

**E-040 ALTMETRICS AND NEURO-INTERVENTIONAL SURGERY: WHAT DETERMINES 'TRENDING' IN ONLINE MEDIA?**

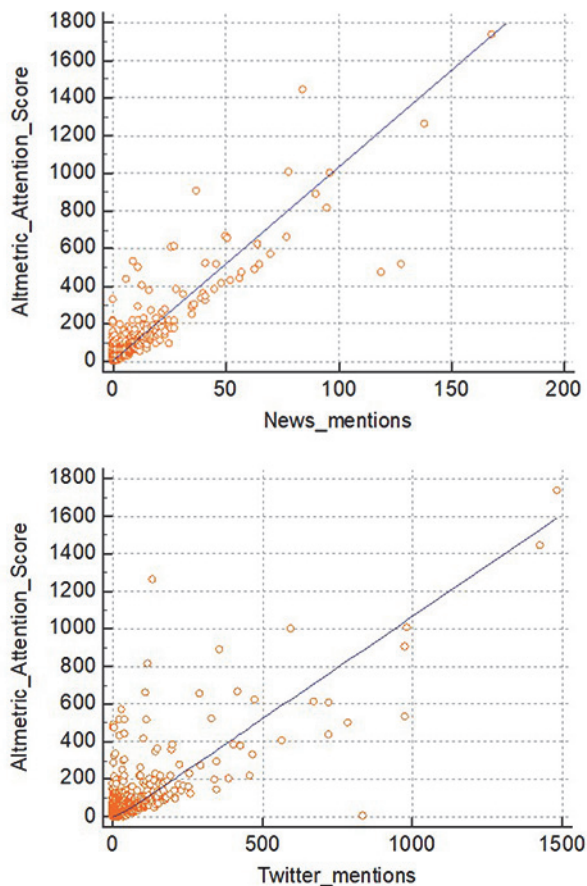
N Alotaibi\*, P Harker, F Robertson, J Vranic, M Koch, C Stapleton, T Leslie-Mazwi, A Patel.  
Neurosurgery, Massachusetts General Hospital, BOSTON, MA

10.1136/neurintsurg-2020-SNIS.76

**Background** Alternative metrics (Altmetrics) are increasingly being used as a new metric of scientific dissemination by most medical journals. The aim of this study is to investigate predictors of higher Altmetric scores within the neuro-interventional surgery scope.

**Methods** We performed a comprehensive search for neuro-interventional related publications using the Altmetric database. Articles were selected based on wide-range search criteria that include terms 'interventional', 'neuroradiology', 'neurosurgery' and 'neuro-intervention'. We studied all online references for any article mentioned on Facebook, Twitter, blogs, and mainstream media sources. The strength of associations between all metrics was studied using Pearson correlation coefficient. Values close to 1 indicates strong correlation.

**Results** A total of 12,501 articles pertinent to neuro-intervention were obtained from the Altmetric database. These articles had an average of an altmetric score of 8 (95% CI for the mean 7.7 to 9.2). The strongest correlations for Altmetrics were for the following online mentions: general news outlets (Pearson's  $r$ : 0.89), Twitter (0.78), Facebook (0.48) and Reddit (0.45). Interestingly, Wikipedia, peer-reviewed outlets and LinkedIn mentions had the weakest correlations coefficients (0.11, 0.21, and 0.00, respectively). Journals with social media



Abstract E-040 Figure 1

presence had the highest average of total altmetric scores compared to journals without social media accounts.

**Conclusions** Compared to general news outlets and Twitter, professional online networks such as peer-reviewed outlets and LinkedIn did not have a significant association with high altmetric 'trending' scores in neuro-interventional surgery. The long-term impact of these metrics on citations or funding requires a prospective analysis.

**Disclosures** N. Alotaibi: None. P. Harker: None. F. Robertson: None. J. Vranic: None. M. Koch: None. C. Stapleton: None. T. Leslie-Mazwi: None. A. Patel: None.

**E-041 TOWARD ONE-STOP STROKE MANAGEMENT: TIME VARIANT COLOR OVERLAY FOR MULTIPHASE FLAT-PANEL CT ANGIOGRAPHY**

<sup>1</sup>K Narsinh\*, <sup>2</sup>K Mueller, <sup>3</sup>M Manhart, <sup>1</sup>S Hetts, <sup>1</sup>T Moore, <sup>1</sup>E Chaney, <sup>1</sup>D Cooke. <sup>1</sup>UCSF, San Francisco, CA; <sup>2</sup>Siemens Healthineers, Mountain View, CA; <sup>3</sup>Siemens Healthineers, Forchheim, GERMANY

10.1136/neurintsurg-2020-SNIS.77

**Introduction** Improved functional outcome has been shown in carefully selected patients who are directly transferred to the interventional suite for immediate access to recanalization therapy, bypassing the emergency department (ED) and diagnostic multidetector CT (MDCT). For stroke patients transferred directly to the interventional suite, flat panel CT (FPCT) may provide the necessary diagnostic information regarding intracranial hemorrhage, large vessel patency, clot extent, and collateral supply. However, the large amount of data acquired, typically including 10 phases of contrast-enhancement, can be difficult to review and interpret quickly in the acute stroke setting, and its diagnostic equivalence to MDCT has not been validated. A display format that incorporates all of the multiphase information into a single time-variant color map may be helpful in facilitating rapid interpretation.

**Materials and Methods** Between January and October 2019, six acute ischemic stroke patients at a tertiary urban hospital underwent multiphase FPCT after conventional stroke evaluation with MDCT in the ED. IRB approval was obtained. Data was post-processed on a separate workstation, allowing dynamic visualization of ten 3D volumes in different phases of contrast enhancement, enabling evaluation for hemorrhage, occlusion site, clot extent, and collateral flow. We retrospectively processed these multiphase scans in a fully automated workflow including rigid motion correction, orbitomeatal line alignment, mask image subtraction, maximum intensity projection (MIP) generation, and production of a single color-coded MIP volume condensing the data contained in the 10 phases of contrast enhancement.

**Results** Intracranial hemorrhage was not detected in any case, either on MDCT or FPCT. Color-coded MIP images enabled confident diagnosis of large vessel occlusion, clot extent, and collateral flow. The time to acquire FPCT in IR was faster than that to acquire MDCT in the ED (2 vs 17 min). Theoretical time savings averaged 68 min. All patients underwent subsequent mechanical thrombectomy (with TICI 2b/3 results). FPCT perfusion maps were equivalent to MDCT perfusion maps, and accurately predicted core infarct volume on follow-up MRI/CT, as compared by manual segmentation methods.

**Conclusion** Flat panel CT angiography is a promising tool to enable one-stop shop management of acute ischemic stroke

in the interventional suite. Color-coded MIP images enable rapid diagnosis and interpretation of large multiphase CTA data.

**Disclosures** K. Narsinh: None. K. Mueller: 5; C; Siemens Healthineers. M. Manhart: 5; C; Siemens Healthineers. S. Hetts: 1; C; Siemens Healthineers, NIH. 2; C; Imperative Medical, MicroVent Terumo, Route 92 Medical. T. Moore: None. E. Chaney: None. D. Cooke: 1; C; Siemens Healthineers.

E-042

#### CAN HEMATOLOGICAL INDICES DIFFERENTIATE BETWEEN STROKE VS. STROKE MIMICS? A RETROSPECTIVE, SINGLE INSTITUTION ANALYSIS

<sup>1</sup>G Dawod\*, <sup>1</sup>N Henkel, <sup>1</sup>N Karim, <sup>1</sup>H Salahuddin, <sup>2</sup>J Shawver, <sup>2</sup>S Zaidi, <sup>2</sup>M Jumaa. <sup>1</sup>Neurology, University of Toledo Medical Center, Toledo, OH; <sup>2</sup>Neurology, Promedica Toledo Hospital, Toledo, OH

10.1136/neurintsurg-2020-SNIS.78

**Introduction/Purpose** In the past five years, red blood cell distribution width (RDW) values have been used in

cardiovascular research to predict outcomes in patients with atherosclerotic disease. Since large vessel occlusion (LVO) ischemic strokes share a similar pathogenesis to acute coronary artery syndromes, recent studies have attempted to elucidate the relationship between RDW values and acute ischemic strokes (AIS). Thus far, the studies have shown an association between AIS and an increased RDW. We explored this relationship in a subset of patients with a severe neurological presentation at our institution to better understand the clinical significance of RDW in various cerebrovascular pathologies.

**Materials and Methods** Patients with Rapid Arterial Occlusion Evaluation (RACE) scores >4 were used for this analysis. A retrospective analysis of hematological indices was undertaken with IRB approval. Complete blood counts (CBCs), complete metabolic panels (CMPs), and coagulation studies drawn at the time of ED arrival were reviewed for each patient. For statistical analysis, multi-way ANOVA, t-Tests, and Chi-square analyses were conducted in 'R' to assess these indices across different diagnostic groups.

**Results** This study included 492 patients with pre-hospital RACE scores >4 as identified by EMS in the pre-hospital