Fostering Excellence in Internal Medicine

Podium Presentation and Poster Competition

March 20, 2019
The Warren Alpert Medical School of Brown University
Providence, Rhode Island

WiFi Access: http://wifi.brown.edu, Brown-Guest
Rhode Island Chapter, American College of Physicians

Annual Scientific Meeting

2019 Resident/Fellow Forum Winners

(10 minute presentation followed by 3 minute Q & A each)

Podium Presentations

4:30-6:00 pm

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Kent Hospital Residents

Podium Presenters
  Ilona Goukassian DO (unable to attend)
  Reema Qureshi MD
  Isha Shah MD
  Fatima Zeba MD

Poster Exhibitors
  Michael Abadier DO
  Sheereen Abdel DO
  Yasin Abul MD *
  Saif Al-Adwan MD
  Ali Alkhayat MD
  Ahmad AlSalman MD
  Kevin Arao MD
  Aristides Armas Villalba MD
  Maen Assali MD *
  Deeksha Bakshi MSc, MD
Kent Hospital Residents, continued

Jenny Bello MD
Anthony Berghelli DO *
Jaime Bickford DO
Rachel Black DO
Xiaolei Chen MD
Urey Chow DO
Martin Cotti MD
Dmitry Drozhzhim DO
Saikiran Earasi DO
Farha Ebadi DO
Marya Haq MD, MHA
Dina Ibrahim MD
Ambrish Jha MD
Darif Krasnow DO
Faeq Kukhon MD *
Benjamin Lichtenfels DO
Matthew McMullen DO
Ahmed Mohamed MD
Mahmoud Mowafy MD
Nasifa Nur MD
Christelle Edwige Nzugang MD
Nailah Ochai DO
Rawan Oneiz MD
Asmani Patel DO, MPH
Tri Pham DO
Paulette Pinargote MD *
Merve Postalcioglu MD
Tajul Prodhan MD
Reema Qureshi MD
Roshan Shah DO
Zeenat Shameem DO
Roy Squaid MD
Abraham Walusimbi MD
Tyler Weisberger DO
Aaron Wheeler MD
Alicia Yanac DO
Juliet Yirerong MD
Hui Zhang MASc, MD
Lifespan: Rhode Island Hospital, The Miriam Hospital, VA Medical Center Residents

Podium Presenters
Brianna Bakow MD
Kevin Jordan MD

Poster Exhibitors
Syed Abid MD, MPH
Malik Bilal Ahmed MD, MBA
Zuhal Arzomand MD
Neel Belani MD
Rhiannon Chubb MD
Kathryn DeCarli MD, MBE
Neal Dharmadhikari MD *
Kristina Fanucci MD
Kiersten Frenchu MD
Danni Fu MD
Rimmy Garg MD
Leon Hsueh MD
Rachel LeBlanc MD
Wei Sum Li MD
Vincent Mariano MD
Robert Matera MD
Amy Mathew MD
Jaclyn McKenna MD
Paavan Mehta MD
Gaby Mock MD
Cheryl Monteiro MD
Meghan Nahass MD
Anshul Parulkar MD
Kavin Patel MD * (unable to attend)
Harish Saiganesh MD
Daryl Selen MD
Angie Seo MD
Wasiq Sheikh MD
Sanchita Singal MD
Cullen Soares MD
Christopher Ward MD *
Tyler Wark MD
Jozal Waroich MD
Scott Warren MD, PhD
Zoe Weiss MD *
Nathan Wong MD
Daniel Yee MD
Cara Zimmerman MD, MBA
Roger Williams Medical Center Residents
Podium Presenter
Brett Brownlee MD (unable to attend)
Michael Vernon MD
Poster Exhibitors
Jumanah Alcazar MD
Raisa Atif MD
Gurdev Bajwa MD
Sarav Daid MD
Cristian Hiraldo-Infante MD
Yasmine Kamel MD
Rahul Kapil MBBS/MD
Maninderpal Kaur MD
Matthew Keating MD
Seetha Lakshmanan MD
Anusha Mittapalli MD
Mohana Neelam MD
Yashvin Onkatappa Mangala MD *
Marie Prato MD
Suraj Ram MD *
Nishitha Reddy MD
Dong Joo Seo MD
Matthew White DO

* Poster Competition Finalist

Warren Alpert Medical School of Brown University Students
Best Medical Student Poster
Nicholas Nissen
Poster Exhibitors
Fadwa Ahmed
Kelsey Anderson
Michael Boyajian
Caroline Burke
Brian Campos
Rudy Chen
Alexa Choy
Katherine Fitch
Catherine Garcia
Cynthia Gaudet
Kimberly Glerum
Victoria Goldman
Nichola Haddad
Davis Hartnett
Medical Student Poster Exhibitors, continued

- Tiffany Ho MPH
- Katie Hsia
- Steffan Kim
- Isaac Kim
- Thomas Kishkovich
- Justin Kleiner
- Chris Lama
- Matthew Lee
- Vivian Li
- Rory Lubner
- Kaitlyn McLeod
- Neesha Nama
- Pranati Panuganti
- Christiana Prucnal RN
- Jack Ruddell
- Meghal Shah
- Michael Superdock
- Alejandro Victores
- Sarah Weatherall
- Jaewon Yang
- Sigrid Young
- Joy Zhou
- Olivia Ziegler

Judges

- Podium Presentation
  - Tanya Ali MD, FACP
  - Amaar Saati MD, FACP
  - Ankur Shah MD
- Poster Competition
  - Marc Braun MD, FACP
  - Sumera Bukhari MD
  - Stephanie Catanese MD, FACP
  - J. Russell Corcoran MD, FACP
  - Shelly Johnson MD, FACP
  - Sanam Lathief MD
  - Dino Messina MD, FACP
  - Kurush Setna MD
  - Lauren Schlanger MD, FACP
  - Karen Woolfall-Quinn MD, FACP

Photographers

- Carol Dorros MD, FACP
- Bernard Zimmermann III MD, FACP
Suicidality, Depression, and Burnout in Medical Students and Young Doctors: A Systematic Review

Background
Suicide is a known hazard for health professionals, disproportionately affecting physicians more than the general population. Additionally, burnout, marked by emotional exhaustion, loss of work enthusiasm, depersonalization, cynicism, and a reduced sense of accomplishment, has been found to affect up to 50% of physicians. While several studies individually focused on suicidality, depression, or burnout in medical trainees, there is need for a systematic review to further understand all findings in relation to one another.

Objective
Identify demographics, risk factors, protective factors, and the combined effect of burnout and depression on suicidality in medical trainees.

Methods
Relevant publications were identified via electronic searches of MEDLINE and PsycNet from inception to the present, and reference lists of relevant articles were investigated. The keywords suicide, physician, medical student, trainees, burnout, and depression were utilized.

Results
Suicide is the most common cause of death for male residents and the second-most common cause of death for female residents after malignancy. 74% of suicides occurred within the first two years of residency training. Notably, males had a suicide rate more than 2.5 times higher than that of female residents.

Physicians have an apparent abundance of protective factors against suicide, including the tendency to be married, employed, relatively well-paid, and highly educated. However, many doctors and trainees lack regular healthcare utilization. As low as 24% of physicians and trainees had seen a provider in the last year, suggesting this population is less regularly screened and treated for depressive symptoms and suicidal ideation. Their medical knowledge increases the risk of suicide completion.

The prevalence of moderate to severe depression in medical students is 14.3%, with women experiencing more moderate to severe depression. Additionally, clinical medical students report more suicidal ideation than preclinical students (7.9% vs. 1.4%). Depression is higher in medical students than medical residents, with females more affected.

As many as 50% of medical students experience burnout at some point in training, with 11% reporting suicidal ideation during medical school. This SI rate is significantly higher than for age-matched individuals in the United States (11% vs. 6.9% for 25-34 year-olds). Students were 3.46-fold more likely to report SI if they had burnout.

Conclusion
Suicide disproportionately affects physicians and trainees. Physicians and trainees appear to have very few risk factors and an abundance of protective factors. Nonetheless, burnout is common and appears to be strongly correlated with SI, so it may contribute to increased suicidality in this population. Accurate data on medical student suicide rates, identified risk factors, and the efficacy of intervention strategies are needed to implement effective suicide prevention programs for trainees.
Where’s My Doctor?
The Impact of the Primary Oncologist’s Visit with Their Hospitalized Patients

Background
Continuity of care is a central element of the patient-practitioner relationship and overall patient satisfaction. The inpatient continuity visit (ICV) is a brief face-to-face patient-provider interaction that consists of a discussion regarding care decisions, hospital course, and goals of care. It may or may not include a physical exam. We theorize that the ICV influences patient satisfaction. In various healthcare settings, levels of patient satisfaction with care have been related to patient perception of physician conduct, including communication skills. However, there are currently no studies investigating the impact of an ICV on inpatient oncology patients on a hospitalist service.

Objective
The current study assessed the relationship between ICV and patient satisfaction. The authors hypothesized that subjects who reported one or more visits by the primary outpatient oncologist would have enhanced satisfaction.

Subjects and Methods
The subject population was comprised of adult inpatients on the oncology unit at the Miriam Hospital, a principal teaching hospital of the Alpert Medical School of Brown University. All study patients were followed by an oncologist at the hospital based cancer center. To date, 75 participants have been enrolled. Subjects received a survey on day of discharge that included a 5-point Likert scale ranging from greatly worsened to greatly improved to assess the impact of the ICV on patient satisfaction.

Results
Preliminary data shows that of the 75 participants, 43 reported a visit by their outpatient oncologist. Of these, 39 (90.7%) reported that this visit either greatly or somewhat improved satisfaction with their hospital stay, while the remaining 9.3% reported no impact. Breakdown by number of visits showed that 93.75% of patients whose oncologist visited once reported either greatly or somewhat improved satisfaction compared to 88.9% of participants who had greater than one visit. Out of the 32 participants who did not receive a visit from their primary oncologist, 5 (15.6%) reported that the lack of visit either greatly or somewhat worsened their hospital stay, while the remaining 84.4% reported no impact.

Conclusions
Preliminary data suggests that an ICV improves satisfaction of care in the majority of oncology patients on a hospitalist service. Furthermore, almost one of every six participants who did not receive an ICV reported a negative impact on satisfaction with their hospital stay. These results highlight a possible intervention to the discontinuity of care that may be perceived by patients on an oncology hospitalist service. While the practicality of this intervention requires further exploration, data from the current study is reassuring as it supports efficacy of a single continuity visit on improved satisfaction.
Assessing the appropriate use of the modified Wells’ criteria and D-Dimer in diagnostic evaluation of suspected pulmonary emboli

Introduction

Despite the validation of pre-test probability scores to reduce unnecessary testing in the diagnostic evaluation of suspected pulmonary embolism (PE), previous studies have shown that clinicians do not effectively employ these strategies to reduce patients’ exposure to unnecessary diagnostic imaging, radiation and iodinated contrast. The focus of our study was to evaluate the number of computed tomography pulmonary angiograms (CTPAs) performed to investigate possible PE, which may have been avoided by appropriate use of a validated pre-test probability score at Roger Williams Medical Center (RWMC).

Methods

We reviewed the charts of 300 patients who had undergone CTPA at RWMC between October 2017 and September 2018. Patient’s for which CTPA was ordered for reasons other than clinical suspicion of PE or to re-evaluate known PE were excluded from our study (n=25). Patients were sorted based on the location where the CTPA was ordered, emergency department (ED) or inpatient setting. We then assessed the appropriate use of the modified Wells’ criteria by calculating each patient’s Wells’ score. CTPAs were deemed appropriate if they were associated with a Wells’ score >4 or ≤ 4 with a positive D dimer.

Results

Of the 275 patient charts reviewed, 10.18% (n=28) were diagnosed with acute PE. 64.7% (n=178) underwent CTPA despite low Wells’ score, 3 of which also had a negative D-Dimer. 250 patients had a Wells’ score of ≤4 but a D-Dimer was only ordered in 27.2% (n=68) of these cases. 157 patients had their CTPA ordered in the ED, compared to 118 CTPAs ordered by the inpatient team. 67% of CTPAs ordered in the ED and 63% ordered in the inpatient setting were inconsistent with the guidelines. There was no statistically significant difference between the two locations (p=0.5). In the ED, D-Dimer was ordered in 29.5% (n=42) of the patients with a Wells’ score ≤4 (n=142), compared to 25% (n=27) D-Dimers ordered by the inpatient team of patient’s with Wells’ ≤4 (n=108). The difference between the two locations also did not reach statistical significance (p=0.4). The sensitivity of our laboratory’s D-Dimer test was found to be 88.9%, with a specificity of only 3%.

Conclusion

In both the ED and inpatient setting at RWMC most CTPAs ordered to diagnose PEs were performed without appropriate use of the Modified Wells’ score. When a D-dimer is indicated it was only performed in 27.2% of the cases. D-Dimer remains a test with high sensitivity and therefore should be ordered more in patients with low clinical suspicion, as a negative result effectively rules out a PE. These results should help to establish new quality improvement strategies to minimize the use of unnecessary CTPA in diagnostic investigation of PE.
Left Atrial Enlargement is Associated with Cardioembolic Stroke & Detection of AFib after Embolic Stroke of Undetermined Source

Background
Left atrial enlargement has been shown to be associated with ischemic stroke but the association with embolic stroke mechanisms remains unknown. We hypothesize that increased left atrial volume index (LAVI) is more prevalent among patients with cardioembolic stroke than other stroke subtypes, and predicts AF detection on cardiac event monitoring in patients with embolic stroke of unknown source.

Methods
Data was collected from a prospective cohort of ischemic stroke patients admitted to a single academic center during an 18-month period. Stroke subtype was classified into cardioembolic stroke (CES), non-cardioembolic stroke of determined mechanism (NCE), or Embolic Stroke of Undetermined Source (ESUS). To assess the association between LAVI and atrial fibrillation (AF) detection in patients with ESUS, we included all patients with ESUS who underwent transthoracic echocardiography (TTE) and outpatient cardiac event monitoring. Comparison was made using multivariate logistic regression models. To assess the association of LAVI with stroke subtype we compared CE vs. NCE stroke and ESUS vs. NCE stroke using multivariate logistic regression models.

Results
Of 1234 patients identified during the study period, 1020 (82.6%) underwent TTE at time of ischemic stroke and had LAVI measurements. Stroke subtypes were: 336 (32.9%) CES, 412 (40.4%) ESUS, and 272 (26.7%) NCE. LAVI was greater in patients with CES than NCE (41.4 mL/m² ± 18.0 versus 28.6 mL/m² ± 12.2, p < 0.001). There was no difference in LAVI between patients with ESUS vs. NCE (28.9 mL/m² ± 12.6 vs. 28.6 mL/m² ± 12.2, p =0.61). Fully adjusted multivariate logistic regression models demonstrated that LAVI was greater in CE vs. ESUS (adjusted OR 1.07, 95% CI 1.05-1.09, p < 0.001), but not significant different in LAVI when comparing NCE vs. ESUS (adjusted OR 1.00, 95% CI 0.99-1.02, p = 0.720). Among 99 patients with ESUS who underwent cardiac monitoring, 18.2% had AF detected; LAVI was independently associated with AF detection in ESUS (adjusted OR 1.09, 95% CI 1.02-1.15, p = 0.007).

Conclusion
LAVI is associated with cardioembolic stroke as well as AF detection in patients with ESUS, two subsets of ischemic stroke which benefit from anticoagulation therapy. Patients with increased LAVI may be a subgroup where anticoagulation may be tested for stroke prevention.
The Incidence of Neurocognitive Deficits in Patients That Have Undergone Transcatheter Aortic Valve Replacement

Introduction
Trans-catheter aortic valve replacement (TAVR) is considered standard of care for symptomatic severe aortic stenosis in patients with high-risk for surgery and is being increasingly utilized for those with intermediate risk as well. Recent literature has shown greater neuro-cognitive decline in the post-TAVR population as compared to general population. However, those studies were limited by small sample size or lack of clinical outcome assessments. We attempt to objectively evaluate a decline in neurological function before and after a TAVR procedure.

Hypothesis
In patients undergoing TAVR, there is a decline in cognitive function (assessed as Mini-Mental State Exam (MMSE) score) after the TAVR procedure.

Methods
Patients that undergo TAVR are routinely evaluated at pre-procedure and a 1 month follow up office visit. The MMSE questionnaire is administered as routine care at these visits. We prospectively enrolled the patients in the study and calculated the MMSE scores for analysis.

Results
Among all patients (n = 106) the mean age was 82 ± 9 years, 98 (93)% were white and 53 (50%) were female. 13 patients (12.3%) had prior CVA and 36 (34%) had a history of atrial fibrillation out of which 26 patients were on anticoagulation. 50 patients (47.2%) were smokers, 87 (82.1%) had HTN, 34 (32.1%) had diabetes, 31 (29.2%) had CKD and 13 (12.3%) had a history of peripheral arterial disease. The median STS Risk Score among all patients was 5.35%.

The median pre-procedure MMSE Score was 28 points (Interquartile Range: 24, 29) points. At 1 month follow up the MMSE Score was 28 points (Interquartile Range: 27,29 points), p value calculated by student t-test was 0.06.

Conclusion
We did not find a statistically significant difference in the MMSE scores before and after the TAVR procedure. In the second arm of our study, we intend to increase the power of the study using a larger sample size, use more sensitive tools to detect smaller differences, use multiple tools to increase the reliability of the results, and follow patients through to their 1 year follow up to assess insidious long-term cognitive function.
Plenary CME session successfully incorporates trainees as educators

Introduction
Trainees-as-teachers model of education is a subject of intense interest and study in graduate medical education. Efforts have been made to improve this system, including devising training methods for the trainee-teachers. In this study, we determined whether trainees can act as effective instructors in a seminar-style learning environment.

Methods
A cross sectional event at one academic medical center with trainees from 2 medical schools, Brown University and Boston University, was planned. A committee was created to collect and present evidence regarding Complimentary and Integrative Medicine (CIM) relating to common rheumatologic illnesses. This was a multi-specialty committee consisting of 4 Internal Medicine residents, 5 Rheumatology Fellows, 2 Rheumatology Attending physicians, a dietician and a psychotherapist. The committee members performed thorough literature reviews of various assigned topics through PubMed and with assistance from a librarian. The collected literature was discussed at several meetings and final articles were selected based on the quality of evidence, as judged by the senior members of the committee. Some Fellow members of the committee did not complete the event as they were unable to commit sufficient time to the exercise. CME surveys were collected at the end of the event.

Results
16 audience members completed the evaluation. 94% of the evaluators felt that the program met the learning objectives. 88% percent of the evaluators felt that the activity would improve their current skills while 63% felt that new information was presented. 69% of the evaluators said that the event would change their practice. A feedback comment suggested more collaboration between presenters and experts in the CIM fields. The presenters that completed the event reported satisfaction with the process and acknowledged new learning in the process. The concerns registered by the committee members included lack of primary CIM providers in the planning process, ensuring the invitation for the event was sent to the intended audiences, and uncertainty about competency in a subject matter that they did not have expertise in. All the committee members were agreeable to a follow up seminar to update the subject matter.

Discussion
Trainees involved in our current project successfully executed a CME event. For the trainees-as-teachers, this setting was different from the teaching done at rounds or in the wards or other conferences during their residencies and fellowships. We were able to demonstrate that trainees can successfully present seminars for a general medical audience. A number of challenges were noted however, and these would need further study to assess if the model can be replicated successfully in the future.

Conclusion
Trainees can be part of CME activities, provided they are able to commit sufficient time to the process. Consistent collaboration with experts could increase successful completion of such programs.
Effect of Prescription Opiate Use on Mortality and Length of Stay in the Intensive Care Unit: A MIMIC-III study

Introduction
According to the CDC, in 2017 there were 47,600 overdose deaths involving opioids, with prescription drugs responsible for more than 35%. In the same year, there were 59 opioid prescriptions written for every 100 Americans. Several studies show that chronic opioid dependence leads to higher in-hospital mortality, increased risk of hospital readmissions, and worse outcomes in trauma cases. However, the effect of outpatient prescription opioid use on morbidity and mortality has not been adequately evaluated in a critical care setting.

Methods
We performed a single-center, longitudinal retrospective cohort study of all Intensive Care Unit (ICU) patients admitted to a tertiary-care academic medical center from 2001 to 2012 using the MIMIC-III database. Only patients 18 years and older were included. We defined chronic opioid use by the presence of an outpatient opioid prescription on admission to the ICU. Exclusion criteria included patients who expired during their hospital stay or presented with overdose; as well patients with cancer, anoxic brain injury, non-prescription opioid use, or if an accurate medication reconciliation was unable to be obtained. Patients on chronic opioids were compared with those who had not been prescribed opioids in the outpatient setting. The purpose of this study was to determine if there is a statistically significant association between chronic opioid use and mortality after an ICU stay. After ICU encounters were obtained from MIMIC-III, the Chi-Square Test was used to determine whether 30-day mortality and 1-year mortality were independent of the use of these medications. As a secondary outcome, we assessed ICU length of stay (LOS) and total hospital length of stay with the Mann-Whitney U Test.

Results
A total of 32,384 records met the inclusion criteria. The final sample included 26,657 patients with 3,114 patients in the opiate group (11.7%) and 23,543 in the control group (88.3%). After proceeding with bivariate analyses, opioid use was associated with increased mortality in both the 30-day and 1-year windows with a respective odds ratio of 1.663 (95% CI, 1.392-1.988; p<0.001) and 1.683 (95% CI, 1.523-1.860; p<0.001). Moreover, patients on opioids had a significantly greater ICU and hospital LOS (p<0.001) with a mean ICU stay of 3.99 days (SD=5.64) versus 3.73 days (SD=5.51) for patients not on opioids prior to admission.

Conclusion
Chronic opioid usage was associated with a statistically significant increased hospital and ICU length of stay, as well as increased mortality at both 30 days and 1 year after an ICU admission.