Masterthesis: Abstract

Malnutrition in Pediatric Oncology Patients at Diagnosis and throughout Therapy: A Multicenter Cohort Study

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Background: Malnutrition – in the sense of undernutrition - is a common problem in pediatric oncology patients and is associated with decreased tolerance to therapy, increased infection rates and reduced well being. Reported prevalence rates vary widely and origin mostly from a pool of older studies. There is only few data about the course of malnutrition during therapy.

Aims: The aims of this study were to describe the prevalence of malnutrition among newly diagnosed pediatric oncology patients, to describe the occurrence and course of malnutrition during therapy and to identify factors that are associated with malnutrition during therapy.

Methods: In a retrospective cohort study of 327 patients diagnosed from 2003 to 2006 in three Swiss tertiary care hospitals, weight and height measures together with patient-, disease- and treatment-related factors were assessed. Malnutrition was defined as body mass index (BMI) <-2 standard deviation scores or an involuntary weight loss $>10\%$ during therapy and all occurrences at diagnosis and during therapy were counted as an event of malnutrition.

Results: At diagnosis, 5.8% of the patients were malnourished. After the start of anticancer therapy, malnutrition increased fast and 47.4% of all patients suffered from at least one event of malnutrition. The duration of all events per patient ranged from minimum seven days in eight patients to 724 days in one patient. Patients were malnourished for an average time of two months during their treatment. Age, BMI at diagnosis and the diagnosis of medulloblastoma were factors significantly associated with being malnourished for a longer time during therapy.

Conclusions: The fast increase of malnutrition after the start of treatment underlines the urgent need to develop evidence-based and efficient methods to provide nutritional support for children with cancer.

Keywords: malnutrition, pediatric oncology, prevalence

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