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Association between phase angle and physical function in patients with acute myocardial infarction

Abstract:

Introduction: The phase angle (PhA) of bioelectrical impedance is an important prognostic tool in clinical practice.

Purpose: The aim of this study was to evaluate the associations between PhA and physical function, including sarcopenia, cardiopulmonary function and arterial stiffness, in patients with acute myocardial infarction (AMI).

Design: A retrospective cross-sectional study.

Methods: We evaluated 66 patients with AMI who entered the Cardiac Vascular Center of this hospital to undergo percutaneous coronary intervention (PCI). Upon admission, the patients' demographic information was recorded. And, bioelectrical impedance analysis (BIA), brachial-ankle pulse wave velocity (baPWV), ankle-brachial index (ABI) and cardiopulmonary function test were performed within the 4 weeks after PCI.

Results: The mean age of participants was 63.59±11.63 years, 59(89.4%) were males and 7(10.6%) were females. Age, body mass index(BMI), Skeletal muscle mass index(SMI), peak oxygen consumption(VO2peak), oxygen consumption at anaerobic threshold(VO2AT), diastolic blood pressure at rest(DBPrest), rate pressure product(RPP), baPWV and ABI were significant correlation with PhA ($P < 0.05$) in male. In the multivariable linear regression in male, BIA-derived PhA was positively associated with VO2peak ($\beta = 0.493$, $P = 0.002$) and the SMI ($\beta = 0.433$, $P < 0.001$).

Conclusion: According to the present study results, the BIA-derived phase angle was positively associated with the cardiopulmonary function and sarcopenia in male patients with acute myocardial infarction.

Biography

So Young Lee is the Director of Department of Rehabilitation Medicine in the Jeju National University Hospital, based in Jeju, South Korea. Professor Lee has published dozens of papers on the rehabilitation about musculoskeletal and stroke patients. After obtaining a doctor degree in medicine from the Jeju National University in 2009, she majored in rehabilitation medicine at the Jeju university hospital. Since she was appointed as a professor at Jeju National University Hospital in 2016, she lectures several times every year for the local residents and conducts research and educational activities on various topics.