The FinCV (Finnish Cardioversion) Study

Summary by Dr. Chaplin, Reviewed by Dr. Chan & Dr. Archambeault.

Topic	Cardiology & Stroke	
Citation of Paper:	Airaksinen KE, GronbergT, NuotioI, et al. The FinCV (Finnish CardioVersion) study. *J Am Coll Cardiol*. 2013;62(13):1187-1192.	
Clinical Question:	What is the incidence and risk factors of thromboembolic events after ED cardioversion of acute atrial fibrillation.	
PICO	P:	Adult patients with primary diagnosis of atrial fibrillation who were successfully cardioverted in the ED within 48hrs of atrial fibrillation onset.
	I:	This was an observational study
	C:	N/A
	O:	Thromboembolic events (clinically stroke or systemic embolism confirmed by CT or MRI, surgery, or autopsy) within 30 days after cardioversion.
Methods	A retrospective database analysis of adult (>18yo) patients who presented to 3 large EDs in Finland with a primary diagnosis of acute (<48hrs) atrial fibrillation and who were cardioverted successfully in the ED. These patients did not receive peri-procedural anticoagulation. Baseline characteristics were recorded. Authors performed a multivariable logistic regression analysis	
Results	2481 patients with 5116 successful cardioversions (88% electrical). Overall 0.7% incidence of embolic events that occurred an average of 2 days after cardioversion. In multivariable logistic regression analysis, cardioversion of 12 hours or longer from symptom onset was associated with a 1.1% incidence of thromboembolic complications vs 0.3% when cardioversion was performed within 12 hours. Age, female sex, heart failure, and diabetes were independent predictors thromboembolism.	
Conclusion	Early cardioversion (<12hrs) is associated with lower thromboembolic events. High risk patients should be considered for peri-procedural and long-term anticoagulation. This is in accordance with the 2010 Europena guidelines.	
Take Home Point	1. Earlier cardioversion (<12hrs) may be safer than later (12hrs) cardioversion for patients who present with acute onset atrial fibrillation, and 2. Peri-procedural anticoagulation (i.e. with IV heparin) may reduce the risk of thromboembolic events in high risk patients undergoing ED cardioversion of acute atrial fibrillation	
Caveats	1. A retrospective study 2. Multiple comparisons 3. How accurate are we/patients at identifying A fib onset time?	