



Human experimental models: seeking to enhance multiscale research in sleep apnoea

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Experimental models in healthy subjects and patients are useful to complement cell culture and animal research in studying the pathophysiology of obstructive sleep apnoea consequences

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Cite this article as: Farré R, Gozal D, Almendros I. Human experimental models: seeking to enhance multiscale research in sleep apnoea. *Eur Respir J* 2021; 58: 2101169 [DOI: 10.1183/13993003.01169-2021].

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Received: 23 April 2021
Accepted: 26 April 2021

Obstructive sleep apnoea (OSA) is a prevalent respiratory disease associated with important comorbidities, such as obesity, metabolic syndrome, cancer, and cognitive and cardiovascular alterations [1, 2]. Unfortunately, determining cause–effect relationships that definitively link OSA to these comorbidities and establishing whether OSA treatment may reduce the comorbidity risk have emerged as conundrums that have proven very difficult to disentangle in spite of major research efforts [3–5]. These difficulties have emerged as particularly relevant when focusing on the potential relationship between OSA and cardiocirculatory diseases [6, 7]. Indeed, a simple search (12 April, 2021) in PubMed for the past 12 months using the tags “sleep apnoea AND cardiovascular” (563 publications) and “sleep apnoea” (3300 publications) indicates that 17% of all the research in the field of OSA is focused on its putative relationship with cardiovascular dysfunction.