patients in both groups were analyzed and can be seen in figure 1.

Summary of Results The median DTB time for PCI at night (75 min) was significantly higher ($p = 0.031$) than daytime procedures (69 min). However, there was no significant difference in the median peak troponin levels (37ng/ml vs. 25ng/ml, $p=0.11$) and EF decline (14.4% vs. 15.5%, $p=0.58$) between the nighttime vs. daytime, respectively. The 30-day morbidity and mortality data between the two groups was also not significantly different between the two groups ($p=0.15$).

Conclusions Primary PCI at nighttime can have a relative delay of about 6 minutes. However, it has no detrimental effects on cardiac outcomes, morbidity and mortality. PCI can be performed safely during the nighttime at community hospitals which are equipped with contemporary PCI standards.

P5 TAKOTSUBO MIMICKER (3373359)

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10.1136/jim-2020-ERM.42

Purpose of Study Microvascular coronary dysfunction (MCD) is thought to be a key contributory mechanism for myocardial ischemia in women with chest pain and no obstructive CAD. Identification of angina caused by MCD is crucial due to the associated major adverse cardiac events such as myocardial infarction, congestive heart failure, and sudden cardiac death.

Methods Used We report a case of a 59 -year-old female with hypertension and worsening dyspnea of exertion, 6 months following myocardial infarction. Physical exam was remarkable for stage II hypertension. EKG showed diffuse persistent abnormal ST elevations and T wave inversion in anterior and inferior leads. Echocardiography demonstrated dilatated and hypokinetic apical and mid ventricle with reduced left ventricular ejection fraction of 30–35%. Cardiac catheterization was performed which did not reveal obstructive atherosclerotic disease.

Summary of Results Given the constellation of symptoms and no obstructive CAD, a diagnosis of MCD was suspected and she underwent cardiac magnetic resonance imaging, results were consistent with large LV aneurysm secondary to myocardial infarction associated with microvascular obstruction. She was started on guideline-directed medical therapy for secondary prevention of CAD and HFrEF. Her symptoms improved over the next follow-up visits and she is currently asymptomatic by self- report.

Conclusions In women with signs and symptoms of myocardial ischemia and no obstructive CAD, it is important to identify and diagnose MCD, as the inadequate diagnosis is associated with an increased risk of adverse cardiovascular events. This case highlights the utility of cardiac magnetic resonance imagen as a diagnostic tool for the evaluation of MCD. Given its prevalence, particularly among women, mandates further research into prompt diagnosis and appropriate treatment.

P6 A CHALLENGING CASE OF EPICARDIAL CORONARY ARTERY OBSTRUCTION IN ACUTE THROMBOTIC THROMBOCYTOPENIC PURPURA (3345852)

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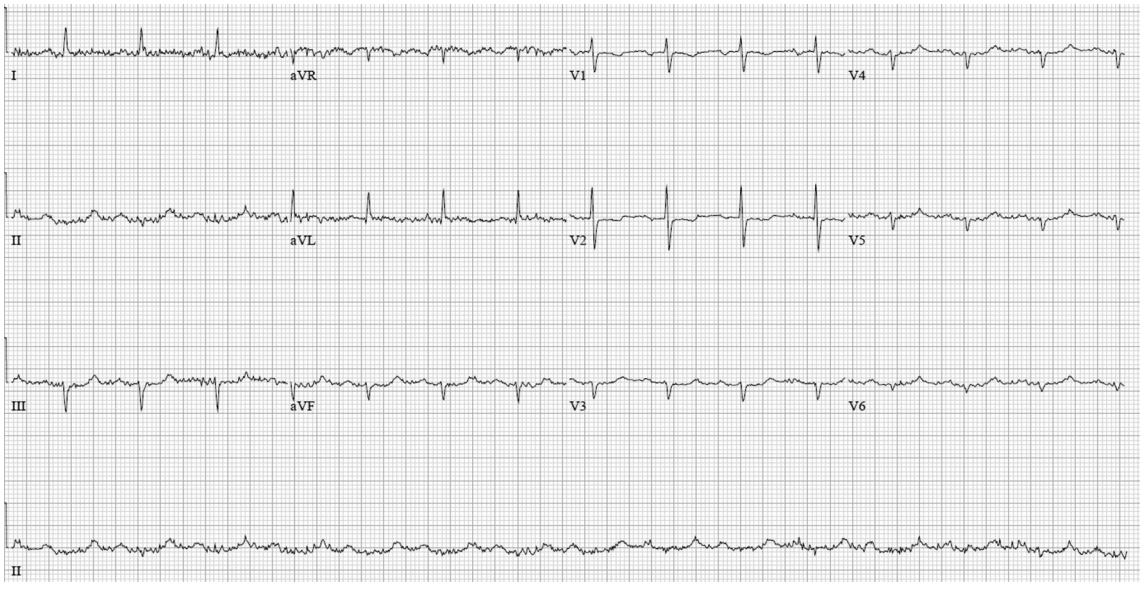
10.1136/jim-2020-ERM.43

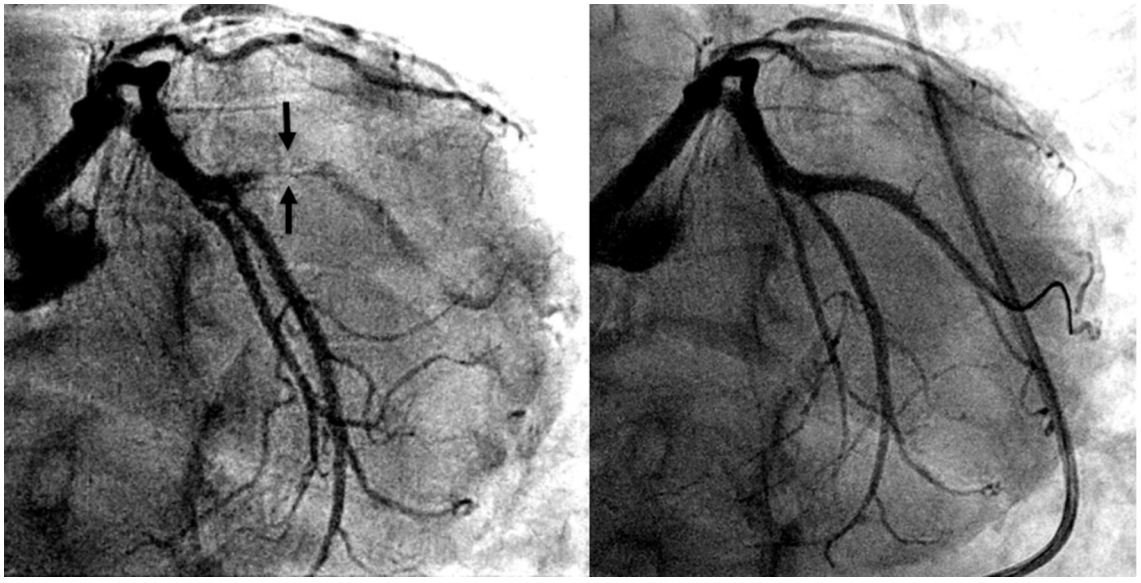
Purpose of Study To demonstrate the complexities of treating myocardial infarction in the setting of acute thrombotic thrombocytopenic purpura (TTP).

Methods Used Single patient case report

Summary of Results An 81-year-old female with a history of TTP and idiopathic thrombocytopenic purpura (ITP) presented with epigastric pain and an acute syncopal episode. She had troponin-I of 7.23, CK MB 54.7, and ECG with ST depressions in anterior leads (figure 1). Echocardiogram showed focal anterolateral and inferolateral akinesis with an ejection fraction of 41–49%. Additional initial labs were notable for



Abstract P6 Figure 1 Initial electrocardiogram with tall anterior R waves and ST depressions



Abstract P6 Figure 2 Coronary angiogram with culprit lesion (arrows) in the first obtuse marginal artery before and after stent placement

hemoglobin of 10.9, platelet count of 13000, LDH of 987, haptoglobin <15, total bili 2.7, indirect bili 2.0, and schistocytes suggestive of acute TTP. She had no skin lesions or neurologic deficits. Creatinine and INR were normal. Overnight, her hemoglobin and platelets downtrended while troponins climbed to 11.52. Cardiac involvement in TTP is usually considered due to small vessel microthrombi formed by von Willebrand factor-platelet aggregates. Parsing this apart from possible epicardial obstructive disease was extremely challenging. Ultimately, she was thought to have concomitant ITP and TTP exacerbations and treating these was paramount. Platelet nadir was 9000 and medical management for myocardial infarction (MI) with antiplatelet and anticoagulants was held. She was started on IVIG and urgent plasmapheresis (PEX). ADAMSTS13 activity and inhibitor level returned at <5% and 1.0, respectively. Platelets and LDH improved but troponins did not steadily decline. After 3 PEX sessions, platelets increased to 117000; coronary angiography was done, revealing a culprit large obtuse marginal critical 99% stenosis (figure 2). PCI with 1 bare metal stent was performed. She tolerated aspirin and clopidogrel and was discharged on both for at least 1 month and outpatient apheresis.

Conclusions In acute MI, it is imperative to consider pathogenic mechanisms associated with thrombocytopenia and coagulopathy, such as TTP, which can lead to significant mortality. MI in TTP may not always be due to small vessel microthrombi. Concomitant epicardial coronary obstructive disease is rare but should be considered if clinical evidence suggests.

P7 DETECTION OF CARDIAC SEQUALAE OF FABRY DISEASE WITH PULSE-CANCELLATION ECHOCARDIOGRAPHY (3368399)

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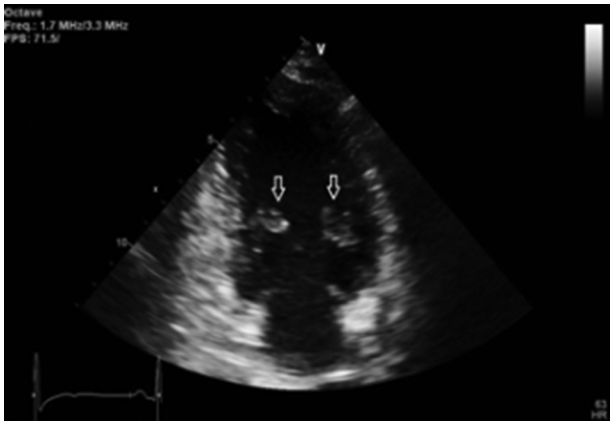
10.1136/jim-2020-ERM.44

Purpose of Study To demonstrate use of pulse-cancellation echocardiography to detect cardiac fibrosis in Fabry Disease

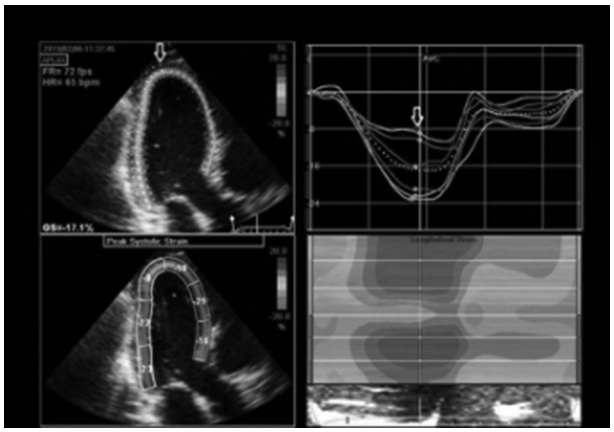
Methods Used Single patient case report

Summary of Results A 40-year-old female was referred to our clinic for cardiac evaluation of Fabry Disease (FD). She has an extensive family history of FD including her mother, sister and other maternal relatives. Prior to this visit, she was genotype positive but was considered phenotype negative. She reports good exercise tolerance but endorses intermettient palpitations. On exam, no cardiac or pulmonary abnormalities were detected. Electrocardiogram revealed sinus bradycardia, left ventricular hypertrophy, and nonspecific ST-T abnormalities. A 48-hour Holter monitor and an echocardiogram with 3-D and pulse cancellation imaging were arranged. Pulse-cancellation imaging is a technique that cancels 'linear' signals reflected from normal myocardium, thereby allowing abnormal myocardium to be detected. Holter monitored showed rare PAC and PVCs and intermittent sinus bradycardia. On echocardiogram, mild concentric LVH with prominent papillary muscles was detected (figure 1). Ejection fraction and diastolic parameters were normal. Strain imaging revealed preserved global longitudinal strain with mildly decreased apical (figure 2) and postero-lateral longitudinal strain. Pulse-cancellation echocardiography performed in apical 4-, 2-, and 3-chamber

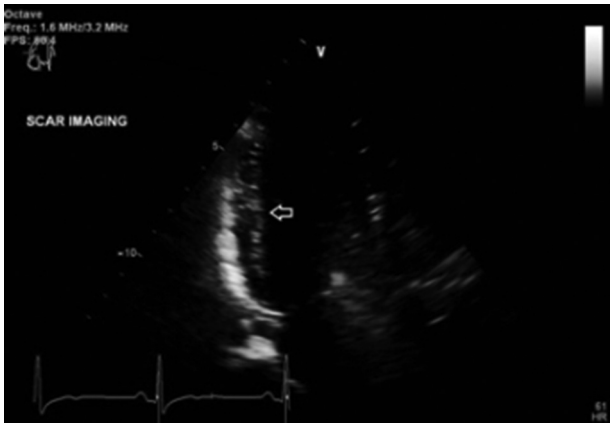


Abstract P7 Figure 1 2-dimensional imaging revealed mild concentric left ventricular hypertrophy with prominent papillary muscles (arrows)

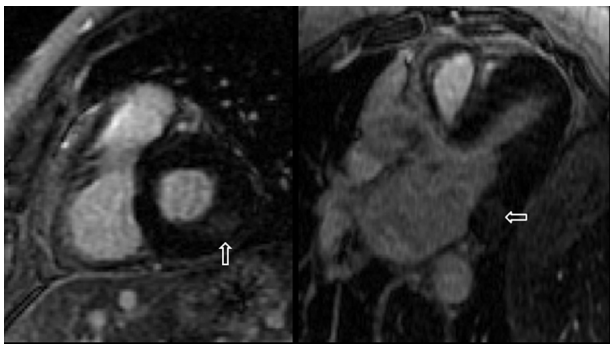
views, and inferior (figure 3) and posterior walls were easily visualized, suggesting cardiac fibrosis. Subsequent cardiac MRI confirmed a mid-myocardial focus of delayed enhancement involving the basal inferolateral left ventricular myocardium (figure 4). Evidence for cardiac FD involvement cemented her diagnosis as phenotypically positive and she was referred for potential enzyme replacement therapy.



Abstract P7 Figure 2 Strain imaging revealed preserved global longitudinal strain with mildly decreased apical longitudinal strain (arrow)



Abstract P7 Figure 3 Inferior wall was easily visualized on the pulse-cancellation imaging (arrow)



Abstract P7 Figure 4 Cardiac MRI in short axis (left) and three chamber (right) planes demonstrates focal mid myocardial delayed myocardial enhancement in the basal inferolateral left ventricular wall

Conclusions Echocardiography is useful in the FD diagnosis, detecting LVH, prominent papillary muscles, and abnormal strain. Additionally, for the first time, we have demonstrated that pulse-cancellation echocardiography may be used to detect subtle fibrotic tissue abnormalities in patient with early FD myocardial involvement, representing a less invasive and more cost-effective method than biopsy and cardiac MRI.

P8 THE RELATIONSHIP BETWEEN PHYSICIAN BURNOUT AND PATIENTS' PERCEPTION OF BEDSIDE TIME SPENT BY PHYSICIANS (3369889)

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10.1136/jim-2020-ERM.45

Purpose of Study Although the adverse relationship of burnout on physicians has been widely documented, studies have shown an inconsistent relationship between physician burnout and the quality of patient care. We hypothesized that physician burnout will have significant negative relationship with the amount of time spent at bedside. Because patient perception is an important component on the quality of healthcare, we designed a cross-sectional study measuring patients' perceptions of time spent by physicians versus the presence of physician burnout.

Methods Used The Oldenburg Burnout Inventory was used to assess physician burnout. We surveyed patients asking for their perception of time spent by their physician on the day of the survey (0–5, 6–10, 11–15, or >15 minutes). Data was collected on physician and patient demographics. To compare study population characteristics, we used t-test or ANOVA for continuous variables and chi-square test for categorical variables. Due to the ordinal nature of the dependent variable, patients' perception of time spent at bedside, we used an ordered logistic regression with and without adjustment for patient age, race, gender, and physician race and gender.

Summary of Results Of the 1374 patients, the most common category of 6–10 minutes was perceived by 614 (45%). Among the 95 physicians who saw these patients, burnout was present in 44 (46%), with higher prevalence in females (61% vs. 39%, P=0.04). As compared to physicians without burnout, physicians with burnout saw a smaller proportion of

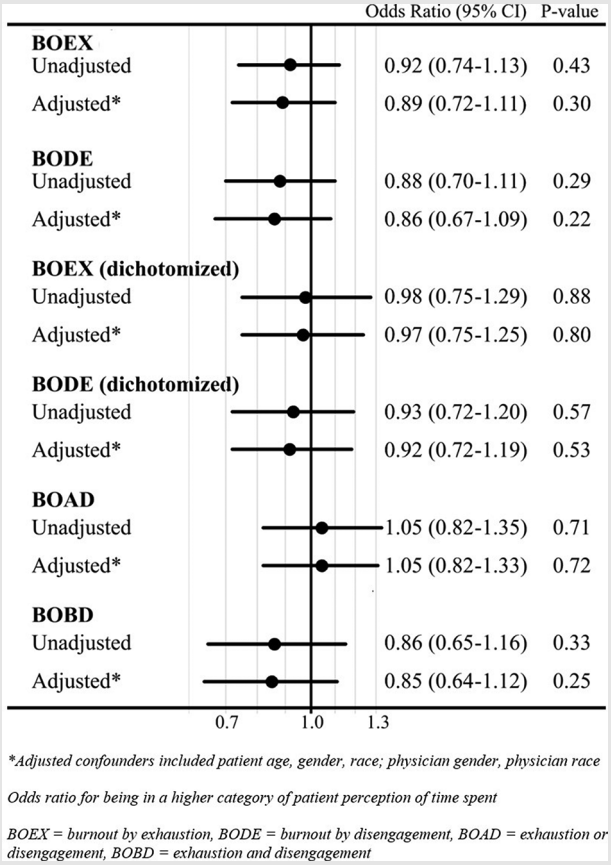
Abstract P8 Table 1

Physician Burnout*	No Burnout	Burnout	P
Physicians (N=95)	51 (53.7%)	44 (46.3%)	0.47
Female, *n* (%)	12 (23.5%)	19 (41.9%)	0.04
Caucasian, *n* (%)	32 (65.3%)	34 (76.7%)	0.12
Exhaustion Score (*SD*)	2.07 (0.41)	2.80 (0.33)	<0.001
Disengagement Score (*SD*)	1.98 (0.37)	2.57 (0.45)	<0.001
Patients (N=1374)	790 (57.5%)	584 (42.5%)	0.005**
Age (*SD*)	54.1 (16.7)	54.0 (16.6)	0.94
Female, *n* (%)	397 (52.2%)	311 (54.3%)	0.44
Caucasians, *n* (%)	598 (78.6%)	452 (78.9%)	0.89

**Physician burnout for this table was defined as burnout in both domains with cutoff values: 2.25 (exhaustion), 2.10 (disengagement)*

***The null hypothesis here is that the proportion of patients seen by burned out physicians (42.5%) is the same as the proportion of burnout amongst physicians (46.3%).*

Abstract P8 Table 2



Adjusted confounders included patient age, gender, race; physician gender, physician race

Odds ratio for being in a higher category of patient perception of time spent

BOEX = burnout by exhaustion, BODE = burnout by disengagement, BOAD = exhaustion or disengagement, BOBD = exhaustion and disengagement

patients (46% vs. 42%, P=0.005). Using ordered logistic regression, we found no relationship between physician burnout and patients' perception of bedside time spent.

Conclusions Our study confirmed the high prevalence of burnout amongst physicians. However, we found no association between physician burnout and patients' perception of time spent at bedside. Future research is needed to understand whether burnout is associated with consequences at the patient-level, which would affect how urgently the issue should be approached and the types of interventions needed.

Study Population Characteristics by the Presence of Physician Burnout in Both Domains, Unadjusted and Adjusted Multivariate Analysis of Burnout Outcomes with Patients' Perception of Time Spent

P9 ACUTE GASTRIC DILATATION AS A COMPLICATION OF DIABETIC KETOACIDOSIS (3372547)

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10.1136/jim-2020-ERM.46

Purpose of Study Diabetic Ketoacidosis (DKA) is one of the most serious and life-threatening complications in patients with Type 1 Diabetes Mellitus (T1DM). Severe electrolyte abnormalities and acidosis can be life-threatening. Acute gastric dilation is one of the rare DKA associated complications that could be associated with hypophosphatemia. Here a case of DKA complicated with acute gastric dilation is presented. Twenty-one year old Male with T1DM presented to the Emergency department with Nausea and vomiting for 2-day duration. The patient could not tolerate liquids then developed lower abdominal stabbing pain warranted him to go to the Emergency department. He had T1DM for 3 years with the previous history of DKA. He ran out of his insulin for a few days and no history suggestive of recent infection. Vital signs showed BP: 116/67, HR: 124 beats/minute , the rest was normal. The patient was in mild distress with acidotic breathing, the abdomen was soft, non-tender with sluggish bowel sounds, remaining of the examination was unremarkable. Labs showed venous PH: 6.98, HCO3:4 mmol/L, Lactate: 8.3 mmol/L, Lipase: 39 U/L, Ketones in blood, K: 7.8 mmol/L, Na: 127 mmol/L Ph: 0.5 mg/dL, Mg: 1.7 mg/dL and anion gap: >43 mEq/L. The patient was admitted to the Intensive care unit. Insulin infusion along with IV fluids and bicarbonate infusion were started and the anion gap was followed. CT abdomen and pelvis without contrast showed marked dilatation of the stomach reaching the pelvic wall. The naso-gastric tube was placed for gastric decompression and serum electrolytes were repleted. Repeat CT showed decompression of the stomach. The patient's symptoms improved and diet was introduced as tolerated. The patient was later on transferred to the medicine floor then subsequently discharged and on follow up with endocrine clinic no recurrence of symptoms was reported. DKA is a life-threatening complication in patients with T1DM. The presenting symptoms are commonly nausea and vomiting along with abdominal pain. Keto-acid production is classically the cause of these manifestations however it can mask more serious abdominal pathologies as acute gastric dilatation as in this case. Careful assessment of abdominal pain should not be overlooked during the management of patients with DKA. Hypophosphatemia in the setting of metabolic acidosis and DKA can lead to muscle weakness due to the inability to generate ATP for energy production and gastrointestinal smooth muscles can be affected leading to a state of ileus. While the mainstay of management of DKA is insulin and fluid replacement, vigilant electrolyte repletion is crucial in preventing serious life-threatening electrolyte emergencies.

P10 ACUTE ONSET OF RHABDOMYOLYSIS AND PANCREATITIS IN A COMPLICATED CASE OF DIABETIC KETOACIDOSIS AND HYPERGLYCEMIC HYPEROSMOLAR STATE (3372899)

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10.1136/jim-2020-ERM.47

Purpose of Study Diabetic ketoacidosis (DKA) is a potentially life-threatening acute metabolic complication in patients with Diabetes mellitus (DM). DKA has many severe complications such as acute pancreatitis (AP), cerebral edema, and venous thrombosis. Acute pancreatitis was associated previously with non-traumatic rhabdomyolysis. In this 41-year-old female with a history of Type 2 DM and previous diabetic ketoacidosis (DKA) presented with DKA complicated with AP and non-traumatic rhabdomyolysis as a sequela. A forty-one-year-old female with a past medical history of ulcerative colitis,

diabetes, and previous DKA, presented with two days of gradual onset generalized weakness, abdominal pain and altered mental status. On admission, the patient's blood pressure was 133/76 mmHg and heart rate was 80 beats/minute. The patient was drowsy with clear lungs and heart sounds were heard without murmurs or gallops. Her abdomen was soft and non-tender. Lab studies showed Hb: 18 gm/dL, WBC: 20.4, Plt: 188,000. Serum electrolytes were Na: 157 mmol/L, K: 4.2 mmol/L, Lactate 5 mmol/L and HCO3: 17.2 mmol/L and venous PH 7.225. Serum glucose was greater than 1400 mg/dL with serum osmolality of 413 mOsm/kg. Anion gap of 36 mEq/L leading to a diagnosis of DKA. Intravenous fluid, insulin was started. Electrolytes were monitored and repleted till normalized. Due to the abdominal pain serum, Amylase and Lipase were ordered and were 145 U/L and 370 U/L respectively. Abdominal Ultrasound and Magnetic Resonance Cholangio-Pancreatography (MRCP) were performed and indicated acute pancreatitis without evidence of gall stones. The patient began complaining of generalized muscle pain and creatinine phosphokinase found to be remarkably elevated to 20,000 U/L. Further work for infectious and inflammatory myositis as well as a muscle biopsy were performed but did not show evidence of inflammatory myositis. The patient later improved on conservative management, was transferred to the medical floor and was subsequently discharged. DKA is a life-threatening complication where fluid shifts and electrolyte abnormalities can lead to multiple organ dysfunctions. While the pancreas and skeletal muscles are not commonly affected, they have been shown to be affected in severe DKA cases such as the one presented here. In this case, DKA caused an AP which then led to resultant non-traumatic rhabdomyolysis. While the etiology is unknown, the DKA state with hyperosmolar plasma could be the culprit in triggering the pancreatic inflammation and muscle breakdown. The most common causes of AP were ruled out, including alcoholism, gallstones, and hypertriglyceridemia. For the rhabdomyolysis, inflammatory myositis and infectious myositis were ruled out leaving DKA as the possible culprit. Diabetic ketoacidosis is a life-threatening complication in patients with diabetes. Acute pancreatitis and non-traumatic rhabdomyolysis can occur in severe cases of DKA which would increase mortality if left.

P11 ACUTE RESPIRATORY DISTRESS SYNDROME AS THE INITIAL PRESENTATION OF SJOGREN'S SYNDROME (3370036)

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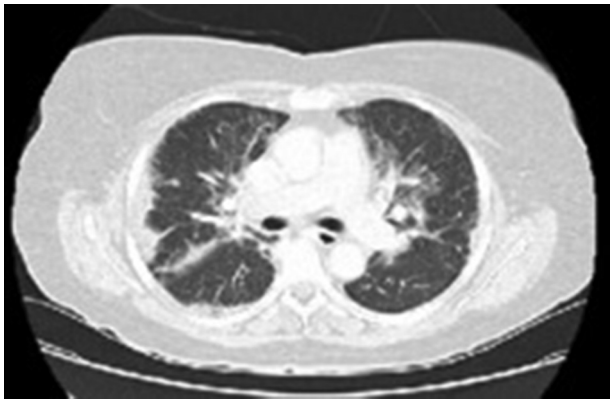
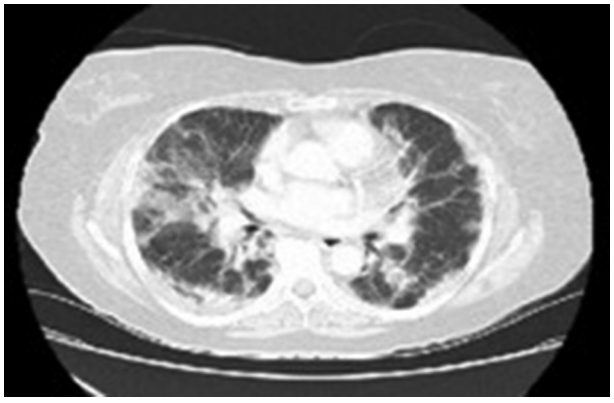
10.1136/jim-2020-ERM.48

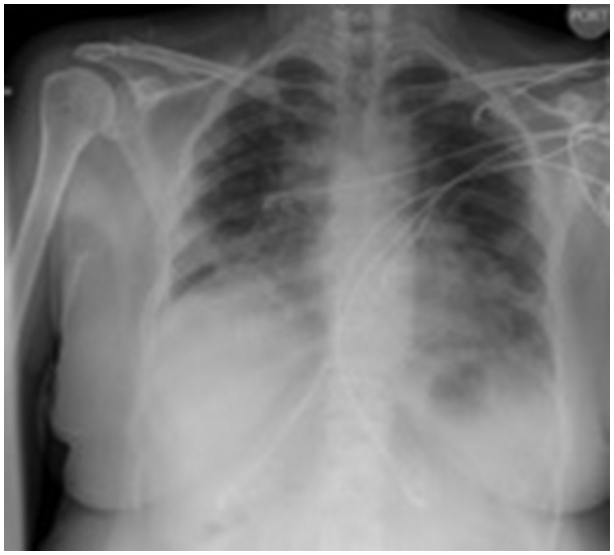
Purpose of Study A 58-year-old Female, originally from Guyana, non-smoker, with history of recent hospitalization for multifocal pneumonia, mild intermittent asthma, HLD, cholelithiasis presented to the hospital with worsening dyspnea, non-productive cough for 5 weeks and wheezing for 1 day. Physical examination revealed mild respiratory distress with SaO2 82% with pH of 7.422 and PaO2 of 62.3 on ABG obtained on BIPAP with FiO2 40% (PaO2/FiO2=155.75), RR 19, temperature of 97.5 with WBC 9.7, BP 117/69, pulse 92, rales and fine crackles in all lung fields without audible wheezing on auscultation. CXR revealed bilateral multifocal opacities (figure 3). CT chest with contrast showed bilateral opacities with infiltrates and inter-lobular septal thickening with fibrosis (figures 1 and 2). Given strong clinical suspicion of cryptogenic organizing



Abstract P11 Figure 1 CT chest with contrast demonstrating interlobular septal thickening



Abstract P11 Figure 2 CT Chest with contrast demonstrating bilateral multifocal opacities with fibrosis



Abstract P11 Figure 3 Portable Chest X-ray demonstrating bilateral multifocal opacities

pneumonia, therapy with IV Solumedrol (40 mg q8h), Symbicort, Duonebs, and broad spectrum antibiotics were started without improvement. Patient rapidly deteriorated despite the above medical treatment resulting in hypoxemic respiratory failure requiring intubation. IV Solumedrol dose was increased to 60 mg q6h, followed by 1000 mg IV Solumedrol for 3 days. Lab findings: Negative for RVP, Mycoplasma IgM, Legionella Ag Urine, Anti ds DNA Ab, C-ANCA and P-ANCA Ab. BAL/Bronchial washing from RLL/RML showed fungal culture with rare yeast, bronchial culture with PMN leukocytes and no growth of Legionella, sputum cultures with normal respiratory flora, blood cultures no growth.Lung biopsy wasn't performed, due to risk of pneumothorax given ventilator settings with high PEEP. Treatment with high dose pulse steroids and empiric plasmapheresis was initiated. Patient was not deemed to be a candidate for ECMO or lung transplantation.Patient developed multiorgan failure, requiring escalating doses of vasopressors, and renal replacement therapy. Subsequently, patient developed PEA arrest and expired 2 weeks after initial presentation.ANTI-SS-A IgG 52 kD AB of 121 (normal <20) resulted strongly indicative of Sjogren's Syndrome, associated with more severe disease compared to presence of antibodies.

Summary of Results Acute respiratory Distress Syndrome (ARDS) is characterized by immune cell-mediated damage of alveolar endothelium and epithelial lining causing accumulation of protein-rich fluid within the alveoli and interstitium causing severe hypoxemia. Since markers for these pathophysiological changes haven't yet been established, diagnosis of ARDS remains based on imaging, clinical presentation, and hypoxemia. In a recent study evaluating the epidemiology of ARDS in 50 countries, the period prevalence of ARDS was 10.4% of ICU admissions. More than 85% of cases of ARDS can be attributed to pneumonia, aspiration, and sepsis. ARDS requires prompt diagnosis and treatment of the underlying cause, physicians must consider ILD in the differential diagnosis. ILD is most common (estimated 10–20%) pulmonary abnormality in primary Sjogren's syndrome (SS), with majority of cases presenting with cough and dyspnea. The types of SS-ILD include: Nonspecific interstitial pneumonia (NSIP), Usual interstitial pneumonia (UIP), Organizing pneumonia (OP), Lymphocytic Interstitial pneumonia (LIP), Follicular bronchiolitis. Diagnosis requires exclusion of other causes, then review of high resolution CT (HRCT). SS-associated OP HRCT findings include consolidative and ground-glass opacities, centrilobular nodules and tree-in-bud pattern. SS-ILD can mimic NSIP with patchy ground glass and reticular markings. Precise diagnosis for overlapping HRCT findings is usually not necessary as treatment is based on disease extent and symptoms. However, a lung biopsy is usually required to diagnose OP if consolidative or mass-like opacities are found on HRCT. OP treatment is similar to that of COP with an initial dose of prednisone of 0.75 to 1 mg/kg per day. For patients who rapidly deteriorate, initial therapy with methylprednisolone 125 to 250 mg q6h or a pulse of 750 to 1000 mg given once daily for 3–5 days is suggested based on clinical experience and case reports. Cyclophosphamide is suggested based on limited number of case reports.

Conclusions This case highlights the need for more clinical studies regarding the natural history of lung disease in patients with SS, and the role of immunotherapy in patients with OP unresponsive to steroids.

P12 A RARE CASE OF GLOMUS TUMOR ON THE MUCOSAL SURFACE OF LOWER LIP (3370054)

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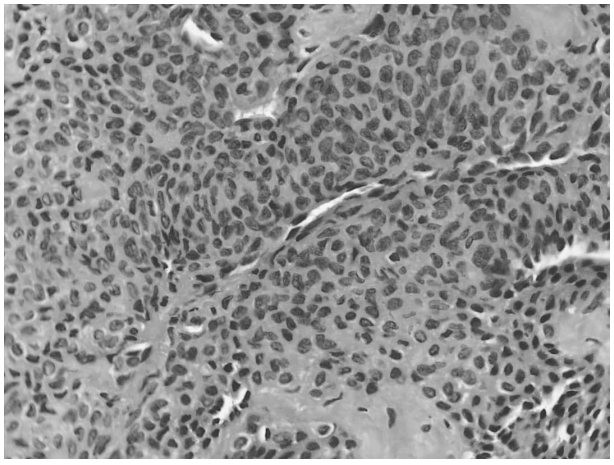
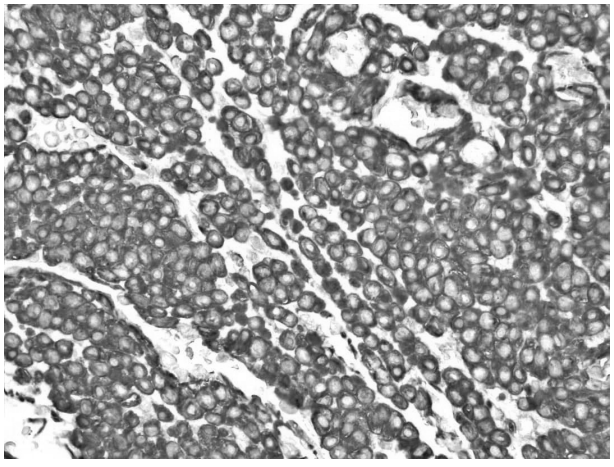
10.1136/jim-2020-ERM.49

Purpose of Study Glomus tumors (GT) are benign neoplasms derived from glomus bodies with rare presentations in the oral cavity. GT presents as a purple vascular nodule, sized <1cm, imitates vascular neoplasms such as hemangiopericytoma or hemangioma. Initially, GTs were considered as a variant of angiosarcoma. In 1924, Masson revealed GT is histologically similar to smooth muscle cells of the glomus body.

Methods Used A 62-year-old man presented to the clinic with a two-month history of painless, round and non-erosive lump on the inner surface of the lower lip which gradually increased in size up to 1 cm. The patient denied trauma, ulceration, drainage, and bleeding. On examination, a one-centimeter round, non-tender and mobile lump on the lower labial mucosa was observed. Past medical history included diabetes mellitus type II. No Family history of malignancy. He



Abstract P12 Figure 1



Abstract P12 Figure 2

smoked half a pack per day for 12 years. Excisional biopsy was performed. Histopathologic examination revealed a submucosal proliferation of monotonous, bland compact epithelioid cells arranged in sheets, punctuated by blood vessels suggesting glomus tumors. Immunostaining with smooth muscle actin was positive. In one year follow up no recurrence of the tumor was observed.

Summary of Results GT represents less than 2% of all benign soft tissue tumors. Only 23 cases with oral cavity involvement have been reported to date. The most-reported tumor involved the lips (54.2%), followed by hard palate, gingiva, tongue and buccal mucosa. The mean age was 48.7 years, with no gender predilection, despite subungual lesions that are more common in females. Subungual GT presents as stabbing pain, cold intolerance and tenderness of the fingertips whereas, labial GT mostly presents as a painless, small, slow-growing lesion. Treatment is surgical resection. The recurrence rate of labial GTs is unclear.

Conclusions Labial GT has different clinical presentations compared to subungual GT. This difference in clinical presentation makes it difficult for clinicians to differentiate this tumor from other more common painless lesions of the lip. This case report may increase awareness of the clinicians regarding this tumor to prevent misdiagnosis.

P13 WHAT ARE THE RISK FACTORS AND INCIDENCE RATE FOR 30-DAY READMISSION FOR DKA AFTER INDEX CASE OF DKA? (3369847)

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10.1136/jim-2020-ERM.50

Purpose of Study Nearly 1 in 10 individuals in the United States have Diabetes Mellitus (DM). One potential preventable complication is Diabetic Ketoacidosis (DKA). Better understanding of risk factors for readmissions of DKA will allow developing interventions to decrease readmissions. Previous studies suggests that 16% patients with DKA get readmitted to hospital within 30 days. We sought to determine the 30-day DKA readmission rate for adults (age $\geq$ 18) admitted with a principal diagnosis of DKA and compare the risk factors for the same.

Methods Used We utilized Agency of Healthcare Research and Quality's (AHRQ) 2014 Nationwide Readmission Database which includes 14.9 Million discharges across 22 states to identify admissions with a principal diagnosis of DKA related ICD-9 diagnosis (250.10, 250.11, 250.12, and 250.13) associated with both Type 1 and Type 2 DM. Applicable admissions were all adults (age $\geq$ 18) with an index hospitalization between January 1 to November 30, 2014. Patients who died during index admission and those with missing covariates were excluded. The 2013 NCHS Urban-Rural Classification System was used to classify if originating from a urban/rural location. Readmission for DKA within 30-days of DKA were analyzed. Statistical analysis was completed with Stata 15 (StataCorp, College Station, TX). Predictors for readmission were determined using logistic regression model following sequential step-wise elimination of covariate.

Summary of Results A total of 65,249 patients met criteria for inclusion. Of which, there was 12,561 readmissions (overall rate 19.25%) within 30-days of the index admission. There was 6,936 readmissions for DKA itself (10.6% overall rate), or accounting for 55% of readmissions. Multivariate analysis showed that patients had a higher likelihood of readmission if they were disposition to place other than routine, younger age (<65), female, medicare as payer, living in a metro(>1 million people), living in poor economic area, absence of obesity, presence of renal failure, and being treated for in a for profit hospital.

Conclusions Almost 1 in 5 patients discharged with a principal diagnosis of DKA will be readmitted within 30 days, half of whom were readmitted with DKA. Further research into addressing these factors will serve to reduce readmissions in hospitals.

P14 A RARE HISTOLOGIC SUB-TYPE OF MUCINOUS GASTRIC ADENOCARCINOMA IN LIVER TRANSPLANT PATIENTS (3372953)

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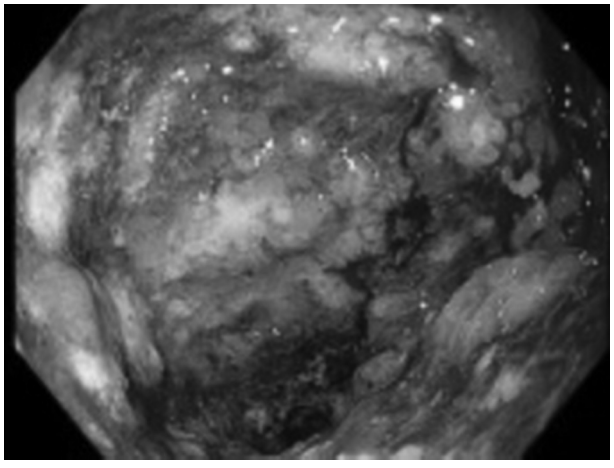
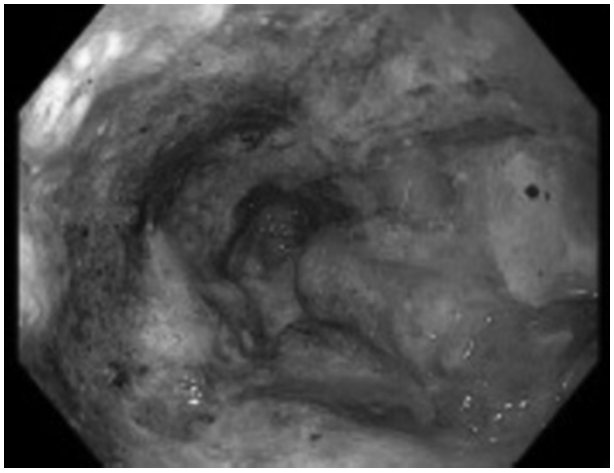
10.1136/jim-2020-ERM.51

Purpose of Study A 73 yo male, originally from West Africa, no Tobacco/EtoH/IVD use, with history of liver transplant secondary to HBV(2009) on immunosuppression, prostate cancer s/p prostatectomy and peptic ulcer disease in the past presented with complaint of dizziness, fatigue and tarry black stool for 1–2 weeks. He denied any fever, chills, nausea, vomiting, abdominal pain. Patient was found to have symptomatic anemia with Hgb of 4.6 g/dL, Hct of 16.8%, MCV of 75 fL, RDW of 18.5%, Iron of 14 ug/dL and iron saturation 4%, positive orthostatic BP changes and pulse of 136. He was admitted to ICU and received 4 units of RBC transfusion prior to EGD. EGD showed likely malignant gastric tumor in the gastric antrum involving the incisura, extending to the pylorus and proximal duodenal bulb. Biopsy of the lesion was obtained. Labs were positive for CEA 6.2 ng/mL (normal 0–3.8), negative for AFP – tumor marker. CT abdomen/pelvis/chest/head with contrast was performed for



Abstract P14 Figure 1



Abstract P14 Figure 2

staging, showing thickening of gastric wall particularly in the gastric antrum, infiltrated appearance of the fat adjacent to the gastric antrum within the porta hepatis, enlarged celiac lymph node and 15 mm right renal lesion representing a hyperdense cyst or a mass. Oncology was consulted and recommended to follow up biopsy results as outpatient as patient improved clinically and was hemodynamically stable for discharge. Report of the biopsy revealed mucinous adenocarcinoma negative for HER2 – gastric antral gland mucosa with chronic nonspecific gastritis, negative for H. pylori (warthin-starry stain).

Summary of Results The correlation between solid organ transplant recipients and the development of de novo malignancies has been well documented in the literature. Recipients of organ transplants are at increased risk to develop de novo malignancies, due to multiple risk factors including immunosuppression, age, and gender. The risk in liver transplant patients is 20% at 10 years post-transplant, increasing to 55% at 15 years. Most frequently, liver transplant recipients develop post-transplant lymphoproliferative disorder in 20% of cases. In an Italian study describing de novo malignancy rates in post-orthotopic liver transplantation recipients, non-Hodgkin lymphoma (20%),head and neck cancer (17%), Kaposi sarcoma (17%),and esophageal tumors (12%)2. The data regarding de novo gastric cancer in liver transplant recipients is limited to case studies/small case series4. Mucinous gastric carcinoma is a rare histologic subtype of undifferentiated gastric carcinoma, constituting 2–6% of all gastric cancers. MGC is defined by (WHO) as adenocarcinoma with a substantial amount of extracellular mucin (50% of tumor volume) within it. Of the several mucin types, MUC2 was found to be strongly associated with MGC. Most MGCs revealed MUC2 expression, whereas only a small percentage of NMGCs did so. It has been known that HER-2 and EGFR are of poor prognostic indicators, but tumor markers and their clinical importance have not been widely investigated. The tumor size, macroscopic type, invasion, lymph node, peritoneal and hepatic metastasis(not histological type), are significant predictive factors for survival. On review of the literature, we found that patients with MCG had more metastatic lymph node involvements and venous and lymph invasion compared to NMGCs. In addition to surgery, recent developments of therapeutic agents. Particularly, anti-HER-2 and anti-EGFR monoclonal antibodies have reached the clinical trial stage for gastric cancer treatments. Therefore, the status of both HER-2 and EGFR has become clinically relevant.

P15 ABSTRACT WITHDRAWN

P16 DOES PATIENT LOCATION (URBAN/RURAL) INFLUENCE RISK FACTORS AND INCIDENCE RATE FOR 30-DAY READMISSION FOR SICKLE CELL PAIN CRISIS? (3372557)

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10.1136/jim-2020-ERM.52

Purpose of Study Sickle Cell Disease is a hematological disorder with hemoglobin polymerization leading to erythrocyte rigidity and vaso-occlusion. In USA, about 100,000 people have Sickle Cell Disease, with annual medical care cost exceeding $1.1 billion. A common cause for acute hospitalization is pain crisis. We sought to determine the 30-day all-cause readmission rate for adults (age $\geq$18) admitted for sickle cell pain crisis (SCPC) with predictors of readmissions and compare risk factors for urban and rural patients.

Methods Used We utilized Agency of Healthcare Research and Quality's (AHRQ) Health Care Utilization Project's (HCUP) 2014 Nationwide Readmission Database, to identify admissions with SCPC related ICD-9 diagnosis: (282.62, 282.64, 282.69). Applicable admissions were all adults with index hospitalization from January 1, 2014 to November 30, 2014. Patients who died during index admission and those with missing covariates were excluded. All-cause including SCPC readmissions within 30-days of a SCPC were analyzed. Statistical analysis was completed with Stata 15 (StataCorp, College Station, TX) with p-values < 0.05 considered statistically significant. The 2013 NCHS Urban-Rural Classification System was used to classify if originating from an urban or rural location. Predictors for readmission were determined using logistic regression model.

Summary of Results A total of 33,462 patients met criteria for inclusion. Of which, there was 11,596 readmissions (34.7%) within 30 days of index admission. Patients originating from urban locations had readmission rate of 33.1% as against 34.8% for patients from rural locations ($p=0.07$). Multivariate analysis showed patients from either rural or urban location each had a lower likelihood of readmission if they lived in an area with income between $51000-$66,000. In addition, disposition to home health or AMA or using Medicaid as payer increased the odds for readmission from rural patients.

Conclusions Almost 1 in 3 patients discharged with a principal diagnosis of SCPC will be readmitted within 30 days. No difference was noted in rates of readmissions for patients originating from urban or rural locations. Risk factors are similar with further research needed to better understand the drivers of readmission.

P17 A CASE OF SCHMIDT SYNDROME (3372562)

Demian J Omeh, Santosh Kale, Chris Elsayad. *Internal Medicine, Nassau University Medical Center, East Meadow, NY, USA*

10.1136/jim-2020-ERM.53

Purpose of Study Schmidt syndrome, also known as Autoimmune polyendocrine syndrome type II, is a rare autoimmune disorder characterized, primarily, by adrenal insufficiency (Addison's disease), thyroid insufficiency (Hashimoto's thyroiditis), with varying degrees of gonadal insufficiency, endocrine pancreatic insufficiency, or parathyroid hypo-function leading to diverse clinical presentations. Most cases are sporadic but hereditary forms have been documented. Diagnosis is usually in the 3rd and 4th decades of life. We report a rare case of Schmidt syndrome with late diagnosis in the 7th decade.

Summary of Results A 70-year-old male presented with fatigue. On physical exam, his vital signs were normal and the remainder of the exam unremarkable. His workup revealed elevated Adrenocorticotrophic hormone (ACTH) level of 117pg/ml, low early morning cortisol level of 3.7ug/dl, and positive adrenal antibody test. He was also found to have low free thyroxine (fT4) level of 0.05ng/dl, elevated thyroid-stimulating hormone (TSH) of 84.76uIU/ml, and positive thyroid peroxidase antibody with a titer of 205IU/ml. He was treated with hormone replacement therapy with hydrocortisone and levothyroxine. He follows regularly in our Endocrinology clinic and feels well.

Conclusions Schmidt's syndrome is a rare autoimmune disorder with an estimated prevalence of 1.4–2 per 100.000. It has a female predilection with a male to female ratio of 1:3. An association with class II human leukocyte antigen haplotypes DR3, DR4, and non-HLA gene M-ICA and CTLA-4 have been documented. Our patient is likely one of the sporadic cases as he has no family history of autoimmune diseases. Clinical manifestations of Schmidt syndrome, at the onset, are often subtle and nonspecific. Adrenal insufficiency more often precedes the development of autoimmune thyroiditis. Early clinical features include fatigue, anorexia, dizziness, myalgia, arthralgia, and decreased libido. The patients could also present emergently with hypotension, hyponatremia, shock, and coma. Our patient had an insidious onset of nonspecific symptoms, and that led to the delayed diagnosis in his case. Treatment of Schmidt syndrome is based on hormonal replacement of the component endocrinopathies just like in our patient, who is clinically stable on levothyroxine and hydrocortisone replacement.

P18 A CASE OF PASTEURELLA MULTOCIDA BACTEREMIA FROM A DOG SCRATCH (3372052)

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10.1136/jim-2020-ERM.54

Purpose of Study Pasteurella multocida is a small Gram-negative coccobacillus that is a component of the upper respiratory tract and gastrointestinal flora of many animals. Most of the reported human infections are from cat and dog bites. Human infection from dog scratch is uncommon, and only few cases are documented. P. multocida can cause severe infections, including bacteremia, septic shock, peritonitis, pneumonia, endocarditis, and meningitis, especially in extremes of age and in immunocompromised individuals. We present a rare case of P. multocida bacteremia from a dog scratch in an elderly female.

Summary of Results An 87-year-old female presented to the emergency room with right leg pain and swelling, fever, and cough. Her medical history includes congestive heart failure, hypertension, dementia, spinal stenosis, and atrial fibrillation. Pet history was positive for dog scratch on her right leg a week prior, but negative for dog bite. Physical examination was remarkable for a temperature of 101.4oF, swollen and erythematous right leg, warm, with a small discharging ulcer on her shin. Blood culture grew P. multocida. The patient was successfully treated with two weeks course of intravenous ampicillin-sulbactam, as well as local wound care. Repeat blood cultures while on antibiotics showed clearance of bacteremia.

Conclusions P. multocida is a small, nonmotile, non-spore forming, gram-negative aerobic and facultative anaerobic bacteria. P. multocida infections in humans usually result from bites of cats, and dogs; and rarely swine, horses, rats, and rabbits. Local cutaneous infections are most common. Other reported sites of isolation of this organism include sputum, bronchoalveolar lavage, cerebrospinal, pleural, ascitic, and joint fluids. Mortality of up to 30% has been reported in patients with Pasteurella bacteremia. High index of suspicion and pet history is vital to early diagnosis. P. multocida is often susceptible to penicillins, beta-lactams, cephaolsporins, carbapenems, and tetracyclines. Treatment duration is typically two weeks.

P20 ACCEPTABILITY OF HIV TESTING FOR ADOLESCENTS AND YOUNG ADULTS BY DELIVERY MODEL: A SYSTEMATIC REVIEW AND META-ANALYSIS (3345595)

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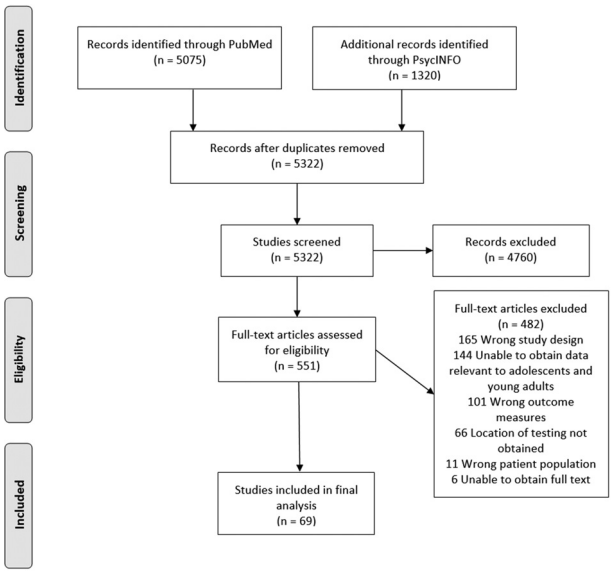
10.1136/jim-2020-ERM.55

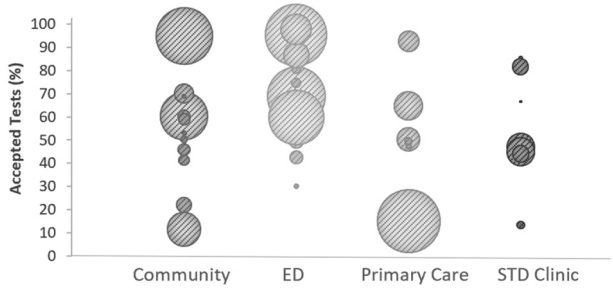
Purpose of Study To determine which care delivery model has the highest percentage of HIV tests accepted by adolescents and young adults (AYA) and links the highest percentage of HIV positive AYA to care

Methods Used Following PRISMA guidelines, a systematic review of the literature was conducted of English language peer-reviewed articles on PubMed and PsychINFO. Title and abstract screening was performed by a single reviewer, with a random sample of 500 studies reviewed by a second reviewer to ensure precision of screening (98% agreement). Full text review was performed by both reviewers, with differences resolved by consensus. Bias assessment and data analysis performed on remaining studies (figure 1). Studies were included if study participants included AYA between the ages of 13 and 24 who were offered HIV testing. Patients who were pregnant, acquired HIV via mother to infant transmission, or were tested as part of a home-based screening initiative were excluded.

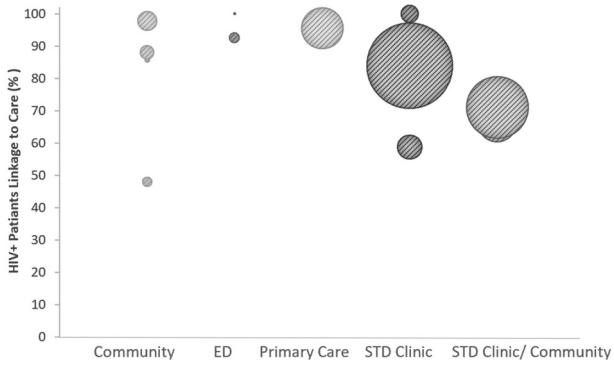
Summary of Results Of the 45 studies that contained acceptance of HIV testing as an outcome, 17 were conducted in



Abstract P20 Figure 1 PRISMA flow diagram



Abstract P20 Figure 2 HIV tests accepted as a percentage of those offered. Circle size corresponds to study sample size



Abstract P20 Figure 3 Linkage to care as a percentage of patients testing HIV positive. Circle size corresponds to study sample size

the emergency department (ED), 13 in community-based programs (CBPs), 7 in primary care, 7 in sexually transmitted infection (STI) clinics, and 1 in both primary care and CBPs (figure 2). EDs had the highest rates of HIV test acceptance, with 76.4% of AYA offered an HIV test receiving an HIV test. CBPs had an acceptance rate of 66.3%, while STI clinics had an acceptance rate of 49.5% and primary care had an acceptance rate of 31.4%. Of the 13 studies that had linkage to care as an outcome measures, 4 took place in CBPs, 3 in STI clinics, 2 in EDs, 1 in primary care, and 3 in non-healthcare settings, defined here as STI clinics and community sites (figure 3). Average linkage to care was lowest in nonhealthcare settings, with 69.4% of patients linked to care compared to 82.7% in STI clinics and 87.3% in CBPs alone. Linkage to care in the ED and primary care was 93.1% and 95.5%, respectively.

Conclusions ED testing has an important role in stopping the spread of HIV. Because many ED-based studies offered testing on an opt-out basis, EDs had high rates of testing acceptability. When linkage to care was studied, EDs successfully enrolled a very high percentage of AYA patients in HIV care.

P21 A TRAVELER'S TALE: DENGUE FEVER IN A TRAVELER (3372975)

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10.1136/jim-2020-ERM.56

Purpose of Study Introduction Fever in a returned traveler is always interesting and intriguing. We present a case of a forty-three-year male who presented with a fever after a trip to Northern India and finally diagnosed with Dengue. Case Presentation A 43-year-old male with no past medical history presented to the emergency room (ER) with fever, headache and generalized body pains for 3 days. He recently returned to the USA 5 days ago after a three week trip to Northern India to visit his extended family. His vitals signs and physical exam was unremarkable on presentation except for a temperature of 102.3 F. His initial lab work which includes complete blood picture (CBC), comprehensive metabolic profile (CMP), urinalysis(UA) showed mild elevations of aspartate transaminase(AST) up to 65. Imaging included chest x-ray, ultrasound abdomen, and CT scan head and was unremarkable. Lumbar puncture was done which was unrevealing. Because of a fever in a returned traveler, a blood smear was checked for malarial parasites and its negative. Initial testing for dengue titers came back negative. We didn't start the patient on antibiotics and placed under observation. In the next three days, AST and ALT trended up to 830 and 570 respectively. White blood cell (WBC) count and platelet count dropped to 3.0 and 36 respectively during the same period. Blood tests for hepatitis A, B, C, EBV, CMV, HSV returned negative. His symptoms initially worsened and later got better. He was treated with supportive intravenous fluids during this period. We repeated dengue titers on day 6 of his hospitalization which returned positive. By this time, his AST, ALT, WBC and platelet counts were trending towards normalization. The patient was diagnosed with dengue fever and discharged home. Two weeks post-discharge all his labs were unremarkable. Discussion Dengue is a febrile illness caused by infection with one of four closely related but serologically distinct dengue viruses transmitted by bites of Aedes aegypti or Aedes albopictus mosquitoes. Symptoms typically develop between 4 and 7 days after the bite of an infected mosquito. The infection consists of three phases: a febrile phase, a critical phase, and a recovery phase. Clinical manifestations range from self-limited dengue fever to dengue hemorrhagic fever with shock syndrome with a significant mortality rate. Diagnosis is based mainly on clinical grounds in patients exposed to dengue by residence in or travel to a dengue-endemic country or region. IgM antibodies against dengue virus are detectable starting 4–

5 days after onset of symptoms and are reliably detectable for approximately 12 weeks. This explains the initial negative titers in our patient. If IgM is negative and the serum was obtained within the first six days after onset of illness, testing the sample for dengue viral nonstructural protein 1 (NS1) antigen by enzyme-linked immunosorbent assay (ELISA) is recommended. Management is supportive, which largely consists of maintaining adequate intravascular volume.

Conclusions This case emphasizes the importance of considering dengue in the differential diagnosis of fever in a returned traveller. History is crucial in making a diagnosis as it gives clues about dengue epidemic and endemicity. Management is mainly supportive by maintaining adequate intravascular volume.

P22 THE POSSIBLE ROLE OF REUSABLE PILLOWS IN HOSPITAL ACQUIRED INFECTIONS (3369438)

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Purpose of Study Although there have been several advances in decreasing the incidence of hospital acquired infections (HAIs), there remains a need for further reductions. There are several published studies describing the presence of both gram positive and gram negative bacteria solid surfaces in hospitals which can potentially survive on dry solid surfaces, from a few days to several months. While most surface disinfectant wipes are effective when used correctly, there are areas not readily accessible to normal hospital cleaning. This includes the contents of pillows and mattresses which could potentially harbor pathogenic bacteria. We hypothesized that bacteria could enter the internal pillow filling through the sewn seams and serve as a reservoir for bacteria.

Methods Used As a pilot study, we obtained 10 standard pillows from the MICU and 10 from CTU from a local hospital to analyze. We analyzed only the pillow seams with the assumption that it would serve as a proxy for the pillow fiber fill content.

Summary of Results Out of the 20 pillows we analyzed, human DNA was detected on all pillow seams, bacterial DNA was detected on 15 pillow seams and of these, live bacteria was found on 8. Analyzing this data, we found that bacterial DNA was present on the majority of tested pillows, translating to a high risk for possible HAIs. Additionally, the presence of live bacteria on these pillows leads to the possibility of the growth and spread of colonies elsewhere in the hospital. We are currently sequencing the gene for the 16s rRNA in all bacteria positive samples to determine the type of bacteria present and its potential pathogenicity. Through this sequencing, we will determine if the genes of the bacteria matches up with those that are characteristic of bacteria known to be responsible for HAIs such as: S. aureus, E. coli, and P. aeruginosa.

Conclusions By determining the type of bacteria present, we can devise ways to eliminate these pathogenic agents, and lower the incidence of HAI such as meningitis and pneumonia. These infections can lead to symptoms such as fever, nausea, and difficulty urinating which when combined with a preexisting illness or condition, can prove to be deadly. It is therefore critical to maintain hospitals as places where patients can be treated for illnesses, not exposed to new ones.

P23 HOSPICE UTILIZATION AND MANAGEMENT OF PATIENTS WITH ADVANCED GASTROINTESTINAL CANCER (3372957)

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Purpose of Study Gastrointestinal (GI) cancers remain one of the most commonly diagnosed cancer. The past two decades have seen a rise in efficacious chemotherapeutic agents and the use of chemotherapy in the terminal stages of cancer has increased. Despite these advancements, many patients eventually succumb to their disease. GI cancer patients experience high rate of complications and the best treatment at the end of life remains unclear. Hospice care provide service not only for the symptom control for patient with terminal illness but also help families deal with bereavement. Although hospice utilization has increased over the past 20 years, many patients with terminal cancers do not receive hospice care or receive it near the end of life. We aim to study the patterns of hospice admissions in a large community hospital. We also sought to determine the characteristics associated with aggressive end of life care which defines as chemotherapy or radiation therapy, surgery, ICU admission within last 30 days of life

Methods Used We retrospectively examined the records of 102 patients treated at our single academic-community affiliated institution from 2017 to 2018. Patients who had GI malignancy and enrolled in hospice during that time period were included in our study. We studied the amount of restorative care which includes medical and surgical treatment our patients received in last one month of their life. We also studied the utilization of palliative care services during the months before enrolling in to hospice. We also paid attention to ICU admissions.

Summary of Results The mean age of the population was 76 ±13 (55% male, 45% female), 81% were Caucasians followed by African Americans (15%), Asian (3%) and Hispanics (1%). Majority (69%) of our patients had colorectal or pancreatic cancer. 84% of our patients had stage IV disease. 35% of them required ICU stay and 62% patients some form of medical treatment which included chemotherapy, immunotherapy, or radiation within last 30 days of their life but only 14% underwent surgery. Only 12% were seen by palliative care team in the last 6 months of their life. Colorectal and pancreatic cancer patients were more likely to receive chemotherapy ($p= 0.01$). Stage IV GI cancer patients were more likely to require ICU level of care at end of life($p=0.037$). We also noted increased ICU level of care requirements in patients with esophageal cancer followed by gastric and pancreatic however this was not statistically significant ($p= 0.37$).

Conclusions A significant number of patients continue to receive aggressive treatment for gastrointestinal cancer at end of life. Many patients required ICU admissions because of complications of their cancer and most of the patients who are hospitalized were not offered palliative care. Our study indicates that better education is required for the doctors and patients both for the utilization of palliative and hospice care. Early introduction of hospice services will reduce health care expenditure significantly by reducing hospital admissions, ICU costs and medication expenditure.

P24 INTENSITY OF DIRECT CARE PROVIDED BY ED NURSES AND PHYSICIANS DURING A MASS CASUALTY DRILL (3332451)

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Purpose of Study To determine the duration of direct patient care by ED nurses and physicians during a mass casualty incident (MCI) drill in a pediatric emergency department.

Methods Used The scenario was a school shooting with eight simulated patients arriving within 4 minutes. We used child-size medical training manikins to simulate two patients for each of the following JUMPSTART triage levels: black, red, yellow, and green. On-shift ED clinical team members responded and observers recorded their clinical role and the time each entered or left a room. Video recording was used to verify real-time observations. We report the total duration nurses and physicians were directly involved with patient care as nurse-minutes and physician-minutes for the drill. We compared the mean nurse-minutes and physician-minutes per patient for patients requiring emergent/urgent treatment (red and yellow triage levels) versus patients not requiring urgent treatment (green and black triage levels).

Summary of Results ED nurses were involved in direct patient care for 165 nurse-minutes during the 34-minute drill. We observed a trend of decreasing nurse-minutes per patient with decreasing triage level: mean 34.9 (red), 30.8 (yellow), 15.4 (green), and 1.5 (black) and a mean difference of 24.4 (95% CI: -1.3, 50.1) for red/yellow v. green/black triage levels. ED physicians were involved in direct patient care for 109 minutes with a mean 25.6 (red), 20.2 (yellow), 7 (green), and 1.9 (black) physician-minutes per patient and a mean difference of 18.5 (95% CI: 4.2, 32.7) for red/yellow v. green/black triage levels.

Conclusions During this in situ MCI drill in a pediatric ED, patients with triage level red received the most intense nursing and physician care, followed by yellow patients. There was a clinically important difference in the duration of direct patient care by nurses and physicians between patients of red/yellow and green/black triage levels, although there was not a statistically significant difference for intensity of nursing care. These results suggest that the intensity of direct patient care for nurses and physicians is higher for patients of higher triage levels.

P25 READMISSION RELATED HEALTH CARE UTILIZATION AND FACTORS ASSOCIATED WITH HOSPITAL READMISSION IN PATIENTS WITH OPIOID RELATED DISORDER: A US POPULATION COHORT STUDY (3372541)

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10.1136/jim-2020-ERM.60

Purpose of Study Opioid-related disorders (ORD) are a growing burden on the US Healthcare system and are linked to high hospital readmission rates. It is crucial to identify factors

Abstract P25 Table 1 Most 10 common cause of all cause 30 days readmission

Most Common Cause of All cause Readmission
1. COPD with Acute exacerbation, 25,083 (30.1%)
2. Sepsis, Unspecified organism, 4,760 (5.7%)
3. Acute and Chronic respiratory failure with Hypoxia, 3753 (4.5%)
4. COPD with Lower respiratory infection, 3257 (3.9%)
5. Pneumonia, Unspecified organism, 3253 (3.9%)
6. Acute on Chronic respiratory failure with Hypercapnia, 2140, (2.6%)
7. Acute on Chronic Diastolic (Congestive) heart failure, 2058 (2.5%)
8. Acute respiratory failure with Hypoxia, 1548 (1.9%)
9. Acute on Chronic Systolic (Congestive) heart failure, 1225 (1.5%)
10. Acute Kidney Failure, 1203 (1.4%)

Abstract P25 Table 2 Predictors of 30 days readmission for Opioid Related Disorders(ORD)

Variables	Adjusted Hazard ratio and 95% Confidence interval	P value
Age Group		
18- 30 years	0.60(0.43- 0.84)	0.003
30-40 years	1.19(1.04- 1.37)	0.01
40-50 years	1.19(1.11-1.27)	<0.001
50-65 years	1.18(1.15- 1.22)	<0.001
>65 years	reference	reference
Female	0.88(0.86-0.90)	<0.001
Length of Stay		
<3 days	reference	reference
3-7 days	1.09(1.06- 1.12)	<0.001
>7 days	1.29(1.24- 1.34)	<0.001
Vaccine Status		
Encounter for Age appropriate vaccination	0.83(0.78-0.89)	<0.001
Insurance Status		
Medicare	reference	reference
Medicaid	1.08(1.03- 1.12)	<0.001
Private	0.72(0.69-0.76)	<0.001
Uninsured	0.72(0.66-0.80)	<0.001
Charleston Co-morbidity score		
<1	reference	reference
2	1.15(1.11- 1.18)	<0.001
>3	1.48(1.43- 1.52)	<0.001
Co-morbidity		
Anxiety	1.10(1.07- 1.14)	<0.001
Depression	0.97(0.94- 1.0)	0.11
Schizophrenia	1.20(1.10- 1.31)	<0.001
Chronic pain syndrome	1.14(1.11- 1.18)	<0.001
Smoking	0.90(0.87- 0.93)	<0.001
Cocaine Dependent	1.24(1.13- 1.36)	<0.001
Alcohol	1.03(0.98- 1.08)	0.22
Opioid Dependent	1.14(1.06- 1.23)	<0.001
Pulmonary Hypertension	1.14(1.10- 1.19)	<0.001
GERD	1.02(0.99-1.04)	0.08
Anemia	1.18(1.12- 1.23)	<0.001
Obesity	0.94(0.91- 0.97)	<0.001
Hypertension	1.03(1.00-1.06)	0.03
Patient residence		
Large metropolitan areas with at least 1 million residents	reference	Reference
Small metropolitan areas with less than 1 million residents	0.91(0.88- 0.94)	0.002
Micropolitan areas	0.88(0.83- 0.94)	<0.001
Not metropolitan or micropolitan (nonurban residual)	0.89(0.82- 0.96)	<0.001
Treatment level Variable		
Long term Inhaled steroid	1.01(0.96- 1.06)	0.60
Long term Steroid Dependent	1.17(1.12- 1.23)	<0.001
Immunosuppressant Medications	1.87(0.61- 5.6)	0.26
Intubation	0.93(0.86- 1.02)	0.14
Discharge Level variable		
Routine	reference	reference
Transfer to short term hospital	1.66(1.43- 1.92)	<0.001
Other transfer, including skilled nursing facility, intermediate care, other facility	1.13(1.09- 1.18)	<0.001
Home Health Care	1.25(1.22- 1.29)	<0.001
Against medical	1.99(1.87- 2.12)	<0.001

associated with frequent ORD related hospital readmissions. We aim to identify factors associated with 30-days ORD related readmission and to evaluate its impact on health-care utilization.

Methods Used This is a retrospective cohort study using the 2016 National Readmission Database. Inclusion criteria were: patient age >18 and urgent admissions with principal ICD-10 codes for ORD. A readmission was defined as the first admission to any hospital for any non-trauma diagnosis within 30 days of the index admission. The primary outcome was all-cause 30-day readmissions. Secondary outcomes were readmission mortality rate, common reason for readmission, resource utilization, and factors that are predictive of hospital readmission. Independent risk factors for readmission were identified using multivariate cox regression analysis.

Summary of Results The total number of index ORD admissions was 50,258, of which 5,898(11.8%) were readmitted within 30 days. The in-hospital mortality rate for readmitted patients was higher than that in index admissions (0.3% vs. 0.06%, p<0.001). Resource utilization was higher in readmission compared to index admission, including the length of stay (LOS) (5.8 vs. 4.7 days, p<0.001) and mean cost of hospitalization ($7,179 vs. $5,115, p<0.001), respectively. The total in-hospital economic burden associated with readmission was $42.2 million. Most 10 Common cause of readmissions and Indipendent predictors of readmission are defined in table-1 and table-2, Respectively.

Conclusions We found that 11.8% of hospitalized patients with ORD were readmitted within 30 days. Readmissions had higher in-hospital mortality and higher resource utilization compared to index admissions. Readmissions were also associated with a significant health-care burden with a total hospitalization cost of $42.3 million. We identified risk factors associated with 30-days readmission. Patients with known risk factors need special attention to improve patient outcomes and to provide optimum care.

P26 READMISSION RELATED HEALTH CARE UTILIZATION AND FACTORS ASSOCIATED WITH HOSPITAL READMISSION IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE: A US POPULATION COHORT STUDY (3370011)

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Purpose of Study Chronic Obstructive Pulmonary Disease (COPD) was linked to high hospital readmission rates and also included as a condition under the Hospital Readmission Reduction Program (HRRP). We aim to identify factors associated with 30-days COPD related readmission and to evaluate its impact on health-care utilization.

Methods Used This is a retrospective cohort study using the 2016 National Readmission Database. Inclusion criteria were: patient age >18 and urgent admissions with principal ICD-10 codes for COPD. Readmission is defined as the first admission to any hospital for any non-trauma diagnosis within 30 days of the index admission. The primary outcome was all-cause 30-day readmissions. Secondary outcomes were readmission mortality rate, common reason for readmission, resource utilization, and factors that are predictive of hospital readmission. Independent risk factors for readmission were identified using multivariate cox regression analysis

Summary of Results The total number of index COPD admissions was 516,139, of which 83,381(16.3%) were readmitted within 30 days. The in-hospital mortality rate for readmitted patients was approximately three times more than that in index admissions (3.76% vs. 1.07%, p<0.001). Morbidity including intubation rate (4.2% vs 1.7%, p<0.001), prolonged mechanical ventilation (1.7% vs 0.6%, p<0.001), length of stay (LOS) (5.4 vs 4.2 days, p<0.001) and mean cost of hospitalization ($11,496 vs $8,464, p<0.001) were higher in readmission compared to index admission, respectively. The total in-hospital

Abstract P26 Table 1 Most Common all Cause of readmission for COPD patients

Most Common Cause of All cause Readmission
1. Opioid dependence with withdrawal, 1409(23.9%)
2. Opioid dependence, uncomplicated, 822(13.9%)
3. Major Depressive disorder, Single episode, Unspecified, 199 (3.4%)
4. Major Depressive disorder, recurrent severe without psychotic feature, 145 (2.5%)
5. Alcohol dependence with withdrawal, unspecified, 113 (1.9%)
6. Alcohol depdence, uncomplicated, 102 (1.7%)
7. Bipolar Disorder, Unspecified, 100 (1.7%)
8. Sepsis, unspecified organism, 90 (1.5%)
9. Unspecified mood (Affective) Disorder, 75 (1.3%)
10. Acute Kidney Failure, Unspecified, 73(1.2%)

Abstract P26 Table 2 Independent predictors of 30 Days readmission for COPD patients

Variables	Adjusted Hazard ratio and 95% confidence Interval	P value
Age Group		
18- 30 years	reference	reference
30-40 years	1.02(0.92- 1.14)	0.67
40-50 years	1.08 (0.95 -1.22)	0.21
50-65 years	0.92 (0.79- 1.08)	0.34
>65 years	0.78 (0.58 – 1.04)	0.09
Female	0.89 (0.81 – 0.98)	0.02
Length of Stay		
<3 days	reference	reference
3-7 days	0.84 (0.76- 0.93)	0.001
>7 days	0.86 (0.72- 1.02)	0.10
Insurance Status		
Medicare	reference	reference
Medicaid	0.93 (0.80- 1.07)	0.35
Private	0.62(0.51 – 0.75)	<0.001
Uninsured	0.73 (0.58 – 0.93)	0.01
Charleston Co-morbidity score		
<1	reference	reference
2	1.37 (1.15 – 1.62)	<0.001
>3	1.73 (1.45- 2.07)	<0.001
Co-morbidity		
Anxiety	0.96 (0.88 – 1.05)	0.46
Schizophrenia	1.35 (1.05 – 1.75)	0.02
Chronic pain syndrome	1.05 (0.92- 1.20)	0.41
Cocaine Dependent	1.03 (0.92 – 1.15)	0.56
Alcohol	1.24 (1.13 – 1.36)	<0.001
Pulmonary Hypertension	1.71 (0.97 – 3.04)	0.06
GERD	1.13 (0.96 – 1.3)	0.13
Obesity	1.04 (0.84 – 1.29)	0.69
Hypertension	1.03 (0.93- 1.15)	0.48
Cannabis dependent	0.79 (0.71 – 0.89)	<0.001
Median House-Hold Income		
$1 – $38,999	reference	reference
$39,000- $47,999	0.95 (0.83- 1.08)	0.46
$48,000- $ 62,999	0.88 (0.76 – 1.01)	0.07
>$63,000	0.98 (0.83 – 1.16)	0.87
Patient residence		
Large metropolitan areas with at least 1 million residents	reference	reference
Small metropolitan areas with less than 1 million residents	0.82 (0.71- 0.95)	0.01
Micropolitan areas	0.81 (0.55 – 1.20)	0.31
Not metropolitan or micropolitan (nonurban residual)	1.08 (0.66- 1.77)	0.74
Hospital Level Variables		
Teaching Hospital	1.24 (1.07 – 1.44)	0.004
Discharge Level variable		
Routine	reference	reference
Transfer to short term hospital	2.63 (1.71 – 4.04)	<0.001
Other transfer, including skilled nursing facility, intermediate care, other facility	0.78 (0.62 – 0.97)	0.03
Home Health Care	1.31 (1.02 – 1.70)	0.03

economic burden associated with readmission was $9.53 billion. Top ten common cause of readmission and Indepedet predictors of readmission defined in table-1 and table-2, respectively.

Conclusions We found that 16.3% of hospitalized patients with COPD were readmitted within 30 days. Readmissions had a longer LOS, higher in-hospital mortality, morbidity, and resource utilization compared to index admission and were associated with a significant health-care burden with total hospitalization cost of $9.53 billion. We identified predictors of 30-days readmission. Patients with known risk factors to cause readmission needs special attention to improve outcomes and provide optimum care.

P27 MASSIVE PULMONARY EMBOLISM, SIZE DOES NOT MATTER (3372993)

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Purpose of Study Introduction: Pulmonary embolism (PE) is a very common diagnosis with outcomes which can be favourable or grim. We present a case of a 46 year old female who was readmitted to the hospital after being diagnosed with PE, stable throughout but with sudden decompensation. Case Presentation: 46 year old obese female presented to the emergency room (ER) with acute onset left sided chest pain and shortness of breath (SOB). Six days prior to this presentation she was diagnosed with extensive bilateral PE secondary to oral contraceptive pills (OCP) and was discharged in a stable condition on enoxaparin. In the ER, she was tachycardic and tachypneic with rates of 120 and 22 respectively and oxygen saturation of 93% on room air. Physical exam was unremarkable on presentation. Work up included a CT scan which again showed extensive bilateral PE with slight reduction on right side but worsened on left side. A lower extremity venous scan showed right popliteal vein deep vein thrombosis (DVT). An echocardiogram did not reveal right ventricular (RV) strain. Patient remained hemodynamically stable and was started on heparin drip. After a few hours of admission, patient was persistently hypotensive in 80s systolic. She was given intravenous isotonic fluids with mild improvement in BP. Patient became more tachypneic and tachycardic. It was decided to administer tissue plasminogen activator (tPA) and patient was subsequently moved to the intensive care unit (ICU). Patient's hemodynamic status improved post tPA. Her clinical status improved and was able to transition to oral anticoagulants. Discussion: PE is defined as the obstruction of the pulmonary artery or its branches. PE can be either massive or sub massive. Our goal is to reiterate that the categorization of PEs does not depend on the size of the clot as the name would suggest but are based on hemodynamic definitions. It is 'Submassive' when there is concurrent RV dysfunction or myocardial necrosis. It is 'Massive' when PE is associated with hypotension which is defined as a systolic blood pressure <90 mmHg or a drop in systolic blood pressure of ≥40 mmHg from baseline for >15 minutes or hypotension that requires inotropic support and is not explained by other causes. The incidence of PE is estimated to be approximately 60 to 70 per 100,000. Risk factors can be acquired or genetic and in our patient it was thought to be due to OCPs. The gold standard for diagnosis of PE is pulmonary angiography however CT angiogram is the investigation of choice in majority of centers. For massive PE, t-PA is the recommended first line treatment modality after weighing the risks and benefits. It can be systemic or catheter directed. A mechanical thrombectomy is also an option. These treatment modalities can be provided based on the experience and comfort level of the providers at different centers.

Conclusions In patients with pulmonary embolism, the classification of 'massive' depends on hemodynamics rather than the actual size of the clot contrary to what the name implies.

P28 AN UNUSUAL CASE OF HISTOPLASMOSIS IN AN IMMUNOCOMPROMISED PATIENT WITH RAPIDLY PROGRESSING LUNG ADENOCARCINOMA (3372428)

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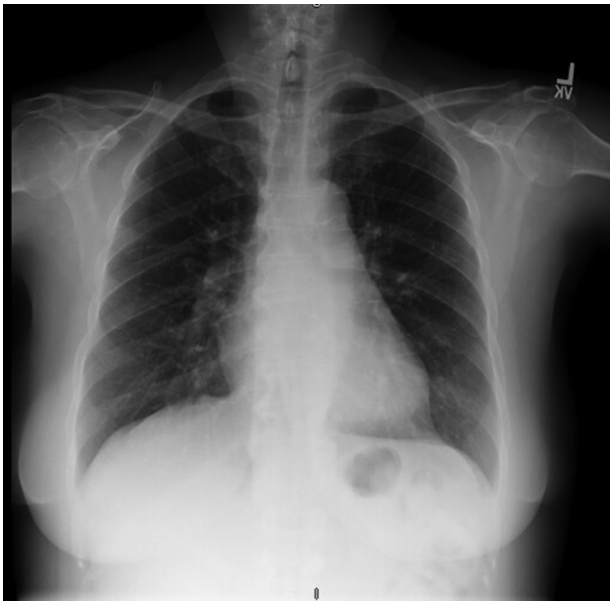
10.1136/jim-2020-ERM.63

Purpose of Study

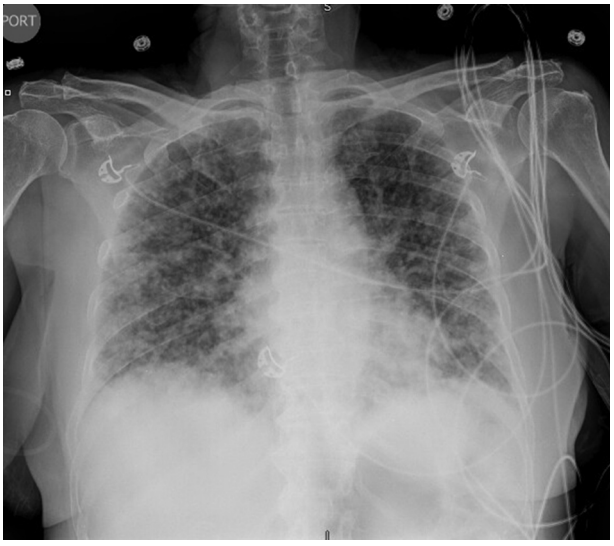
Introduction Lung adenocarcinoma can have similar presentation as different non-cancerous lung lesions. Patients can have multiple medical conditions that may coexist and may contribute to the clinical presentation.[1 2] We present an unusual case of rapidly progressing lung adenocarcinoma with histoplasmosis. Case report: 60-year-old nonsmoker female, from Puerto-Rico, nonsmoker, with a previous medical history of hypertension and diabetes, who presented with complaint of dry cough, loss of appetite, generalized weakness, weight loss, nausea, vomiting and abnormal vaginal bleeding for a month. She denied any fever, chills or night sweats. On presentation, the patient was hypotensive with BP of 84/54 and tachycardic with HR of 125 b/m. Labs were significant for Hgb 9.4 (which dropped from 13.2 seven weeks earlier), WBC of 23.41 with bands of 4% and Urea/Creatinine ratio of 127/3.13 (which increased from 25/0.77 seven weeks earlier). The patient was admitted to the intensive care unit and was started on broad spectrum antibiotics and intravenous fluids. Chest x-ray showed bilateral diffuse reticulonodular pattern which was completely normal seven weeks earlier (as shown in the figures below). CT chest without contrast showed bilateral extensive. nodularity with variable size. Given concern for infectious etiology, the patient was placed on airborne isolation and Quantiferon, Histoplasmosis, sputum cultures, AFB culture were checked. Additional work up was done including RVP, Influenza, Anti-Converting enzyme, HIV and blood, urine, sputum were all negative. AFB cultures were negative, and isolation was removed. IR guided right lung needle biopsy was done and was positive for poorly differentiated Adenocarcinoma with positive TTF1 and negative P63. After lung biopsy results, Histoplasmosis urine Ag was positive with value of 0.80 (positive >0.50). Patient's condition deteriorated rapidly, and patient was eventually intubated and requiring vasopressors. Mental status worsened and CT head was done revealing right temporal occipital junction non-hemorrhagic acute infarction. Unfortunately, the patient did not survive the hospitalization.

Discussion In general, lung adenocarcinoma has the highest incidence among primary lung cancers in the United States. Smoking is a major risk factor and increases mortality with an incidence of 40% of all lung cancers but among non-smoker young female patients, lung adenocarcinoma is the most common.[3 4] Histoplasmosis diagnosis can be done by detecting histoplasma antigen in the urine.[5] Immunocompromised patients such as cancer patients are more susceptible to disseminated disease. While Lung adenocarcinoma can imitate non-cancerous lung lesions, Histoplasmosis may also imitate lung cancer.[6]

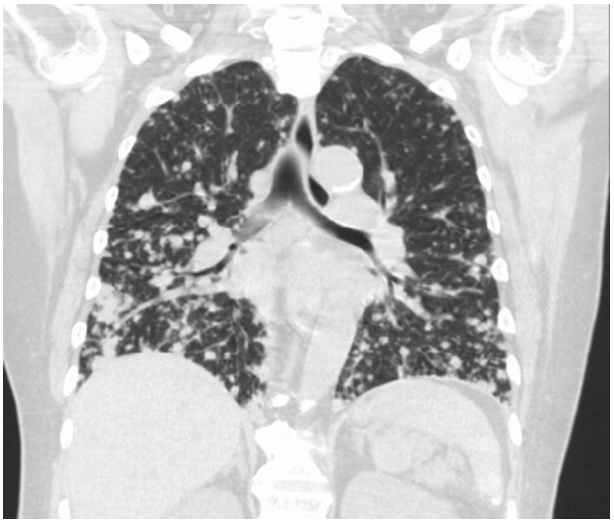
Conclusions Although in acute presentations an inflammatory and infectious etiology is suspected as one of the primary causes, malignancy should be considered as a differential for atypical presentations in such acute setting. Furthermore, Histoplasmosis is one of the differential diagnoses of pulmonary diseases especially in immunocompromised patients. It is



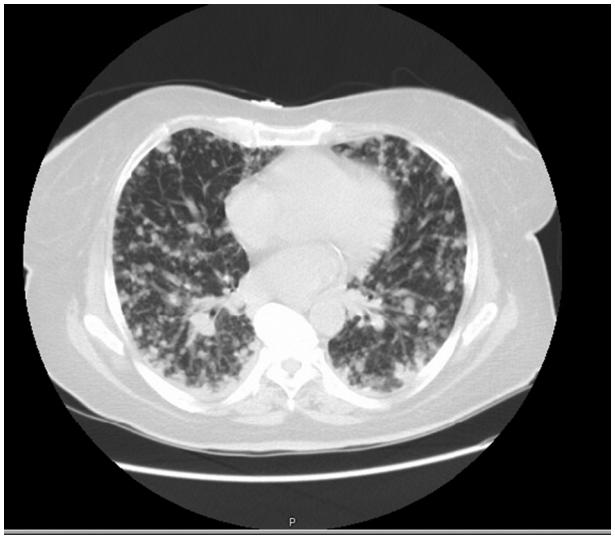
Abstract P28 Figure 1



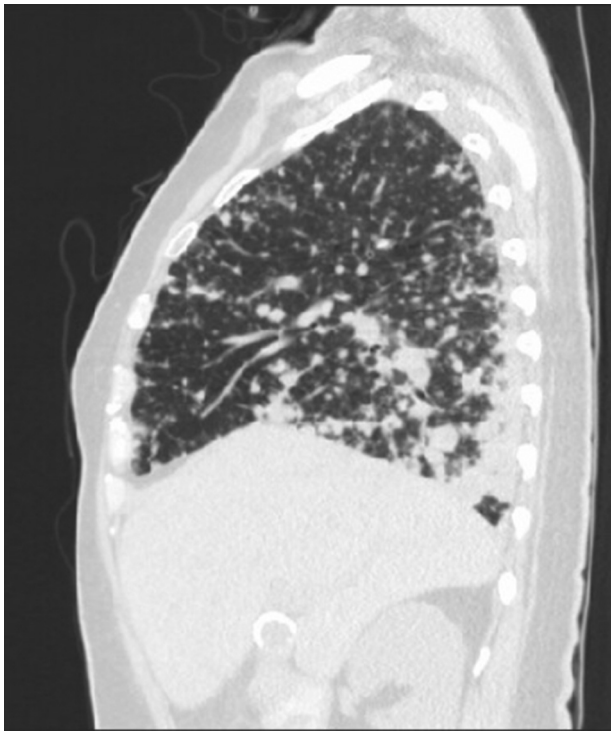
Abstract P28 Figure 2



Abstract P28 Figure 3



Abstract P28 Figure 4



Abstract P28 Figure 5

always important to keep in mind several differentials to avoid delay of appropriate treatment.

REFERENCES

1. Bradley Icard, Frank Biscardi, and Umar Sofi, 'Demonstrating Hickam's Dictum: Metachronous Pulmonary Adenocarcinoma, Carcinoid Tumor, and Histoplasmosis.' *The American Journal of Medicine* 2017;**130**(11):265–68, https://doi.org/10.1016/j.amjmed.2017.06.008.
2. Pascoe HM, Knipe HC, Pascoe D, Heinze SB. The many faces of lung adenocarcinoma: A pictorial essay. *J Med Imaging Radiat Oncol* 2018;**62**:654–661.
3. Myers DJ, Wallen JM. Cancer, Lung Adenocarcinoma. [Updated 2019 Jan 11]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2019 Jan.
4. De Groot PM, Wu CC, Carter BW, Munden RF. The epidemiology of lung cancer. *Transl Lung Cancer Res* **2018**;7(3):220–233. doi:10.21037/tlcr.2018.05.06
5. Fandiño-Devia E, Rodríguez-Echeverri C, Cardona-Arias J, *et al*. *Mycopathologia* 2016;**181**:197.
6. Dall Bello AG, Severo CB, Guazzelli LS, Oliveira FM, Hochhegger B, Severo LC. Histoplasmosis mimicking primary lung cancer or pulmonary metastases. *J Bras Pneumol*. 2013;**39**(1):63–68. doi:10.1590/s1806-37132013000100009

P29 CARCINOID TUMOR WITH POST OBSTRUCTIVE PNEUMONIA: A CASE REPORT (3372967)

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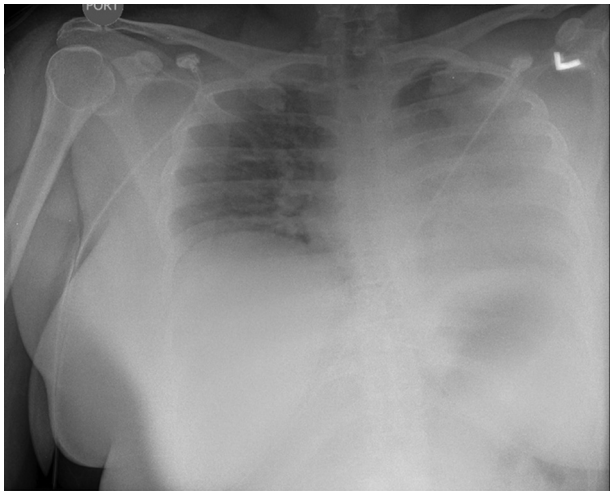
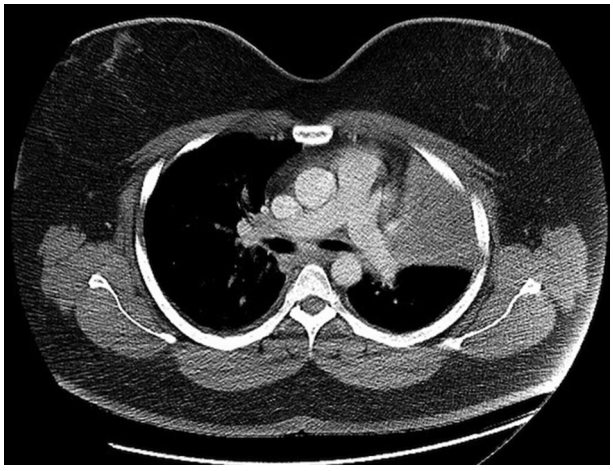
Purpose of Study Carcinoid tumors though clinically are benign behaving entities have pathology features of malignant tumor and are treated aggressively with surgical resection. Because of the indolent clinical course, these tumors are subject to delayed diagnosis and sometimes misdiagnosed. Case report: 31 year old female,non-smoker, with a history of multiple hospitalizations for pneumonia at the same location, presented with complaints of chest pain and shortness of breath with decreased exercise tolerance for 6 months. She denied any fever, chills, night sweats, cough, and weight loss. Labs showed leukocytosis of 17.6 and CXR showed haziness of the left lung (figure 1). Patient was started on broad spectrum antibiotics. CT chest showed left sided perihilar mass with occlusion of the left upper lobe bronchus and associated atelectasis with post obstructive pneumonia (figure 2). Blood analysis for Quantiferon, Mycoplasma, Legionella, Influenza, and HIV were negative. Patient underwent bronchoscopy with endobronchial biopsy. Medical cytology showed benign and reactive bronchial cells; biopsy showed well differentiated neuroendocrine neoplasm consistent with carcinoid tumor (positive for cytokeratin AE1/3, Ki 67 proliferating index ~1–2%, chromogranin negative). PFT-normal FEV1/FVC. Patient was referred for thoracic surgery for further management.

Summary of Results Carcinoid tumor is a rare entity, overall incidence in USA is 1–2 cases/100,000 individuals. The incidence varies with age, sex, race, with higher incidence in African Americans. 25–40% of pulmonary carcinoids are asymptomatic. When symptomatic,presentation depends on location of the tumor and, rarely, ability to synthesize vasoactive peptides (serotonin) or hormones (gH and corticotrophin). Symptoms are location dependent. Central carcinoids present with hemoptysis due to increased tumor vascularization, cough, recurrent respiratory tract infection, wheezing, and chest pain. Peripheral carcinoid, representing less than 10% of lung carcinoids, are more likely to be asymptomatic and are detected as an incidental finding during chest radiography. Presentation with carcinoid syndrome (facial flushing, diarrhea, wheezing) due to circulatory vasoactive substance in pulmonary location is extremely rare, <5% cases. Due to time lag between onset of symptoms and diagnosis along with nonspecific symptoms/asymptomatic presentations there has been reports of misdiagnosis of this entity.Patient here presented with vague symptoms of chest pain and shortness of breath,with a striking feature of multiple past hospital admissions for recurrent pneumonia. Diagnostic modalities include raised markers such as serotonin metabolites in blood or urine in cases with suspicion of carcinoid tumor. However, only 50% cases of carcinoids have raised level of markers, irrespective of carcinoid syndrome. More definitive



Abstract P29 Figure 1 CXR showed haziness of the left lung



Abstract P29 Figure 2 CT chest showing left sided perihilar mass with occlusion of the left upper lobe bronchus and associated atelectasis with post obstructive pneumonia

investigation is light microscopy aided by immunohistochemical studies with chromogranin, Synaptophysin (best modality of tissue diagnosis). Based on histologic differentiation estimated by number of mitosis and necrosis,carcinoids are further classified into typical (Ki67 index <2% mitoses/high power field in absence of necrosis) or atypical phenotypes. In our case, a Ki67 index (mitoses) <2% and no necrosis confirms the diagnosis of Typical carcinoid. Metastasis in bronchial carcinoids is rare and seen in <15% cases. Most common sites for metastasis are mediastinal lymph nodes followed by hepatic metastasis.

P30 APPROACH TO A DIFFICULT DIAGNOSIS: SUBTLE BIPHASIC MALIGNANT PLEURAL MESOTHELIOMA WITH RAPID PROGRESSION AND BONE METASTASIS IN A RATHER HEALTHY INDIVIDUAL WITH NO ASBESTOS (3372995)

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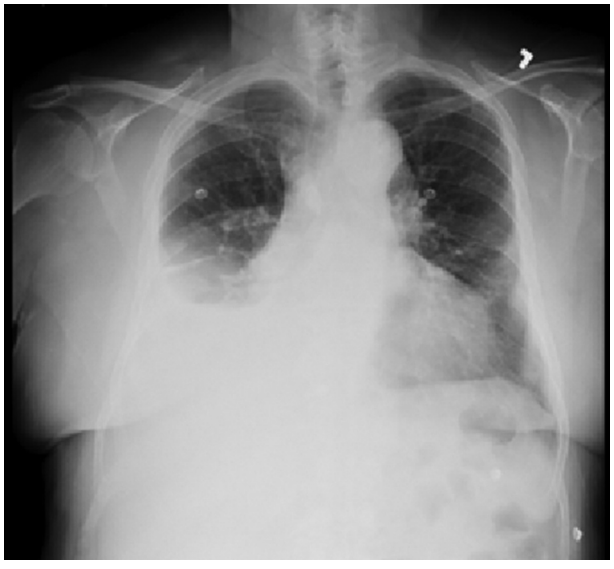
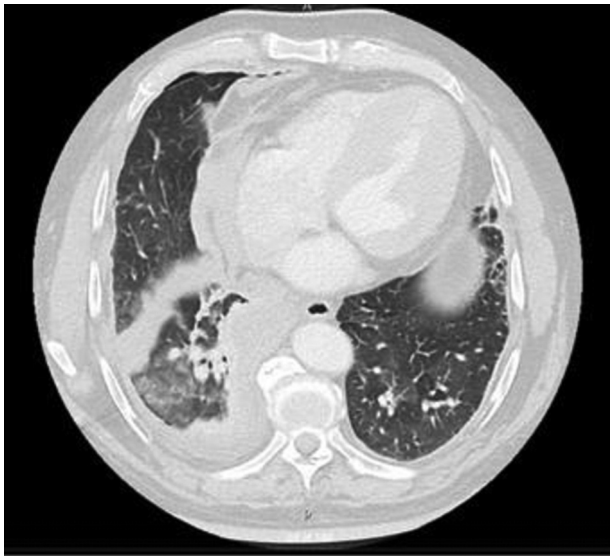
10.1136/jim-2020-ERM.65

Purpose of Study Introduction Malignant Pleural Mesothelioma (MPM) is one of the most rare and subtle malignancies with a very poor prognosis. Diagnosis is not simple and requires a biopsy for confirmation. It can present as three histologic subtypes. Diagnosis is often made late when at an advanced stage due to the generalized symptoms and non-specific findings. We present a case of a rather healthy male patient with no asbestos exposure who initially was presumed to have pneumonia and later diagnosed with biphasic MPM status post pleural biopsy. Case Presentation A 67 year old former smoker male patient presented with the complaint of a productive cough with scant white sputum for five days which was associated with some chest pain and dyspnea on exertion. There is no known asbestos exposure. Chest Xray (figure 1) revealed right lower lung infiltrate and large pleural effusion, but there was no leukocytosis or fever. Initial impression was possible parapneumonic effusion and was given empiric antibiotics. CT chest (figure 2) showed a loculated right sided pleural effusion with an irregular infiltrate at the right lung base with pleural thickening and lymphadenopathy. Thoracentesis was done and the pleural fluid was positive for malignant cells. Suspicion was for adenocarcinoma vs. mesothelioma. A month later there was worsening right sided pleural effusion requiring drainage. Bronchoscopy, right VATS, and debridement of pleural space were done and biopsy of the right parietal pleural implants showed Stage IV MPM. Biopsy results showed neoplastic cells positive for CK 5/6, calretinin, WT-1, D240, CK 7 and negative for BER-EP4, MOC-31, TTF-1, P40, Napsin and CK20 which was consistent with biphasic malignant mesothelioma. PET revealed bone metastasis. Patient agreed on chemotherapy with Cisplastin and Premetrexed.
Summary of Results Discussion MPM is a rare malignancy which presents with gradual nonspecific symptoms. Sometimes symptoms may be present for months prior to a diagnosis is made. Metastasis is not common but could rarely involve bone, liver, and CNS.[1] Imaging is the initial mode for evaluation. Findings include unilateral pleural effusion or mass or pleural thickening or pleural thickening and/or calcifications. Thoracentesis is done but does not always yield enough tissue to make a diagnosis.[1] Only tissue biopsy confirms the



Abstract P30 Figure 1 Chest Xray revealing right lower lung infiltrate and large pleural effusion



Abstract P30 Figure 2 CT chest showing loculated right sided pleural effusion with an irregular infiltrate at the right lung base with pleural thickening

diagnosis so a VATS biopsy or open thoracotomy is needed. Histologic subtypes include: epithelioid, sarcomatoid, or biphasic. The TNM staging system is used for staging and for possible surgical resection and treatment. Prognosis is poor and survival is 9 to 17 months post diagnosis.[2] Prognosis is based on histologic features (biphasic and sarcamoid worse), poor status, age >75, and LDH.[3] Clinical suspicion is higher with positive asbestos exposure.

Conclusions Conclusion The subtle clinical presentation of malignant pleural mesothelioma may cause a delay in the diagnosis with complex histologic and immunochemical characteristics. Significant asbestos exposure is not necessary to be positive in the history for suspicion. It should be included in the differentials of patients with a primary pleural mass with effusion and/or pleural thickening. Medical professionals need to be aware that a thorough clinical history, high level of suspicion with histological and immunohistochemical characteristics is required for definitive diagnosis.

REFERENCES

1. Kindler HL, Ismaila N, Armato SG 3rd, et al. Treatment of Malignant Pleural Mesothelioma: American Society of Clinical Oncology Clinical Practice Guideline. *J Clin Oncol* 2018; **36**:1343.
2. Herndon JE, Green MR, Chahinian AP, *et al*. Factors predictive of survival among 337 patients with mesothelioma treated between 1984 and 1994 by the Cancer and Leukemia Group B. *Chest* 1998; **113**:723.
3. Ahamad A, Stevens CW, Smythe WR, *et al*. Promising early local control of malignant pleural mesothelioma following postoperative intensity modulated radiotherapy (IMRT) to the chest. *Cancer J* **203**; 9:476.

P31 EXTRAPULMONARY TUBERCULOSIS: AN UNUSUAL CASE OF OMENTAL TUBERCULOSIS WITH VENOUS THROMBOSIS PRESENTING AS PERITONEAL CARCINOMATOSIS (3373004)

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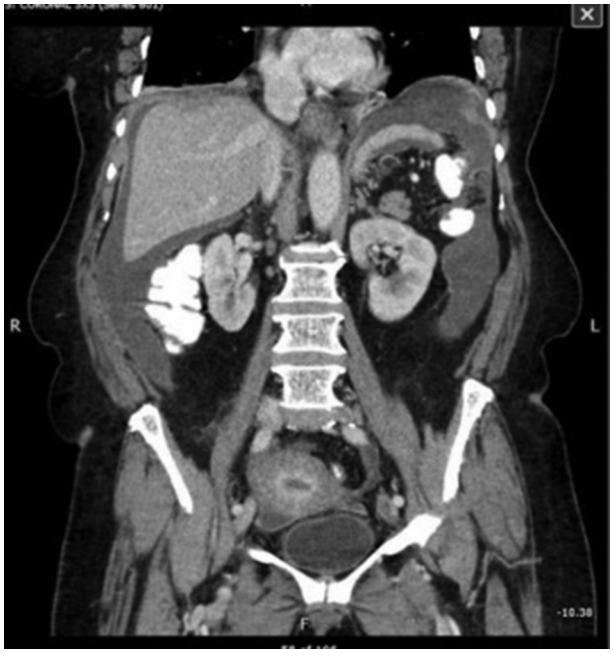
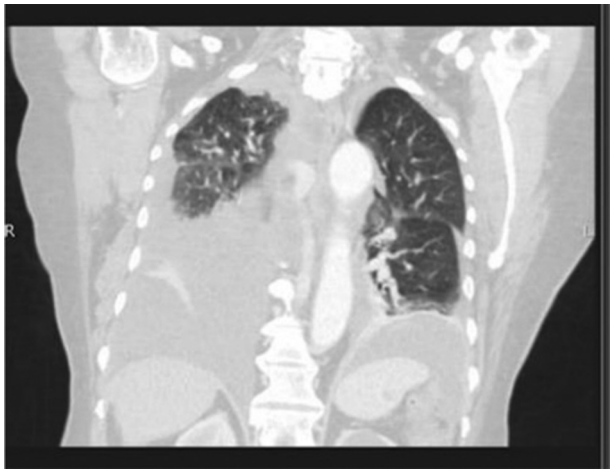
10.1136/jim-2020-ERM.66

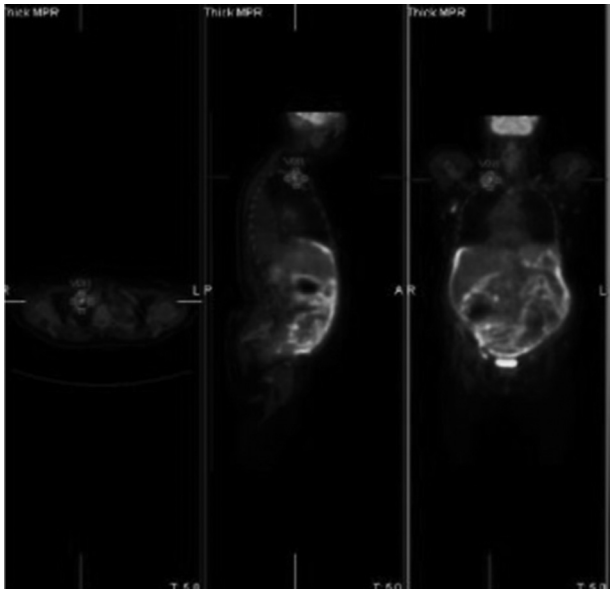
Purpose of Study Introduction Pulmonary tuberculosis is most prevalent in endemic populations. Typical symptoms include cough, hemoptysis, fevers with night sweats and weight loss. However, symptoms of extrapulmonary tuberculosis are often non-specific and involve a wide range of differentials. We present an unusual case of extra-pulmonary tuberculosis with venous thrombosis presenting as Peritoneal Carcinomatosis. Case Presentation 72 year old non-smoker female with history of iron deficiency anemia from Suriname presented with complaint of abdominal abdominal discomfort, bloating, diarrhea, perineal pain, early satiety, weight loss of 30 lbs, nausea/vomiting, and dry cough for about 6 months. CA 125 were elevated at 410 U/ml. All other tumor markers, ACE levels and fungal infection work up were negative. Labs revealed microcytic iron deficiency anemia. CT abdomen (figure 1) showed peritoneal disease with stranding of the omentum upper abdominal wall, endometrial thickening, lymphadenopathy, ascites, and right gonadal and ovarian veins thrombosis. Omental biopsy showed necrotizing granulomas with multinucleated giant cells. Quantiferon was initially negative and then was found to be positive when repeated about 2 months later. CT chest (figure 2) revealed large bilateral pleural effusions with bibasilar atelectasis and subcentimeter calcifications consistent with old granulomatous disease. PET scan (figure 3) showed increased metabolic activity localizing to the uterus centrally suggesting peritoneal and omental carcinomatosis. Also there was increased uptake in the right gonadal vein, right axillary lymph node, pulmonary nodule in the right upper lobe, region of proximal esophagus, and showed bilateral pleural effusions. Further imaging revealed an acute lower extremity venous thrombosis. Lovenox was started for the thrombosis. Subsequent, IR guided pleural biopsy and endometrial biopsy showed once again multinucleated giant cell granulomatous disease and AFB staining was positive for mycobacterium tuberculosis. Sputum AFB cultures x3 were negative. Patient was started on RIPE therapy with clinical improvement.



Abstract P31 Figure 1 CT abdomen



Abstract P31 Figure 2 CT chest



Abstract P31 Figure 3 PET scan

Discussion Omental tuberculosis can often mimic peritoneal carcinomatosis with pelvic lymphadenopathy, ascites and elevated CA-125 levels.[1] This shows further that elevated CA levels, ascites, and pelvic lymphadenopathy are not specific for an ovarian malignancy and can represent peritoneal tuberculosis.[2] In addition, CA 125 levels can be used as a marker for response once anti-tuberculosis treatment is started.[3] It reaffirms the status of tuberculosis as a great mimicker requiring a high level of suspicion for diagnosis.

Conclusion Omental tuberculosis can mimic peritoneal carcinomatosis and therefore should remain as a differential in patients whose symptoms and imaging findings reveal such suspicion. Association with elevated CA 125 levels, can guide in making an earlier diagnosis and therefore treatment and prevent further unnecessary invasive procedures.

REFERENCES

1. Golden MP, Vikram HR. Extrapulmonary tuberculosis: an overview. *Am Fam Physician* 2005; **72**(9):1761–8.
2. Patel SM, Lahamge KK, Desai AD, Dave KS. Ovarian Carcinoma or Abdominal Tuberculosis?—A Diagnostic Dilemma: Study of Fifteen Cases. *Journal of Obstetrics and Gynaecology of India* 2012;**62**(2):176–178. doi:10.1007/s13224-012-0163-7.
3. Thakur V, *et al*. Elevated serum cancer antigen 125 levels in advanced abdominal tuberculosis. *Med Oncol* 2011;**18**(4):289–91

P32 CASE OF SPONTANEOUS PNEUMOMEDIASTINUM IN INTERSTITIAL LUNG DISEASE DUE TO AMYOPATHIC DERMATOMYOSITIS (3372982)

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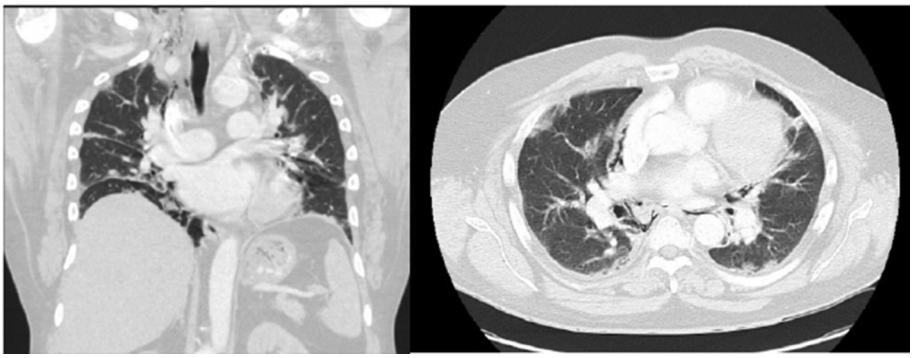
10.1136/jim-2020-ERM.67

Purpose of Study Introduction Amyopathic Dermatomyositis (ADM) is a rare subtype of dermatomyositis with cutaneous manifestations without muscle involvement and associated with Interstitial Lung Disease (ILD) in more than half of the cases. Pneumomediastinum is a rare occurrence in ADM, but presence of pneumomediastinum with ADM has poor prognosis. We present a case of spontaneous pneumomediastinum in ADM with ILD. Case Presentation 57 year old Guyanese male was admitted for progressive dyspnea, productive cough, worsened rash and difficulty swallowing for three weeks, with no fever. Two years ago, he was diagnosed with ADM, by skin biopsy after he presented with hyperpigmented rash over face and neck, with no muscle weakness and shortness of breath. He was found to have interstitial lung disease, which was deemed to be ADM. Left quadriceps muscle biopsy failed to show evidence of myositis. Serology for connective tissue diseases and myositis panel was negative. At that time, he was treated with Prednisone and Plaquenil with improvement in rash and respiratory symptoms and continued on lower dose of prednisone and Plaquenil. Few weeks before the presentation, he stopped his medications due to difficulty with swallowing. He is a former smoker and denied occupational exposures. Physical exam was significant for erythematous rash over the forehead, malar area, neck, upper chest both anterior and posterior, shins, and Gottron type papules bilaterally. Lung exam revealed diffuse fine dry crackles. There was no muscle weakness. Anti Jo-1, ANCA, rheumatoid factor and myositis panel were negative. CPK and aldolase were normal. ANA was positive 1:320. CT scan of the chest (figure 1) revealed pneumomediastinum with bilateral ground glass interstitial opacities. He was treated with high dose systemic steroids, Plaquenil and cough suppressants, with close monitoring. He remained stable with no clinical evidence of expansion of pneumomediastinum. Cough and shortness of breath improved after 3 days of above treatment, with significant improvement in rash over the body. He was discharged home with systemic steroids, and Plaquenil, with a plan to start Cellcept, as an outpatient.

Discussion ADM represents 20% of cases of dermatomyositis, and is characterized by rash without muscle weakness and associated with ILD in more than 50% of cases.[3] ADM is more prevalent in women and usual onset is in early adult hood.[1] Spontaneous Pneumomediastinum occurs due to rupture of paracardiac blebs and ADM associated vascular disease.[2] It occurs more frequently in patients with ADM, and may occur even before the diagnosis of ADM. Severity of ILD and absence of muscle weakness are associated with poor prognosis.[4] Immunosuppression is the main line of treatment to achieve favorable outcomes.



Abstract P32 Figure 1 CT chest revealing pneumomediastinum with interstitial infiltrates

Conclusions Spontaneous pneumomediastinum is a rare and fatal complication of ADM and ILD. Overall, it presents a poor prognosis and therefore should be addressed immediately to prevent further complications.

REFERENCES

1. Euwer RL, Sontheimer RD.'Amyopathic dermatomyositis: a review.' *Journal of Investigative Dermatology* 1993;**100**(1):124–127.
2. Yamanishi Y, Maeda H, Konishi F *et al*, 'Dermatomyositis associated with rapidly progressive fatal interstitial pneumonitis and pneumomediastinum.' *Scandinavian Journal of Rheumatology* 1999;**28**(1):58–61.
3. Bendewald MJ, Wetter DA, Li X, Davis MDP. 'Incidence of dermatomyositis and clinically amyopathic dermatomyositis: a population-based study in Olmsted County. *Minnesota,' Archives of Dermatology* 2010;**146**(1):26–30.
4. Ghazi E, Sontheimer RD, Werth VP. The importance of including amyopathic dermatomyositis in the idiopathic inflammatory myositis spectrum. *Clin Exp Rheumatol* 2013; **31**:128–134.

P33 A PEDIATRIC CASE OF BECHET'S DISEASE IN A 14 YEAR OLD MALE: A CASE REPORT (3372997)

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10.1136/jim-2020-ERM.68

Purpose of Study Behcet's disease is a primary variable vasculitis that may involve vessels of any size in both the arterial and venous system. This autoinflammatory process is rare in the general population with an estimated prevalence of 5–7 per 100 000 persons and has an even lower incidence in the pediatric population with only less than 10% of reported cases occurring in this population. It is classically described in the literature as recurrent oral ulcerations with skin findings and uveitis. While the underlying cause of Behcet's has not yet been elucidated, it is theorized that it is likely polygenic in nature with association with certain HLA subtypes such as HLA B51/B5. It is also theorized that a dysfunctional response to certain infectious microbes including bacteria and viruses may also play a role. It has been noted that the syndrome has a higher incidence in persons of Asian descent and is often more severe in this population.

Methods Used In this case, we discuss one such case of this rare autoinflammatory disorder in a 14-year-old male with a two-year history of recurrent mouth ulcers with associated preceding fevers, body aches and new-onset painful genital ulcers.

Summary of Results A 14-year-old male with a two-year history recurrent oral lesions which were initially attributed to HSV 1 and had been evaluated by adult infectious disease prior to his presentation to our institution. He had five episodes of recurrent stomatitis prior to presentation. The patient at the time of presentation had significant oropharyngeal involvement as well as genital involvement. He was febrile (104 F) and noted to have a mild leukocytosis at 18.1 k/mm3 with 85.7% neutrophils and a platelet count of 581 k/mm3. Further STI testing was obtained including HIV, GC (gonococcal) and Chlamydia all of which were negative. HSV PCR and culture were also obtained, and the patient was empirically started on acyclovir. This was discontinued when these resulted as negative as well. Due to the patient's extensive oral mucosal involvement, the decision was made to start PPN (Peripheral Parenteral Nutrition) and a second line had to be placed. This resulted in significant swelling of the upper extremity initially thought to be due to infiltration but later determined to be secondary to pathergy. Upon reaching the diagnosis of Behcet's the patient was started on high dose steroid therapy and had significant improvement of oral and genital lesions. He was subsequently transitioned to oral steroids and was able to be discharged home with close outpatient rheumatology and ophthalmology follow up.

Conclusions Behcet's is a rheumatologic condition which, though rare, can cause significant morbidity if there is a delay in diagnosis including blindness secondary to ocular disease and amyloidosis secondary to persistent inflammation. Mortality in Behcet's may also occur secondary to its vascular involvement with pulmonary artery aneurysms and is as high as 25% in patients that develop this condition. It is imperative that providers are aware of this disease process, allowing for earlier diagnosis and treatment and in so doing preventing these sequelae.