Detection of risk factors that influence weight loss in patients undergoing radiotherapy

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Abstract

Aim

To identify risk factors that influence weight loss in patients receiving radiotherapy.

Background

It is a well-known fact that cancer patients can be affected by malnutrition at the onset of the disease and during treatment due to the toxicity. Pretreatment weight loss alone does not predict those who will need nutritional supplementation. Instead, a variety of nutritional and tumor related factors needs to be taken into account.

Material and methods

A retrospective study was conducted on 129 patients with different tumor locations. Weight loss was evaluated during radiotherapy and one month after treatment. The impact of age, ECOG, chemotherapy, pretreatment weight loss, tumor location, previous surgery and TNM were analyzed. We aimed to identify a high-risk group of patients before starting treatment.

Results

The average net weight loss during radiotherapy and one month after treatment for this group of patients was 0.68 kg and 1.6 kg, respectively. Median weight loss during radiotherapy was 2.6 kg for head and neck (HN) patients and 0.27 kg for other tumor sites ($p = 0.028$). Median weight loss one month after radiotherapy was 3.7 kg for HN patients and 1.1 kg for the rest of the patients ($p = 0.034$). The median weight loss one month after treatment was 3.2 kg for patients receiving chemotherapy and 0.5 kg for those patients who did not receive chemotherapy ($p < 0.001$). A regression analysis determined that HN tumor location and the use of chemotherapy were independent risk factors.

Conclusions

Nutritional status must be monitored and managed before, during and after treatment. A variety of nutritional and tumor-related factors must be considered. According to our results, head and neck tumors and the use of chemotherapy are the only two factors considered statistically significant. Because patients continue to lose weight after treatment, we recommend close surveillance after radiotherapy.

Keywords
Risk factor; Nutrition; Radiotherapy; Weight loss