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EDITORIAL

From heart to bad sleep—Lessons for sleep apnoea in times of crisis

Do coração a dormir mal – lições para a apneia do sono em tempos de crise

Obstructive sleep apnoea syndrome (OSAS) is a largely prevalent disorder characterized by repeated episodes of pharyngeal obstruction that causes oxygen desaturation and sleep fragmentation. Besides the consequences of excessive daytime sleepiness including increased risk of traffic and labour accidents, OSAS has been implicated, with great or less evidence, as an independent risk factor for different cardiovascular diseases as hypertension, stroke, heart failure, arrhythmias, coronary heart disease and myocardial infarction.[1] The recognition of OSAS as a treatable putative cause of hypertension and the need for screening is present in international recommendations since 2003.[2] Several studies have found an association between OSAS and coronary artery heart disease (CAD). In a large prospective longitudinal study in men and women who were free of CAD at baseline and followed for 8.7 years, after adjustment for multiple risk factors, OSAS was positively associated to myocardial infarction, revascularization procedure or death only in men aged <70 years old (adjusted ratio 1.10 [95% CI 1.00, 1.21] per 10-unit increase in apnoea–hypopnea index), but not in older men or in women of any age.[3] Other studies showed that patients suffering from CAD with an AHI greater than 10 events/hour were more prone to die in 5-year follow-up than patients without OSAS (37.5% vs. 9.3%, respectively) after controlling for age, weight, and smoking.[4,5] On the other hand in patients with CAD that had percutaneous intervention the probability of restenosis, vessel remodelling and cardiac mortality was greater in the presence of OSAS.[6,7] Moreover patients with CAD treated with CPAP had better prognosis than those who were not treated.[8–11]

So, it appears rational to establish strategies to search for OSAS in patients with a diagnosis of CAD. In this issue of RPP, Areias et al.[12] contribute to this purpose: using a level IV equipment (ApneaLink™, a two-channel device that monitores respiratory flow and O_2 saturation) they were able to detect the presence of OSAS, confirmed by polysomnography, in 43% of patients admitted to ICU for acute coronary syndrome. These results are not much different from other studies using different methodologies, that together point to a much greater prevalence in CAD than the admitted for general population.[13,14] Independently of some issues that need to be clarified, as the better methodology and time of screening, these date reinforce the importance of detecting OSAS in CAD patients.

OSAS is a treatable condition and the first line treatment is ventilation with continuous positive airway pressure (CPAP); the main challenge of this form of treatment is patient adherence. It is known that multiple factors interfere in this matter that involves individual characteristics (including the symptomatic state, e.g. hypersomnolence but also personality profile), education and literacy, iatrogenicity, marital support, health care support or reimbursement policies. In this issue of RPP Mota et al.[15] report an interesting finding of insomnia complaints *after* the initiation of CPAP treatment for OSAS. Despite some caveats of the study, mainly in psychological characterization of these patients or the timing of appearance and the duration of the symptoms, in our knowledge this is the first paper that gives data on a form of adjustment insomnia that, in this study, appeared to be related to tolerance to CPAP pressure. The association of insomnia to OSAS, in some instances, is already known and can be related to the presence of psychological disturbances[16,17] or to be a manifestation of OSAS in and of itself. In the latter case we can expect that treating the respiratory problem solves insomnia and, in fact, in the present study by Mota et al., almost half the patients (11/24) with pre-existing insomnia showed resolution of this problem after initiation of CPAP. Nevertheless, is also known that insomnia complaints have a major impact on adherence to treatment[18,19] and that a specific approach should be offered to deal with this problem which underline the importance of multidisciplinary to sleep medicine.

In summary, two articles in this issue of RPP[12,15] express two important factors in OSAS: one is the necessity to screen patients with cardiovascular disease for OSAS in order to treat them and reduce the risk of serious co-morbidities

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and, second, is the difficulty in resolving specific problems to assure proper treatment adherence.

OSAS has become an important financial burden to the National Health Service costs: the annual expenses for domiciliary respiratory care amount to 55.5 millions euros/year and, according to data from ACSS, OSAS treatment accounts for more than 50% of that cost[20] As is estimated that only 10% of the patients with OSAS in Portugal are diagnosed and treated[20] an exponential increase in costs is foreseeable, particularly if the platform of patient recruitment is widened to include not only patients with ''classic'' symptoms but also refractory hypertension or CAD as is pointed by the study of Areias et al.[12] In order to reduce the financial impact the Government has published, for public discussion, guidelines in domiciliary respiratory care that attempt to guarantee that OSAS treatment is provided based on specific diagnostic criteria (not difficult) but also assuming that the payment for treatment be assured only if patient is adherent and stipulating a 6-month ''experimental period'' (sic). Even if the principle is correct – payment conditioned by adherence – there are multiple causes for non-adherence (as, for instance, that showed in the study by Mota et al.[15]) that deserve specific treatment approaches and the resolution of which may need longer time frames than the 6-month period admitted in the government proposal. Moreover, if it is true that short-term adherence can predict long-term adherence, difficulties in treatment compliance may arise at any time and for different reasons. In our experience, only 2–3% of patient refuse, definitively, treatment with CPAP; about 20% present other reasons for adherence below the stipulated as effective and these patients are at risk of having their CPAP payment withdrawn, increasing the burden of the disease due to co-morbidities that could be prevented with the treatment. So, the governmental desire to avoid waste in costs should be calibrated to assure that the patient is offered all solutions necessary to improve adherence and this is, frequently, a task for a multidisciplinary health team based in a reference sleep center. In other words, treatment suspension, even in a situation of refusal, should be a medical decision rather than a burocratic one.

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