Cephalometric measurements in snorers, non-snorers, and patients with sleep apnoea

The paper from Dr F Maltais and colleagues (June 1991;46:419-23) raises several questions. Firstly, the authors report changes in posterior airway space (PAS), soft palate length (PNS-P), and mandibular plane to hyoid distance (MP-H) that are similar to those widely reported elsewhere. As they found that PNS-P and MP-H did not correlate with body mass index they have inferred that obesity is not an important cause of the cephalometric abnormalities observed. General body obesity is, however, likely to modulate its aetiological influence on obstructive sleep apnoea through deposition of fat somewhere in the neck,1 and (as the authors recognize) fat deposition in the neck has only a limited correlation with general obesity. Consequently, to establish that cephalometric abnormalities are independent of obesity as aetiological factors for obstructive sleep apnoea it is essential to consider some measure of neck fat deposition. While there is no correlation between neck circumference and MP-H, neck circumference, however, is, and after correction for this confounding variable neither PNS-P nor MP-H remains a significant predictor of the severity of obstructive sleep apnoea.1

Secondly, the authors suggest that MP-H is an “important determinant” of obstructive sleep apnoea without considering that hyoid descent occurs as a normal physiological response to pharyngeal crowding. Thus the increase in MP-H in obstructive sleep apnoea and snoring patients may be a normal response to reduced pharyngeal space secondary to local fat deposition without MP-H itself being of any independent aetiological importance.

Finally, this paper has not corrected for a methodological problem that affects the cephalometric measurement of pharyngeal dimensions. We have shown that during standard cephalometry head extension may vary by up to 27°, a movement that alters PAS and MP-H and is capable of generating the changes reported by the authors.1 Such variation is possible because cephalometry fixes the skull but does not stop movement of the body under the fixed head. It is of practical importance because patients being investigated for sleep and breathing disorders spontaneously show a variation in head extension of 40°, a variation that correlates with both neck circumference and the severity of obstructive sleep apnoea.1

In conclusion, such data may result from the following studies should be interpreted with considerable caution.

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NOTICE

Scadding-Morrison Davies joint fellowship in respiratory medicine 1992

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