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Title: Prevalence of symptomatic gastroesophageal reflux disease in Thai patients with obstructive sleep apnea: A cross-sectional telephone survey

Mr. Thongchai 14969 Leelayuthachai by_0249@hotmail.com MD ¹, Mr. Nattapong 14970 Jaimchariyatam drboy48@yahoo.com MD ¹ and Mr. Sutep 14971 Gonlachanvit gsutep@hotmail.com MD ². ¹ Division of Pulmonary and Critical Care Medicine, Department of Medicine, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand, 10330 and ² Division of Gastroenterology, Department of Medicine, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand, 10330 .

Body: Background: Many studies revealed association between gastroesophageal reflux disease (GERD) and obstructive sleep apnea (OSA). Prevalence of symptomatic GERD in Thai people was 7-10%. No prior study of symptomatic GERD in Thai patients with OSA appears to have been published. Methods: All patients underwent polysomnography within 18 months were reviewed. Telephone survey of symptoms-based GERD questions was introduced to all patients diagnosed with OSA. Unconnected patients were reviewed with chart and medication history. Results: 413 patients were reviewed, 296 patients diagnosed with OSA. 196 patients were diagnosed with severe OSA. Baseline characteristics and sleep parameters were as follows: mean age 51.57 years (± 13.96), body mass index (BMI) 28.05 kg/m² (± 7.13), neck circumference 15.37 inches (± 1.74), Epworth Sleepiness Scale (ESS) 10.87 (± 4.86), and respiratory disturbance index (RDI) 61.09 events/h (± 41.32). Symptomatic GERD were reported in 53 (18%) patients. Prevalence of symptomatic GERD in severe OSA was 23% (46 from 196 patients), which was significantly different from that in mild-to-moderate OSA (7%, $p < 0.001$). Univariate and multivariate analyses demonstrated relationship between the prevalence of symptomatic GERD and Obesity (BMI ≥ 30 kg/m²) (OR 3.11, 95%CI 1.27-7.62, $p = 0.03$) and severe OSA (RDI > 30 events/h) (OR 1.42, 95%CI 1.23-1.64), $p < 0.001$). Multicollinearity revealed that these two factors was not correlated in this study. Conclusion: Prevalence of symptomatic GERD in Thai OSA patients is higher than general Thai people. Obesity or severe OSA independently affect occurrences of symptomatic GERD in OSA patients.