

# Complex sleep-disordered breathing after vagus nerve stimulation: broadening the spectrum of adverse events of special interest

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Received April 10, 2019; Accepted August 09, 2020

- Side effects associated with vagus nerve stimulation (VNS) may include respiratory and gastrointestinal tract symptoms, and in some cases, also development of sleep-breathing disorders.
- Our data broaden the knowledge about sleep disorders related to VNS, in particular stridor and catathrenia.
- Central sleep apnoea may be associated or preceded by laryngeal occlusion, perhaps as a result of reduced central drive to upper airway dilator muscles.

- VNS parameter adjustment to previous values successfully reversed all the symptoms in the first patient.
- The second patient needed concomitant continuous positive airway pressure (CPAP) treatment to really improve his symptoms. In this patient, it was possible to detect this during the drug-induced sleep endoscopy (DISE) procedure, anticipating the need to adapt a CPAP machine.

- DISE may be considered in selected cases as a valuable clinical tool to evaluate, in a single session, the effectiveness of multiple VNS parameter changes on respiration and laryngeal side effects.
- DISE procedure may anticipate the need to adapt a CPAP machine.