

O-0391**Factors associated with skeletal muscle loss in early postoperative phase of lung transplantation**

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【Purpose】 Acute loss of skeletal muscle mass is underlying problem in patients underwent lung transplantation. We aimed to investigate associating factor in acute loss of the skeletal muscle after lung transplantation.

【Methods】 We investigated 40 patients (27 male, 42.9 ± 14.2 yr) who received lung transplantation (LTx) in our hospital between August 2008 and September 2014, retrospectively. Skeletal muscle mass were assessed as cross sectional area (CSA) of erector spinae muscles in CT image, before LTx (pre-LTx) and at ICU discharge (post-LTx). Image analysis performed using commercial available software (AquariusNET, TeraRecon, Japan). Acute reduction of CSA (Δ CSA) was calculated as percentage of changes of CSAs from pre- to post-LTx. Candidate factors, such as age, gender, living/death donor LTx, on/off pump in operation, ICU stay, steroid pulse therapy (pulse-Tx), pre-LTx CSA and body mass index (BMI) are evaluated.

【Results】 Twenty-five patients underwent living-donor LTx, and 10 patients had single LTx. Thirty-four patients did by on pump operation. And ICU stay was 10.9 ± 5.4 days. Pre-LTx and post-LTx CSA were 2506 ± 630 and 2273 ± 550 mm², respectively. Δ CSA was $8.8 \pm 6.5\%$ (positive value means decrease of CSA) and significantly associated with age, BMI, pre-LTx CSA, living/death donor LTx, on/off pump operation, and ICU stay ($p < 0.05$). However, there were no significant differences about gender, single/bilateral LTx, nor usage of pulse-Tx. Stepwise multivariate analysis revealed Δ CSA was associated BMI and on/off pump operation (adjusted R² = 0.33).

【Discussion】 As we reported previously, acute muscle loss will associate with delayed recovery of muscle strength. To achieve better prognosis and recovery of exercise capacity after LTx, it is important to prevent delayed recovery. Therefore, our present findings can be applied to manage patients against acute muscle weakness, and consequent poor prognosis after LTx.