ADAPTIVE SERVO-VENTILATION THERAPY SHOWS SIGNIFICANT IMPROVEMENT OF RENAL FUNCTION WITH IMPROVEMENT OF CARDIAC FUNCTION IN PATIENTS WITH HEART FAILURE

Poster Contributions
Hall C
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Background: Both Sleep-disordered breathing and impaired renal function often accompany heart failure (HF). Several studies showed ASV (adaptive servo ventilation) therapy improved renal function. Our aim in this study is to estimate that ASV therapy has beneficial effects on renal function in patients with HF.

Methods: One hundred ninety-eight HF patients (age: 69 ± 13 years) were enrolled. Patients were divided into two groups: 101 patients treated with ASV (ASV group) and 97 patients treated without ASV (Non-ASV group). We measured estimated glomerular filtration rate (eGFR) at baseline and 6 months intervals in both groups. In addition, we compared the plasma brain natriuretic peptide (BNP) levels, re-hospitalization, and fatal events during follow-up period (mean 38.9 ± 18.3 months) in both groups.

Results: Mean eGFR in 198 patients was 45.8 ± 19.9 ml/min/1.73 m² at baseline. There was no significant difference in eGFR at baseline between two groups. However, eGFR was significantly greater in ASV group than Non-ASV group at 6 month (p < 0.0001) and 1 year (p = 0.007) (Figure 1). Plasma BNP levels at 6 month after ASV therapy was improved (BNP from 581.9 (286-897) pg/mL to 356.8 (109-556) pg/mL, p = 0.01) and the event-free rate was significantly lower in ASV group (91.0% vs. 64.8%, p < 0.01).

Conclusions: ASV therapy improves renal function for at least 1 year with improvement of BNP levels and fatal events. ASV therapy is effective for both renal and cardiac functions in patients with HF.