

中文題目：台灣老年男性慢性阻塞性肺病合併肌少症研究之初報

英文題目：Preliminary report on cross-sectional relationship between respiratory and muscle function in older male Taiwanese with chronic obstructive pulmonary disease

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### **Background:**

The aging process is characterized by a progressive decline of skeletal muscle. Sarcopenia closely interacts with chronic diseases, which may expose older people to the risk of disability. The aim of this study was to include nutritional and respiratory function assessment in older male chronic obstructive pulmonary disease (COPD) patients and determine the association with body composition and grip strength.

### **Methods:**

We recruited 27 older male patients (aged 63-97 years) with stable COPD attending the pulmonary medicine outpatient clinic of Kaohsiung Medical University Hospital. Muscle strength was determined by handgrip strength (HS), using a hand dynamometer. Body mass index (BMI), fat-free mass index (FFMI) and appendicular skeletal muscle mass index (ASMI) were measured by bioelectrical impedance analysis (BIA) device. The nutritional status was evaluated with the measurement of serum albumin level and the short-form Mini-nutritional assessment (MNA)-Taiwan Version. Obstruction of airways was measured by the forced expiratory volume in one second (FEV1). Symptom level was assessed by using the modified Medical Research Council (mMRC) dyspnea scale and the COPD Assessment Test (CAT). C-reactive protein (CRP) level was determined and log transformed to normalize the distributions.

### **Results:**

The average of the ASMI and HS were  $8.26 \pm 1.14$  (kg/m<sup>2</sup>) and  $30.76 \pm 5.02$  (kg) respectively. Four patients (15%) meet the AWGS criteria of sarcopenia. None of the subjects were at risk of malnutrition. The average of FEV1 in the subjects was  $1.37 \pm 0.61$  (L). Spearman's correlation analysis showed HS was significantly associated with age, FEV1, BMI, ASMI, logFFMI, CRP, albumin and MNA score ( $p < .05$ ). FEV1 consistently showed to be significantly and positively associated with HS as BMI, ASMI and log FFMI were included in the linear regression analysis separately ( $p < .05$ ).

### **Conclusion:**

Our results showed that respiratory function was a stronger independent predictor of grip strength compared with the body composition parameters in well-nourished elderly male COPD outpatients. The measurement of FEV1 could be used as a possible surrogate of physical function.