

atrial fibrillation and flutter (AAFF). We conducted this systematic review to determine whether it is safe to cardiovert AAFF patients without prescribing oral anticoagulation (OAC) post-CV for those who are CHADS-65 negative. **Methods:** We conducted a librarian assisted search of MEDLINE, Embase, and Cochrane from inception through November 23, 2019. We included observational studies and randomized trials reporting thromboembolic (TE) events (i.e. stroke, transient ischemic attack, or systemic thromboembolism) within 30 days following CV in patients with AAFF, where onset of symptoms was <48 hours. Two reviewers independently screened studies and extracted data. The main outcome was risk of TE events within 30 days post-CV, stratified by OAC use. Risk of bias was assessed with the Quality in Prognostic Studies (QUIPS) tool. The primary analysis was based on prospective studies and the secondary analysis was based on retrospective studies. We performed meta-analyses for TE events where 2 or more studies were available, by applying the DerSimonian-Laird random-effects model. We implemented analyses stratified by study design using Open MetaAnalyst and generated the forest plots. **Results:** Our search yielded 969 titles; 74 were selected for full-text review and 20 studies were included in the review. The primary meta-analysis of 6 prospective studies, including two randomized trials, found a TE event rate of 0.15% (2 TE events/1,314 CVs). Within this prospective group, lack of OAC use was associated with a decreased risk of TE events (RR=2.15 where RR >1 indicates increased risk of TE events with OAC compared to no OAC; 95% CI 0.50 to 9.31; I²=0%). Five of the 6 prospective studies had a low or moderate risk of bias in all QUIPS domains. Secondary meta-analysis of 6 retrospective studies revealed a TE event rate of 0.53% (56 TE events/10,521 CVs). This subgroup showed a trend favouring OAC use with decreased risk of TE events (RR=0.34 where RR <1 suggests decreased risk of TE events with OAC; 95% CI 0.17 to 0.72; I²=0%). **Conclusion:** In the primary analysis of prospective studies, we found a low TE event rate following CV of AAFF, irrespective of OAC use. This contradicts previous analyses of retrospective studies. Our study supports the longstanding practice of not necessarily prescribing OAC post-CV in the ED for AAFF patients who are CHADS-65 negative.

Keywords: atrial fibrillation, cardioversion, thromboembolism

PL04

A randomized controlled trial comparing prescribed light exercise to standard management for emergency department patients with acute mild traumatic brain injury

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Introduction: The emergency department (ED) is often the first point of health care contact for patients with mild traumatic brain injury (MTBI). Spontaneous resolution occurs in most patients within 7 days, yet 15-30% will develop post-concussion syndrome (PCS). Given the paucity of effective management strategies to prevent PCS and emerging evidence supporting exercise, the objective of this study was to evaluate the impact of prescribed early light exercise compared to standard discharge instructions for acute MTBI patients in the ED. **Methods:** This was a randomized controlled trial conducted in three Canadian EDs. Consecutive, adult (18-64 years) ED patients with a MTBI sustained within the preceding 48 hours were eligible for enrollment. The intervention group received discharge instructions prescribing 30 minutes of daily light exercise (e.g.,

walking), and the control group was given standard MTBI instructions advising gradual return to exercise following symptom resolution. Participants documented their daily physical activities and completed follow-up questionnaires at 7, 14, and 30 days. The primary outcome was the proportion of patients with PCS at 30 days, defined as the presence of ≥ 3 symptoms on the Rivermead Post-concussion Symptoms Questionnaire (RPQ) at 30 days. **Results:** 367 patients were enrolled (control n=184; intervention n=183). Median age was 32 years and 201 (57.6%) were female. There was no difference in the proportion of patients with PCS at 30 days (control 13.4 vs intervention 14.6; $\Delta 1.2$, 95% CI: -6.2 to 8.5). There were no differences in median change of RPQ scores (control 14 vs intervention 13; $\Delta 1$, 95% CI: -1 to 4), median number of return health care provider visits (control 1 vs intervention 1; $\Delta 0$, 95% CI: 0 to 0), or median number of missed school or work days (control 2 vs intervention 2; $\Delta 0$, 95% CI: 0 to 1) at 30 days. There was a nonsignificant difference in unplanned return ED visits within 30 days (control 9.9% vs intervention 5.6%; $\Delta 1$, 95% CI: -1.4 to 10.3). Participants in the control group reported fewer minutes of light exercise at 7 days (30 vs 35; $\Delta 5$, 95% CI: 2 to 15). **Conclusion:** To our knowledge, this is the first randomized trial of prescribed early light exercise for adults with acute MTBI. There were no differences in recovery or healthcare utilization outcomes. Results suggest prescribed early light exercise should be encouraged as tolerated at ED discharge following MTBI, but exercise prescription alone is not sufficient to prevent PCS.

Keywords: concussion, exercise prescription, mild traumatic brain injury

Oral Presentations

LO01

What presenting features predict obstetrical outcomes in women who present to the emergency department with early pregnancy bleeding?

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Introduction: Vaginal bleeding in early pregnancy is a common emergency department (ED) presentation, with many of these episodes resulting in poor obstetrical outcome. These outcomes have been extensively studied, but there have been few evaluations of what variables are associated predictors. This study aimed to identify predictors of less than optimal obstetrical outcomes for women who present to the ED with early pregnancy bleeding. **Methods:** A regional centre health records review included pregnant females who presented to the ED with vaginal bleeding at <20 weeks gestation. This study investigated differences in presenting features between groups with subsequent optimal outcomes (OO; defined as a full-term live birth >37 weeks) and less than optimal outcomes (LOO; defined as a miscarriage, stillbirth or pre-term live birth). Predictor variables included: maternal age, gestational age at presentation, number of return ED visits, socioeconomic status (SES), gravida-para-abortion status, Rh status, Hgb level and presence of cramping. Rates and results of point of care ultrasound (PoCUS) and ultrasound (US) by radiology were also considered. **Results:** Records for 422 patients from Jan 2017 to Nov 2018 were screened and 180 patients were included. Overall, 58.3% of study participants had a LOO. The only strong predictor of outcome was seeing an Intra-Uterine Pregnancy (IUP) with Fetal Heart Beat (FHB) on US; OO rate 74.3%