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**FIGURE CAPTIONS**

**FIG.1** Example of a nocturnal pulse oximetry profile (upper part of the figure), with a detail on her nocturnal respiratory events (lower part of the figure), in a female patient affected by mild OSA (AHI 12,2 events/h). Despite the lower value of AHI her hypopneas (highlighted in light green) were associated with severe drop of oxygen saturation and respiratory efforts.

**FIG.2** Polysomnographic example of a patient affected by severe OSA before (panel A) and after (panel B) the introduction of CPAP. Panel A: note the tight association between apneas and cyclic alternating pattern (CAP) oscillations, with strong prevalence of subtypes A2 and A3, with high autonomic impact; panel B: observe the restoration of physiologic CAP oscillations, with predominance of subtypes A1.