

O-0016**Relation between VE/VCO₂ slope and maximum phonation time in chronic heart failure patients**

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【Purpose】 This study aimed to determine the relation between the regression slope relating minute ventilation to carbon dioxide output (VE/VCO₂ slope) and maximum phonation time (MPT), and the MPT required to attain a threshold value for VE/VCO₂ slope of ≤ 34 in chronic heart failure (CHF) patients. **【Methods】** This cross-sectional study enrolled 115 CHF patients (mean age, 54.5 years; men, 84.9%). VE/VCO₂ slope was assessed during cardiopulmonary exercise testing (CPX). Thereafter, patients were divided into two groups according to exercise capacity: VE/VCO₂ slope ≤ 34 (VE/VCO₂ ≤ 34 group, $n = 81$) and VE/VCO₂ slope > 34 (VE/VCO₂ > 34 group, $n = 34$). For MPT measurements, all patients produced a sustained vowel/a : /for as long as possible during respiratory effort from a the seated position.

【Results】 All subjects showed significant negative correlation between VE/VCO₂ slope and MPT ($r = -0.51, P < .001$). After adjustment for clinical characteristics, MPT was significantly higher in the VE/VCO₂ ≤ 34 group versus VE/VCO₂ > 34 group (21.4 ± 6.4 vs. 17.4 ± 4.3 sec, $F = 7.4, P = .007$). The appropriate MPT cut-off value for identifying a VE/VCO₂ slope ≤ 34 was 18.12 sec.

【Discussion】 An MPT value of 18.12 sec may be a useful target value for identifying CHF patients with a VE/VCO₂ slope ≤ 34 and for risk management in these patients.