



## Correspondence

## Prevalence of pulmonary embolism in patients with obstructive sleep apnea and chronic obstructive pulmonary disease: The overlap syndrome



We have read with great interest the article recently published by Xie et al. entitled “Prevalence of pulmonary embolism in patients with obstructive sleep apnea and chronic obstructive pulmonary disease: The overlap syndrome”.<sup>1</sup> We would like to point out some issues in this study.

The authors have mentioned that overlap syndrome (OS) may be independently associated with pulmonary embolism (PE). As is known, development of chronic obstructive pulmonary disease (COPD), a component of OS, is closely related to smoking. Cessation of smoking has a major role in the prognosis and the treatment of the disease.<sup>2</sup> Also, it has been reported that active smoking is related to hypercoagulability.<sup>3</sup> In this study, we did not see any information about active smoking status between the groups. In the study, it has been reported that 69.4% and 83.7% of the patients have used inhaled corticosteroids in isolated COPD and OS groups, respectively. Johannesdottir et al. have shown in their population based case–control study that use of corticosteroids boost the risk of thromboembolism.<sup>4</sup> We think that use of inhaled corticosteroids may be one of the risk factors in PE development in OS group. Also, genetic factors (Factor V Leiden mutation, Prothrombin G20210A mutation, deficiencies of protein C and S) may be detected in up to 30% of the patients with venous thromboembolism.<sup>5</sup> In a genome-wide association study showing the genes involved in pathogenesis of COPD, it has been reported that development of COPD is closely related to single gene polymorphisms of genes such as glutathione S-transferase (GST), superoxide dismutase (SOD), serine protease inhibitor (SERPIN) family, vitamin D binding protein (VDBP) and some others, as well as epigenetic regulation.<sup>6</sup> The authors have not mentioned any genetic contributions and/or differences between the groups in their study.

## References

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