ASSOCIATION BETWEEN SLEEP APNEA, ATRIAL FIBRILLATION AND INCIDENT STROKE IN A VERY LARGE POPULATION OF YOUNG INDIVIDUALS

Sunil K. Vasireddi BSBME, MD; Brototo Deb MD; Prasanth Ganesan PhD; Ruibin Feng DPhil; Albert Joseph Rogers MBA, MD; Tina Baykaner MD, MPH; Neal Kumar Bhatia MD; Paul Clopton and Sanjiv M. Narayan MD, PhD, FHRS

Background: Sleep apnea (SA) worsens outcomes in patients with atrial fibrillation/flutter (AF), and both are common in young patients (20-50 years). However, it is unreported what proportion of young patients with SA have or will develop AF or stroke.

Objective: To define the relationships between AF, SA and stroke in a population of young (20-50 Y).


Results: We identified 1660860 patients aged 20-50Y, of whom 29930 had SA, 4025 had AF, and 2985 had stroke (Fig A). AF was more common in patients with SA than without (odds ratio, OR: 16.6 [15.4-17.9, p<0.0001]). AF was diagnosed prior to SA in 90% of patients. However, patients with SA were more likely to develop AF than patients without SA (OR: 4.54 [3.97-5.02, p<0.0001]), and were more likely to have a stroke with AF than without AF (OR: 6.9 [5.3-8.9], p<0.0001). Among all patients in the population with stroke, AF was more common in patients with than without SA (OR 1.89 [1.32-2.71, p=0.004]) (Fig B). Notably, among all patients without AF, incident stroke was significantly more common in patients with SA than those without (OR 7.74 [6.90-8.68, p<0.0001]), of which 67% of strokes occurred <1 year from the diagnosis of SA (Fig B). Among these patients with SA and incident stroke, oral anticoagulation was more common in patients with a diagnosis of AF than without (60% vs 19%).

Conclusion: We uncover a novel, strong association between sleep apnea, AF, and incident stroke in a population of >1.6 million young individuals. This may have implications for monitoring and anticoagulation therapy.

HIGHER NEED FOR PACEMAKER IN WOMEN WITH SINUS NODE DYSFUNCTION DUE TO DELAY IN ATRIAL FIBRILLATION ABLATION

Saima Karim DO, FHRS; Nazli K. Okumus MD and Muhammad Umer Butt

Background: Atrial fibrillation (AF) is associated with anatomical and electrical remodeling. Some patients with AF have concomitant sick sinus syndrome (SSS) and may need pacemaker (PPM) implantation. Association between catheter ablation of AF (CA) timing and need for PPM in SSS has not been assessed.

Objective: The primary aim of this study was to look at the association between timing of catheter ablation after diagnosis of atrial fibrillation and the need for a pacemaker.

Methods: We used pooled electronic health data to perform retrospective cross sectional analysis of 66,595 patients with AF and SSS to assess the need of PPM implantation temporally with atrial fibrillation performed earlier within 5 years (group 1), 5-10 years (group 2), or beyond 10 years (group 3) of diagnosis.

Results: Pacemaker implantation was lowest amongst those with CA within 5 years; group 1 versus group 2 (18.15% vs 27.21%) and group 1 versus group 3 (18.15% vs 27.22%). Interestingly, there was no difference in risk of PPM between group 2 and group 3 (27.21% vs 27.22%, OR 1.00 [0.85-1.20]). Even after controlling known risk factors of need for pacemaker implantation, timing of AF ablation was the strongest predictor for need for PPM. Women had delay in atrial fibrillation ablation (62.3% men versus 37.7% women in group 1) compared to men leading to significantly higher need for pacemaker implantation as shown in the forest plot showing the adjusted odd ratio of pacemaker in various groups (p<0.001). (The dots represent the odds ratio and the horizontal lines represents the 95% confidence intervals).

Conclusion: Earlier ablation of atrial fibrillation was associated with reduction in need for pacemaker implantation. Women received atrial fibrillation ablation later leading to higher need for pacemaker implantation.