

7. Kongres Hrvatskog  
torakalnog društva

7<sup>th</sup> Congress of Croatian  
Thoracic Society

**TORAKS**

2017

Hotel Westin Zagreb

**26. - 29. TRAVANJ / APRIL**



## **BODY COMPOSITION IN PATIENTS WITH NSCLC ASSESSED BY CT - PREVALENCE AND CLINICAL IMPLICATIONS ON CHEMOTHERAPY TOXICITY AND SURVIVAL**

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**Background.** Cancer cachexia and sarcopenia are frequently observed in cancer patients and associated with poor survival. We evaluated prevalence of cachexia and sarcopenia in NSCLC patients, relation to chemotherapy toxicity and survival curves.

**Methods.** In a prospective study we included 100 Caucasian patients with advanced NSCLC referred consecutively to our Department before starting 1st line platinum-doublet chemotherapy. Fifty-five patients had CT images that met the criteria for analysis. Anthropometric and body composition measurements - total muscle cross sectional area, lumbar skeletal muscle index (LSMI) were done. Skeletal muscle cross-sectional area was measured at the third lumbar vertebra by CT scan, sarcopenia was defined using a previously published cut-off point, and time-t-tumor progression (TTP) was specified.

**Results.** Among 100 recruited patients 67 were male, median age 64 years, BMI 24.5±4.5, weight 68±15 kg, weight loss in previous 6 months 7±6 kg (9.4±7.7%). Median total muscle cross-sectional area at L3 was 142.97±35.64 cm<sup>2</sup> and median skeletal muscle index was 52.03 cm<sup>2</sup>/m<sup>2</sup>.

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Male patients had statistically significant higher lumbar skeletal muscle area and LSMI than female (53.31 vs. 40.95 cm<sup>2</sup>/m<sup>2</sup>, P<0.001). A very high proportion of men met the criteria for sarcopenia compared to women; 60.5% and 17%, respectively. There were 34.6% sarcopenic patients among male who met the criteria as overweight. Good correlation was observed between BMI and LSMI (r=0.614).

The prevalence of cachexia and sarcopenia in study cohort was 69% and 47%, respectively. There was no statistically significant difference between the groups in frequency of chemotherapy toxicity, nor between TTP, in cachectic (187 days) and non-cachectic patients (167 days) (HR (95% CI) = 0.83 (0.48-1.43); P = 0.470) and between sarcopenic (218 days) and non-sarcopenic patients (209 days).

Conclusion. Cachexia and sarcopenia were not found to be predictors of chemotoxicity nor TTP. The reason might be in the high proportion of cachectic and sarcopenic patients in the study cohort. CT scan is a reliable method for obtaining and calculating muscle area, easily measurable, reproducible and usable without expensive software technology in everyday practice.