



NUTRITIONAL STATUS AND STUNTING IN DIFFERENT TYPE OF PEDIATRIC CANCER

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Background and aims

In pediatric oncology, malnutrition is associated with a worse outcome and a reduction in growth. Aim of this study is to evaluate the impact of different oncologic diseases and their treatment on nutritional status.

Methods

Consecutive inpatients from the Pediatric Oncology Unit aged 0-18, affected by solid tumors, were enrolled from 10/2020 to 06/2022. Anthropometric data (BMIz-score; HAZ-score/WHZ-score) were collected at T0 (diagnosis) and T1 (end of the observation period). The non-parametric Wilcoxon signed rank test was used to compare the distribution of the BMIz-score and HAZ-score between the two times.

Results

Complete data from 39 patients (M21/F18; average age 9.5ys) were available. At diagnosis, in the CNS (Central Nervous System) tumors group (16 pts) the median BMIz-score was -0.04 (IQR -1.14-0.56) and the median HAZ-score was -0.24 (IQR -0.73-0.08); a significant worsening was observed in both parameters at T1 (median BMIz-score -1.73; IQR -2.30/-0.69; P=0.025; median HAZ-score -0.062; IQR -1.50/-0.03; P=0.013). In subgroup analysis, evaluating 8 medulloblastoma (MBL) patients undergoing craniospinal irradiation, the worsening in BMIz-score (P=0.016) and HAZ-score (P=0.035) were both significant. In the sarcoma group (n=16), no significance was found at T1, but evaluating interim data during neoadjuvant CT, with higher toxicity, we observed a transient worsening of the BMIz-score (p=0.028). The other tumors were neuroblastoma (n=4), atypical teratoid rhabdoid tumor (n=1), germinoma-non-CNS (n=2).

Conclusions

In this sample, we observed a significant impact on nutritional status and growth within CNS tumor, especially MBL, due to cancer and therapy. Significance was not found in sarcoma cases at the end of the observation period, but the data show an intermediate worsening and a subsequent improvement, probably due to lower toxicity of CT and reduced physical activity after surgery.

