CHARACTERISTIC FEATURES OF SLEEP DISORDERED BREATHING IN THE CONVALESCENT PHASE OF AORTIC DISSECTION: COMPARATIVE ANALYSIS WITH STABLE CORONARY ARTERY DISEASE

Poster Contributions
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Background: Sleep Disordered Breathing (SDB) is known to be co-morbidity with cardiovascular diseases and has been linked to hypertension, which is a major risk factor for aortic dissection (AD). It was reported that SDB was related to the development of acute AD. However distinctive characteristics between convalescent phase of AD and stable coronary artery disease (CAD) have not been well known. The purpose of the present study is to investigate the differences in the impact of SDB to AD and CAD.

Methods: Two hundred seventy one consecutive patients with convalescent phase of AD (n = 90) or stable CAD (n = 181) were enrolled in this study. All patients were evaluated with ambulatory polygraphic sleep study including the air flow, chest and abdominal motion, percutaneous oxygen saturation and electrocardiographic monitors.

Results: Approximately 40% and 30% of patients with AD or CAD, respectively had severe SDB (apnea-hypopnea index: AHI ≥ 30). The AD group showed statistically significant higher values of AHI (28.8 ± 20.0 vs 21.9 ± 16.1, p=0.003), apnea index (14.4±15.5 vs 9.9±11.8, p=0.016), 4% oxygen desaturation index (20.6±16.9 vs 15.9±14.6, p=0.019), the prevalence of AHI above 15/hour (69% vs 53%, p=0.009) and central apnea index (6.3±10.0 vs 2.5±5.4, p<0.001) compared with those in the stable CAD group. However, there found no significant relationship between SDB parameters and the onset of time, nor Stanford types in the AD group.

Conclusions: The prevalence of moderate and severe SDB (AHI above 15/hour) in AD patients was high, and more severe SDB and hypoxia were detected compared those in the stable CAD group. Severe SDB may be more linked to AD compared to stable CAD in convalescent phase via wondering nocturnal BP surge, negative intrathoracic pressure during sleep, and activation of the sympathetic nervous system even when awake. There would be significant pathophysiological role of SDB and its therapeutic target in the convalescent phase of AD.