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Title: Sleep-disordered breathing in acute pulmonary embolism: A dangerous comorbidity?

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Body: Background: Sleep-disordered breathing (SDB) is a common comorbidity in patients with acute pulmonary embolism (PE) but its prognostic relevance is not clear. Therefore, we conducted a prospective cohort study to clarify if the presence of SDB is associated with an adverse outcome in acute PE. Methods: 106 consecutive PE patients were prospectively evaluated by portable monitoring (PM). Nocturnal polysomnography was performed in all subjects who have been diagnosed by PM to have an apnoea-hypopnoea index (AHI) > 15/h or evidence of increased daytime sleepiness. All-cause mortality was registered after a mean observation period of 12 months. Results: Neither central sleep apnoea nor periodic breathing were observed. Mild obstructive sleep apnoea (OSA) was diagnosed in 35.8% of patients. 12.3% of subjects suffered from moderate OSA. In 10.4% of the study population OSA was found to be severe. High-risk PE was significantly more frequent among study participants with an AHI > 15/h ($p = 0.005$). All-cause mortality was significantly higher in patients with moderate to severe OSA compared to subjects with an AHI > 15/h (8.3% vs. 2.4%, $p = 0.003$). Conclusion: OSA is a common comorbidity to PE and might be associated with an increased mortality in survivors of acute PE.