LOWER HANDGRIP STRENGTH IS ASSOCIATED WITH TREATMENT MODIFICATIONS DURING NEO-ADJUVANT CHEMO-RADIATION IN PATIENTS WITH ESOPHAGEAL CANCER

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Rationale: Malnutrition is frequently observed in patients with esophageal cancer. In these patients, it has been shown that early nutritional intervention improves nutritional status (NS) and treatment tolerance. So far, it remains unknown which pre-treatment parameters of NS are associated with treatment modifications (TM) during neo-adjuvant chemo-radiation (CR).

Methods: In the period 2006-2015 pre-treatment NS was assessed in all outpatients with esophageal cancer who were scheduled for CR: body mass index (BMI, kg/m²), weight loss in the past 6 months (kg), fat-mass index and fat-free mass index (kg/m²), handgrip strength (HGS, kg) and energy- and protein intake (percentage of requirements). TM were defined as: delay, dose reduction or discontinuation of chemo and/or radiotherapy, hospitalization and mortality.

Results: Included were 162 patients (73% male; mean age 65 (± 9) years). Mean BMI was 25.1 (± 4.5) kg/m², mean weight loss in the past 6 months was 4.8 (± 5.1) kg. In 29 (18%) patients the HGS and in 37 (23%) patients the FFMI were below the 10th percentile of reference values. In 35 (22%) patients at least one TM occurred during CR. Unplanned hospitalization (n=18, 11%) was the most prevalent, followed by dose reduction of chemotherapy (n=15, 9%). After adjustments for possible confounders (age, gender, previous tumour, ASA performance score, TN classification), only HGS was statistically significant associated with TM (OR 0.93, P= 0.05).

Conclusion: A lower HGS is associated with TM in patients with esophageal cancer undergoing CR. Being able to identify patients at increased risk, opens windows for targeted nutritional interventions.

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