Nutritional evolution and identification of factors associated with nutritional depletion in children and adolescents with malignant neoplasms submitted to radiotherapy

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Abstract

Objective: To verify the evolution of the nutritional status (NS) of children and adolescents with cancer during radiotherapy (RT) treatment and to investigate which factors are associated with nutritional depletion at the end of the treatment. Procedures: Historical cohort with patients between 1 and 19 years, who underwent RT and received nutritional monitoring throughout the treatment. Patients were evaluated at T1 (up to 1 month before RT), T2 (2/3 months after starting RT) and T3 (up to 1 month after RT completion). The evolution of weight, mid-upper arm circumference [MUAC], triceps skinfold thickness [TST], body mass index for age [BMI/A] and weight loss [WL] were verified and considered severe when >5%. Results: A reduction in BMI/A (p < 0.001), weight (p < 0.001), MUAC (p < 0.001) and TST (p 0.005), and an increase in the incidence of thinness (BMI/A < -2) T1: 13.8% and T3: 19% and nutritional risk (BMI/A between < -1 and > -2) - T1: 20.7% and T3: 27.6% was observed in the general sample (n=116). Severe WL occurred in 40.7% of the sample. Irradiation site (p < 0.001), chemotherapy [CT] (p < 0.001) and CT and sedation (p 0.024) were associated with NS of thinness at T3. However, irradiation site (p 0.006), CT (p 0.002) and previous thinness (p 0.036) where observed for WL >5% (T1 and T3). Conclusions: The malnutrition process occurred in an expressive and significant way, even in the presence of nutritional monitoring. The irradiation site and concomitant chemotherapy were associated with severe WL and thinness at the end of the treatment.