TOP 100 Abstract

104 Emergency Department Initiation of Stroke Prophylaxis for Atrial Fibrillation Impacts Long-Term Use

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Background and Objectives: Oral anticoagulation (OAC) reduces ischemic stroke and death in high-risk patients with atrial fibrillation and flutter (AFF), but US emergency department (ED) providers hesitate to prescribe OACs as their impact on continued use is poorly understood. We describe the impact of OAC action timing on long-term use of OAC after ED visits by high-risk AFF patients in a large integrated healthcare system.

Methods: We studied adults with primary nonvalvular AFF, high stroke risk (CHA2DS2-VASc score ≥2), no recent (<90d) OAC, eligible for thromboprophylaxis and discharged from 21 community EDs between 2010-2017. Of those alive at 1 year, we categorized timing of OAC Action (OAC prescribed or referral to pharmacist-led Anticoagulation Management Service): (1) at ED discharge, (2) at 1-60d and (3) no action ≤60d. To capture use at 1y, we included a 60d time frame to capture those with 3m prescription re-fills. We estimated adjusted relative risk ratios (aRR, 95% CI) for predictors of 1y OAC use in Poisson regression models controlling for OAC action timing, gender, age, race, ethnicity, stroke and bleeding risk scores, visit year, accounting for patient clustering.

Results: Among 8,661 eligible ED discharges, median age was 73 years (IQR 66-81), 60.5% were women and median CHA2DS2-VASc score was 3 (IQR 2-4). Most patients (66.0%) received no OAC action within 60 days. Among those receiving ED OAC action in 2010 (9.7% of 760), 64.9% had OAC use at 1y. By 2017, ED OAC action more than doubled (22.9%), and overall rates of long-term use rose from 26.8% to 41.3%. Of those treated ≤60d (16.2% of eligible), 74.8% had OAC use at 1y vs 11.4% with no action ≤60d (74.0% of eligible) (P<0.001). ED OAC initiation predicted sustained use to the same degree as post-discharge initiation (p>0.10). In the adjusted model, older patients (≥64 years) were more likely to persist with OACs at 1y (aRR 1.1, CI 1.0-1.2), as were those with CHA2DS2-VASc score of 4-5 (aRR 1.1, CI 1.0-1.2, referent score 2-3). We found no differences by gender, ethnicity or HAS-BLED score.

Conclusion: In a large, community-based AFF population at increased stroke risk, ED OAC initiation significantly impacted higher long-term use as effectively as early post-ED initiation, and far more than in patients receiving no action ≤60d . ED providers have an opportunity to affect long-term OAC use and prevent strokes for patients with AFF.

TOP 100 Abstract

105 Thromboembolic Events Following Cardioversion of Acute Atrial Fibrillation: Systematic Review and Meta-Analysis

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Background and Objectives: Several recent studies have presented concerning data on the safety of cardioversion (CV) for acute 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 at low risk for thromboembolism.

Methods: We conducted a librarian assisted search of MEDLINE, Embase, and Cochrane from inception to 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 for AAFF, where symptom onset was <48 hours. Two reviewers independently screened studies and extracted data. 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 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 forest plots.

Results: Our search yielded 969 titles; 74 full texts were reviewed, and 20 studies were included in the review. Primary meta-analysis of 6 prospective studies, including 2 randomized trials, found a TE event rate of 0.15% (2 events/1,314 CVs). In this prospective group, lack of OAC use was associated with 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 0.50-9.31; I2 = 0%). Five of 6 prospective studies had 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 events/10,521 CVs). This subgroup favoured OAC use with decreased risk of TE events (RR = 0.34 where RR <1 suggests decreased risk of TE events with OAC; 95%CI 0.17-0.72; I2 = 0%).

Conclusion: In the primary analysis, 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 at low risk for TE events.