IGF-1: A marker of cardiometabolic risk in sleep apnoea syndrome?

Jean-Louis Pepin, Louis-Marie Galerneau, Anne-Laure Borel, Olivier Chabre, Marc Sapene, Bruno Stach, Janie Girey-Rannaud, MD, Nathalie Arnol, Renaud Tamisier, Philippe Caron

1 Pôle Thorax & Vaisseaux, University Hospital, Grenoble, France; 2 Endocrinology Department, Grenoble Alpes University Hospital, France; 3 Centre de Pneumologie Rivière, Bordeaux, France; 4 Clinique Tessier, Valenciennes, France; 5 Cabinet Pneumologie, Grenoble, France; 6 Endocrinology Department, CHU Larrey, Toulouse 31059, France

Introduction and Objectives

Insulin-like growth factor-1 (IGF-1) is the main growth factor associated with growth hormone (GH). There is a decrease of plasma levels of luteinizing hormone (LH) in obesity. Obstructive sleep apnoea (OSA) alters the functioning of the somatotropic axis, and nocturnal GH rate is correlated with sleep duration and apnoea-hypopnoea index (AHI). IGF-1 is also known as a cardiovascular protection factor. IGF-1 levels were studied in a large prospective cohort of patients referred for suspicion of OSA.

Methods

In a multicentre national study, 817 patients with suspicion of OSA (OSA confirmed for 567 patients) underwent serum IGF-1 measurements. We analyzed the association of exhibiting IGF-1 below the median value of the population for variables related to cardiometabolic risk, like body mass index (BMI), AHI, cholesterol and triglycerides (expressed in quartile, median or continuous variables). For each variable, we have measured the risk of having IGF-1 < median value.

Results

Median IGF-1 = 138 ng/ml
Mean age = 52.4 ± 12.7 years
Male = 63.9%
Mean BMI = 30.7 ± 6.5 kg/m²
Mean AHI = 30.9 ± 22.6 events/hour

Conclusions

There is a relationship between low levels of IGF-1 and recognized predictors of cardiovascular risk in OSA. IGF-1 has potentially a role as a prognosis biomarker in OSA patients, and our results also provide insights regarding mechanisms of co-morbidities in these patients.

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