Stable breathing through deeper sleeping

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Although there is evidence that patients with obstructive sleep apnoea (OSA) have anatomical susceptibility coupled with abnormalities in upper airway motor control and/or instability in ventilatory control, the data now suggest that the mechanisms underlying OSA vary considerably between patients. In some patients OSA is primarily the result of anatomical problems, while in others it may be due to dysfunctional motor control with only minimal anatomical abnormality. Similarly, abnormal ventilatory control (loop gain) may be important in only a subgroup of patients with OSA. As a result, the concept of individualised therapy has now emerged, such that treatment of the major underlying abnormality is likely to be beneficial in the appropriately targeted patient subgroups. In theory, patients with OSA who respond well to palatal surgery probably primarily have an abnormality in the velopharyngeal anatomy, whereas those who respond well to oxygen may have mainly an abnormality in ventilatory control instability.

The arousal threshold is one concept that has received some—but not sufficient—attention in the OSA arena. The trigger for arousal from sleep during respiratory events is believed to be increasing negative intrathoracic pressure (see figure 1). The realisation of the importance of the arousal threshold in the pathogenesis of OSA has recently been brought to light by the work of Younes, particularly the emphasis that most problems, while in others it may be due to dysfunctional motor control with only minimal anatomical abnormality. Similarly, abnormal ventilatory control (loop gain) may be important in only a subgroup of patients with OSA. As a result, the concept of individualised therapy has now emerged, such that treatment of the major underlying abnormality is likely to be beneficial in the appropriately targeted patient subgroups.

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breathing may represent a substantial ecological strategy an individual may most susceptible and from what pharmacological stress a given individual may be required to determine to which physiological and other biomarkers may be the benefit afterload effect could potentially outweigh externally peer reviewed.

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REFERENCES