**ACUTE AND CHRONIC IMPACTS OF ASV THERAPY ON LEFT CHAMBER GEOMETRY AND FUNCTION IN PATIENTS WITH HEART FAILURE**

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Background: The aim of this study was to determine differences in the acute and chronic impact of adaptive servo-ventilation (ASV) on left chamber geometry and function in patients with chronic heart failure (CHF).

Methods and results: An acute ASV study was performed to measure echocardiographic parameters before and 30 min after the initiation of ASV therapy in 30 CHF patients. The chronic effects of ASV therapy were also evaluated in 26 of these 30 patients over a mean follow-up period of 24 weeks. Patients were divided into two groups according to the status of ASV therapy [ASV group (n=15) and withdrawal group (n=11)]. In the acute study, heart rate and blood pressure were significantly decreased 30 min after the ASV therapy compared with baseline. Stroke volume (SV) and cardiac output (CO) were significantly increased in conjunction with a reduction in systemic vascular resistance. Multivariate regression analysis revealed baseline E/e Œ to be an independent predictor for absolute increase in CO. In the chronic study, a significant reduction of left ventricular (LV)/left atrial (LA) volumes and the severity of mitral regurgitation (MR), and improved LV diastolic function parameters were noted in the ASV group. These beneficial effects were not observed in the withdrawal group.

Conclusion: The acute beneficial impact of ASV is mainly associated with the reduction of afterload resulting in an increase in SV and CO. In contrast, chronic ASV therapy produces LV/LA reverse remodelling resulting in an improvement in LV function and the severity of MR in patients with CHF.