

LETTERS TO THE EDITOR

Correlation between the transverse dimension of maxilla and OSA

Response to Sun X, Zeng L, Zheng Z, et al. Study on the correlation between the transverse dimension of maxilla and obstructive sleep apnea. J Clin Sleep Med. 2021;17(12):2569–2570. doi:10.5664/jcsm.9588

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First and foremost, we would like to thank Sun et al<sup>1</sup> for their interest in our research investigating the role maxillary deficiency plays in OSA pathophysiology.<sup>2</sup> Although most of their comments were addressed within the paper, it is important to elucidate them.

With regard to the impact of facial anatomy (“disharmony”) in obstructive sleep apnea (OSA), most of the concepts already described in the current literature are based on sagittal views (lateral cephalometry), which leaves analyses of transverse dimensions largely unexplored.<sup>3–5</sup> In our study, the primary objective was to analyze the correlations between intermolar distance (IMD), an anatomical marker of maxillary transverse deficiency, and both the upper airway collapse during drug-induced sleep endoscopy and OSA severity (apnea-hypopnea index). In order to address our study aims, we performed a sample size calculation based on our predictor variable (IMD),<sup>6</sup> which required 58 participants to reach statistical significance.

Ultimately, our dataset established a correlation between the IMD, tongue base collapse, and velopharyngeal circumferential collapse during drug-induced sleep endoscopy. The correlation was not established with the other variables analyzed (apnea-hypopnea index, lateral wall collapse, epiglottic collapse). The receiver operating curve and the decision tree analysis reinforced our results. Regarding the questions about the overall generalizability of our findings, we acknowledged in the paper that it is a cross-sectional analysis of consecutive patients with mild/moderate OSA, nonobese, and not adherent to continuous positive airway.

We hope our study results will stimulate new studies, using stratified analyses by disease severity and race, and machine learning techniques. We are already working on strengthening our research findings, but considering the existing evidence of other factors contributing to OSA severity,<sup>7,8</sup> such as arousal threshold and muscular response, it is still possible that our findings may be confirmed after all.

CITATION

Thuler E, Rabelo FAW. Correlation between the transverse dimension of maxilla and OSA. J Clin Sleep Med. 2021;17(12):2571.

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DISCLOSURE STATEMENT

All authors have seen and approved the response letter. The study discussed was performed as a PhD thesis at the Institute of Research and Teaching of the Sirian-Libanese Hospital in São Paulo, Brazil (IEP- HSL). The authors report no conflicts of interest.