

## Burden of Chemotherapy-Induced Neuropathy in School aged children

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### Abstract

Chemotherapy-induced peripheral neuropathy (CIPN) is the most common neurological complication in cancer treatment and probably the most common toxic neuropathy in our environment. The aim of the study was to assess the incidence and discomfort caused by neuropathic symptoms in children treated for hematologic cancers. The study included all children admitted to the pediatric oncology service at the University Hospital Center "Mother Teresa", Tirana, by the year 2011 – 2013 divided in three diagnosis groups: acute lymphoblastic leukemia, Hodgkin and non-Hodgkin's lymphoma, or other solid tumors. In a prospective cohort setting, data were collected by standard questionnaire for symptoms and signs of neurological damage, according to The Pediatric - Modified Total Neuropathy Scale (Ped - mTNS), as well as clinical evaluation of pin sensibility, vibration sensibility, muscle strength and deep tendon reflexes (DTR). The results obtained from Ped-mTNS, showed the high incidence of sensory and motor symptoms as well as functional deficits in balance and manual dexterity in children treated with anticancer drugs. Ped-mTNS scores, as the first measure designed to assess CIPN in school-aged children, are significantly higher for children undergoing neurotoxic chemotherapy. Even though the neuropathy in these children was relatively mild, it was associated with functional deficits in balance and manual dexterity, suggesting clinical importance. An important limiting factor of this study is the exclusion of children younger than 5 years old, whom discomfort is evident but not properly evaluated.

**Keywords:** Peripheral neuropathy, chemotherapy, toxicity in children.

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