

Pacemakers capable of monitoring sleep-disordered breathing: impact on sleep apnea detection in real life

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Background: Pacemaker recipients are at high-risk of sleep apnea (SA). New generation of pacemakers allow day by day, sleep-disordered breathing (SDB) monitoring. These devices measure variations in thoracic impedance and can detect apnea and hypopnea.

Purpose: The aim was To compare the rate of SA detection in patients implanted with and without pacemaker capable of monitoring (SDB).

Methods: This retrospective study included all consecutive patients implanted with a pacemaker between 2013 and 2016 at Poitiers university hospital. Pacemaker recipients allowing SDB monitoring (SDB monitoring group) and pacemaker recipients not allowing SDB monitoring (control group) were compared in terms of SA diagnosis, continuous positive airway pressure (CPAP) therapy initiation, newly AF discovered and stroke occurrence.

Results: Among the 1442 patients included (mean age 79 years, 39% of

women, BMI = 27 kg/m²). 653 were in the SDB monitoring group and 789 in the control group. The 2 groups were not different in terms of age, body mass index, cardiovascular risk factor, cardiac function, and medication. Indication for cardiac pacing was atrioventricular block and sinus dysfunction in 56% and 23% of patients respectively. Mean follow-up was 24.7 months. 40 patients (7.5%) have been diagnosed with SA in the SDB monitoring group and 18 (2.7%) in the control group (p<0.001). CPAP therapy was initiated in 33 (5%) patients in SDB monitoring group and in 16 (2%) patients for the control group (p=0.01). The rate of newly diagnosed AF was 15% in SDB monitoring and 7% in control group (p<0.001). The incidence of stroke was 16 (2.4%) in the SDB monitoring group and 18 (3.4%) in the control group (P=0.45).

Conclusion: In real life conditions, pacemakers capable of monitoring SDB improve the diagnosis of SA and CPAP therapy rate.

