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## The experience of chemotherapy with Topotecan in children with recurrent or refractory solid tumors

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### Abstract

**Introduction:** Topotecan (Tp) is approved for adults with different types of malignant tumors; however it has not been sufficiently studied in children.

**Purpose:** To determine the response rate and toxicity of the combination of chemotherapy with Tp in pediatric pts with recurrent or refractory malignant solid tumors.

**Materials and methods:** Between 2005 and 2011 14 pediatric pts received Tp-containing second-line chemotherapy. Eight pts had relapse of neuroblastoma; 3, rhabdomyosarcoma; 1, malignant mesothelioma; 1, synovial sarcoma, and 1, a refractory form of embryonal RMS (ERMS). Their median age was 3.9 years. Chemotherapy with Tp was carried out according following schemes: Tp 1mg/m<sup>2</sup>+ Carboplatin 150 mg/m<sup>2</sup> on days 1–4, Tp 1mg/m<sup>2</sup>+ Cyclophosphamide 250 mg/m<sup>2</sup> days on 1–7, and monotherapy with Tp 1 mg/m<sup>2</sup> on days 1–5. The number of courses varied from 1 to 5.

**Results:** Twenty-nine courses of chemotherapy with Tp were carried out in 14 pts. Complete and partial responses were seen in 3 pts with RMS, in 1 pt with synovial sarcoma and in 1 pt with mesothelioma of the peritoneum. A minimal response including reduced pain and bone marrow remission was seen in 4 pts with neuroblastoma. The toxicity of chemotherapy was limited principally to the hematopoietic system (51.7%), with grade 3–4 neutropenia, and grade 2–4 thrombocytopenia. Non-hematological complications included stomatitis (14.2%) and diarrhea (14.2%). Currently 1 patient with ERMS remains in complete remission during the 41st month, one patient receives second-line chemotherapy, and 12 have died due to disease progression.

**Conclusions:** Chemotherapy with Tp can be effective against RMS and neuroblastoma, and is associated with relatively low toxicity. However, we didn't achieve a marked improvement of survival in this group of pts.

**Keywords:** Topotecan, children, relapse, rhabdomyosarcoma, neuroblastoma

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