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Track 2: Haem malignancies in the elderly and basic science
Lymphoma
O07

A LINK BETWEEN PSOAS MUSCLE AREA AND OUTCOMES IN ELDERLY PATIENTS WITH DIFFUSE LARGE B-CELL LYMPHOMA TREATED WITH R-CHOP

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Introduction: Sarcopenia, can be part of normal aging or result from cachexia. Multiple studies found correlation between reduced muscle mass and negative outcomes in chronic diseases and solid tumors. Little research exists on similar relationship and on longitudinal changes in muscle mass during treatment in elderly hematological patients.

Objectives: To evaluate the muscle mass during the course of chemotherapy in patients 70 years or older with DLBCL and its effect on survival and toxicity as well as its changes during progression of the treatment.

Methods: We performed a retrospective cohort study of patients diagnosed between the 2007 and 2014 and treated with RCHOP in our institution. We collected demographic, clinical and laboratory data as well as chemotherapy doses, timing and complications, treatment response, and survival. We evaluated muscle mass by adding bilateral psoas muscle cross-sectional areas at the level of the third lumbar vertebra on PET CT images and correcting it to patient's height. The ratio was defined as muscle index and expressed in cm^2/m^2. The change in muscle index after vs. before treatment was estimated. The effect of pre-treatment muscle index and the above mentioned variables was estimated in a univariate Cox regression analysis. Variables potentially associated with mortality were entered into a Cox regression multivariate analysis.

Results: Ninety-three patients (50% female) were included in the cohort. Median age was 78 years (range 70-90). Sixty percent had an IPI score of 3 or more.
Mean pre- treatment muscle index was 4.66 cm^2/m^2, median 4.4 cm^2/m^2. End of treatment PET CT was available for 76 patients. Mean post treatment index was 4.2 cm^2/m^2, median 3.92 cm^2/m^2. A decrease in muscle index was observed in 76% of patients.
A negative correlation was shown between pretreatment index and days of hospitalization in cycles 1-2 (p=0.007, r=-0.28). Pre-treatment muscle index was not associated with overall survival (p = 0.43). In a sub-group analysis by sex, a higher muscle index was associated with a longer overall survival in men (HR 0.59, 95% CI 0.44 to 78, p<0.001), but not in women. In a multivariate model, the variables that were associated with overall survival were albumin, age, and gender (p<0.05).

Conclusion: Based on our data including 93 elderly patients with DLBCL, a higher muscle mass before RCHOP was associated with longer overall survival among men but not among women. No association was found between muscle mass measured as total psoas area corrected to height and dose intensity, or infection. During the course of chemotherapy, we observed a loss of muscle mass in most patients.
Those findings comply with previous studies on younger patients.
Further research is needed to clarify causality of low muscle mass in men on shorter survival. Such a study should be prospective and include interventions aimed at improving muscle mass pre- and during the treatment.

References:

Disclosure of Interest: None Declared

Keywords: elderly, lymphoma, muscle mass, psoas area, sarcopenia