Real-world data in the management of hypertension for patients with sleep disordered breathing after initiating continuous positive airway pressure treatment

Gunma University School of Medicine, Department of Cardiovascular Medicine, Maebashi, Japan

Funding Acknowledgement: Type of funding sources: None.

Introduction: There are many reports that patients with cardiovascular diseases including hypertension have already suffered from sleep disordered breathing (SDB). Furthermore, Continuous Positive Airway Pressure (CPAP) is effective for hypertension for improvement of sympathetic nervous activity reason. Previously, we reported that SDB is just as, if not more, important as common classical risk factors (hypertension, dyslipidemia, diabetes mellitus) for patients with cardiovascular diseases (Figure 1).

Purpose: Our aim in this study is to estimate the real-world data in the management of hypertension for patients with SDB after initiating CPAP treatment.

Methods: All patients were conducted full night polysomnography. One-hundred ninety-five patients showed obstructive SDB (apnea hypopnea index (AHI) >20/hour), and CPAP treatment were initiated. According to Japanese society of hypertension guidelines for the managements of hypertension 2019 (JSH2019), we estimated the blood pressure and presence of blood pressure-lowering agents to assess effectiveness of CPAP treatment after six-month follow up.

Results: The study group consisted of 195 SDB patients (166 males, 29 females). The mean age was 59±7 years. Figure 2 showed the blood pressure and presence of blood pressure-lowering agents after initiating CPAP treatment. Group A which showed systolic blood pressure (SBP) <130 mmHg without intake of blood pressure-lowering agents was 20.9%. Group B which showed SBP <130 mmHg with intake of blood pressure-lowering agents was 9.6%. Group C showed SBP≥130 mmHg without intake of blood pressure-lowering agents was 30.5%. Group D showed SBP≥130 mmHg with intake of blood pressure-lowering agents was 39.0%.

Conclusion: We could estimate that there were high prevalence of hypertension for patients with SDB after initiating CPAP treatment. It is true that CPAP treatment have a beneficial effect on hypertension, but 70% patients (Group C and D) still remain inadequately treated. We need the strict blood pressure follow up for patient with SDB before and after initiating CPAP treatment.