

**1781P Loss of skeletal muscle mass during palliative chemotherapy is a poor prognostic factor in patients with advanced gastric cancer**I.G. Hwang<sup>1</sup>, S.E. Park<sup>1</sup>, S.-C. Lee<sup>2</sup>, J.H. Choi<sup>3</sup><sup>1</sup>Internal Medicine, Chung-Ang University Hospital, Seoul, Republic of Korea, <sup>2</sup>Internal Medicine, Soonchunhyang University Hospital Cheonan, Cheonan, Republic of Korea,<sup>3</sup>Department of Radiation Oncology, Chung-Ang University Hospital, Seoul, Republic of Korea

**Background:** Cancer causes loss of muscle mass, which is associated with a poor prognosis. Chemotherapy could also reduce muscle mass. We investigated changes of skeletal muscle mass during palliative chemotherapy and its association of treatment outcomes in patients with advanced gastric cancer (AGC).

**Methods:** This retrospective study consisted of 91 consecutive patients who underwent first line palliative chemotherapy in AGC. Skeletal muscle area was measured at the level of the third lumbar vertebra using computed tomography scans taken before and after chemotherapy. We assessed changes in skeletal muscle index (SMI), body mass index (BMI), and body weight and compared the chemotherapy response and survival according to the changes of body composition.

**Results:** In total 91 patients, median age was 64 years (range, 31-87 years). 75.4% of patients were male and 45.1% were sarcopenia at baseline. Mean decrease of SMI from pre-chemotherapy to post-chemotherapy was  $-5.4 \pm 5.3 \text{ cm}^2/\text{m}^2$  ( $P < 0.001$ ), mean decrease of BMI was  $-0.6 \pm 1.9 \text{ kg}/\text{m}^2$  ( $p = 0.002$ ), and mean decrease of body weight was  $-1.8 \pm 5.3 \text{ kg}$  ( $P = 0.002$ ). Mean decrease of SMI for patient with objective response was  $-4.4 \pm 5.4 \text{ cm}^2/\text{m}^2$ , mean decrease of SMI with stable disease was  $-6.0 \pm 5.2 \text{ cm}^2/\text{m}^2$  and mean decrease of SMI with progression was  $-5.4 \pm 5.2 \text{ cm}^2/\text{m}^2$ . Response to chemotherapy was not associated with decrease in SMI ( $p = 0.491$ ). In multivariable analysis, sarcopenia at baseline (HR, 1.959; 95% CI, 1.190 to 3.225,  $p = 0.008$ ), decreased SMI (HR, 1.747; 95% CI, 1.042 to 2.929;  $p = 0.034$ ) and poor ECOG score (HR, 1.902; 95% CI, 1.081 to 3.346;  $p = 0.026$ ) were significant poor prognostic factors for survival.

**Conclusions:** Skeletal muscle mass decreased significantly during chemotherapy in patients with AGC. However, response to chemotherapy was not associated with decrease in skeletal muscle mass. The decreased SMI was a poor prognostic factor in patients with AGC during first line palliative chemotherapy.

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