

Abbreviations:

PL = Plenary; LO = Lightning oral; MP = Moderated poster;
P = Poster

*Corresponding authors are underlined.

Plenary Oral Presentations

PL01

Prospective multicenter validation of the Canadian TIA Score for predicting subsequent stroke within seven days

J. Perry, MD, MSc, M. Sivilotti, MD, MSc, M. Emond, MD, MSc, A. Worster, MD, MSc, J. Lee, MD, MSc, J. Morris, MD, G. Stotts, MD, G. Wells, PhD, I. Stiell, MD, MSc, K. Cheung, MD, N. Chagnon, MD, H. Murray, MD, MSc, M. Sharma, MD, MSc, University of Ottawa, Department of Emergency Medicine, Ottawa, ON

Introduction: Individualizing risk for stroke following a transient ischemic attack (TIA) is a topic of intense research, as existing scores are context-dependent or have not been well validated. The Canadian TIA Score stratifies risk of subsequent stroke into low, moderate and high risk. Our objective was to prospectively validate the Canadian TIA Score in a new cohort of emergency department (ED) patients. **Methods:** We conducted a prospective cohort study in 14 Canadian EDs over 4 years. We enrolled consecutive adult patients with an ED visit for TIA or nondisabling stroke. Treating physicians recorded standardized clinical variables onto data collection forms. Given the ability of prompt emergency carotid endarterectomy (CEA) to prevent stroke (NNT = 3) in high risk patients, our primary outcome was the composite of subsequent stroke or CEA ≤ 7 days. We conducted telephone follow-up using the validated Questionnaire for Verifying Stroke Free Status at 7 and 90 days. Outcomes were adjudicated by panels of 3 local stroke experts, blinded to the index ED data collection form. Based on prior work, we estimated a sample size of 5,004 patients including 93 subsequent strokes, would yield 95% confidence bands of $\pm 10\%$ for sensitivity and likelihood ratio (LR). Our analyses assessed interval LRs (iLR) with 95% CIs. **Results:** We prospectively enrolled 7,569 patients with mean 68.4 ± 14.7 years and 52.4% female, of whom 107 (1.4%) had a subsequent stroke and 74 (1.0%) CEA ≤ 7 days (total outcomes = 181). We enrolled 81.2% of eligible patients; missed patients were similar to enrolled. The Canadian TIA Score stratified the stroke/CEA ≤ 7 days risk as: Low (probability $< 0.2\%$, iLR 0.20 [95%CI 0.091-0.44]); Moderate (probability 1.3%, iLR 0.79 [0.68-0.92]); High (probability 2.6%, iLR 2.2 [1.9-2.6]). Sensitivity analysis for just stroke ≤ 7 days yielded similar results: Low iLR 0.17 [95%CI 0.056-0.52], Medium iLR 0.89 [0.75-1.1], High iLR 2.0 [1.6-2.4]. **Conclusion:** The Canadian TIA Score accurately identifies TIA patients risk for stroke/CEA ≤ 7 days. Patients classified as low risk can be safely discharged following a careful ED assessment with elective follow-up. Patients at moderate risk can undergo additional testing in the ED, have antithrombotic therapy optimized, and be offered early stroke specialist follow-up. Patients at high risk should in most cases be fully investigated and managed ideally in consultation with a stroke specialist during their index ED visit.

Keywords: risk scale, stroke, transient ischemic attack

PL02

A randomized, controlled comparison of electrical versus pharmacological cardioversion for emergency department patients with recent-onset atrial fibrillation

I. Stiell, MD, MSc, J. Perry, MD, MSc, D. Birnie, MD, L. Macle, MD, A. Vadeboncoeur, MD, V. Thiruganasambandamoorthy, MD, MSc, B. Borgundvaag, MD, PhD, R. Brison, MD, MPH, C. Hohl, MD, A. McRae, MD, PhD, B. Rowe, MD, MSc, M. Sivilotti, MD, J. Morris, MD, E. Mercier, MD, C. Clement, J. Brinkhurst, M. Taljaard, PhD, G. Wells, PhD, University of Ottawa, Department of Emergency Medicine, Ottawa, ON

Introduction: For rhythm control of acute atrial fibrillation (AAF) in the emergency department (ED), choices include initial drug therapy or initial electrical cardioversion (ECV). We compared the strategies of pharmacological cardioversion followed by ECV if necessary (Drug-Shock), and ECV alone (Shock Only). **Methods:** We conducted a randomized, blinded, placebo-controlled trial (1:1 allocation) comparing two rhythm control strategies at 11 academic EDs. We included stable adult patients with AAF, where onset of symptoms was < 48 hours. Patients underwent central web-based randomization stratified by site. The Drug-Shock group received an infusion of procainamide (15mg/kg over 30 minutes) followed 30 minutes later, if necessary, by ECV at 200 joules $\times 3$ shocks. The Shock Only group received an infusion of saline followed, if necessary, by ECV $\times 3$ shocks. The primary outcome was conversion to sinus rhythm for ≥ 30 minutes at any time following onset of infusion. Patients were followed for 14 days. The primary outcome was evaluated on an a priori-specified modified intention-to-treat (MITT) basis excluding patients who never received the study infusion (e.g. spontaneous conversion). Data were analyzed using chi-squared tests and logistic regression. Our target sample size was 374 evaluable patients. **Results:** Of 395 randomized patients, 18 were excluded from the MITT analysis; none were lost to follow-up. The Drug-Shock (N = 198) and Shock Only (N = 180) groups (total = 378) were similar for all characteristics including mean age (60.0 vs 59.5 yrs), duration of AAF (10.1 vs 10.8 hrs), previous AF (67.2% vs 68.3%), median CHADS2 score (0 vs 0), and mean initial heart rate (119.9 vs 118.0 bpm). More patients converted to normal sinus rhythm in the Drug-Shock group (97.0% vs 92.2%; absolute difference 4.8%, 95% CI 0.2-9.9; P = 0.04). The multivariable analyses confirmed the Drug-Shock strategy superiority (P = 0.04). There were no statistically significant differences for time to conversion (91.4 vs 85.4 minutes), total ED length of stay (7.1 vs 7.7 hours), disposition home (97.0% vs 96.1%), and stroke within 14 days (0 vs 0). Premature discontinuation of infusion was more common in the Drug-Shock group (8.1% vs 0.6%) but there were no serious adverse events. **Conclusion:** Both the Drug-Shock and Shock Only strategies were highly effective and safe in allowing AAF patients to go home in sinus rhythm. A strategy of initial cardioversion with procainamide was superior to a strategy of immediate ECV.

Keywords: atrial fibrillation, cardioversion

PL03

Prevalence and clinical predictors of intracranial hemorrhage in seniors who have fallen

K. de Wit, MBChB, MD, MSc, M. Mercuri, PhD, C. Varner, MD, MSc, S. Parpia, PhD, S. McLeod, MSc, PhD, N. Clayton, MSc, C. Kearon, MBChB, PhD, A. Worster, MD, MSc, McMaster University, Hamilton, ON

Introduction: The Canadian population is aging and an increasing proportion of emergency department (ED) patients are seniors. ED