

Poster Walks

Poster Walk 3: Sleep/Breathing

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The effect of continuous positive airway pressure in atrial fibrillation after ablation and cardioversion

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Introduction: A strong association between obstructive sleep apnea (OSA) and atrial fibrillation/atrial flutter (AF) has been consistently observed in both epidemiological and clinical cohort studies. The effect of treatment with positive airway pressure (PAP) on AF recurrence is not conclusive. This study aims to evaluate the effect of treatment of sleep apnea with PAP on AF recurrence.

Methods: This is a single-center retrospective study conducted at a tertiary referral hospital. All adult patients who had OSA documented by polysomnography (PSG) and had AF intervention (ablation or cardioversion) after PSG from January 1992 to December 2014 were analyzed in this study. The primary outcome was time to recurrence of AF after AF intervention calculated by Kaplan-Meier.

Result: Among 30,188 patients who diagnosed of sleep apnea by polysomnography. 429 patients had a polysomnography-confirmed diagnosis of Sleep Apnea before AF intervention. While 269 patients were “PAP compliance users” the remaining 160 patients were “PAP nonusers.” Patients in both groups had similar age, gender; body mass index, ejection fraction, left atrial index, antiarrhythmia medications and rates of diabetes, hypertension, and congestive heart failure. Times to recurrence of AF after AF intervention of PAP users were not significantly different from PAP nonusers (4.8 and 4.1 months respectively, $P = 0.7$).

Conclusion: Our study found no effect of sleep apnea treatment with PAP in duration of time to recurrence of AF after AF intervention. Left atrial index, type of intervention (cardioversion compared with AF ablation), usage of diuretic, digoxin and sotalol. Type of intervention was the strongest independent predictor of recurrent AF after catheter ablation (OR = 2.03, $P = 0.0002$). BMI and Left atrial index were also significant with adjust analysis. Increase risk of recurrence AF in high BMI. This finding may impact the clinical management of AF.

DOI: <http://dx.doi.org/10.1016/j.chest.2017.04.057>

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