Cancer Chemother Pharmacol (1986) 18 (Suppl 2): S 18

Cancer Chemotherapy and Pharmacology

High-dose ifosfamide alone and in combination for solid malignancies in childhood

Marco Gasparini

Istituto Nazionale Tumori, Milan, Italy

Ifosfamide (IF) alone at the dose of 5–8 g/m^2 as a 24-h continuous infusion with appropriate fluids and mesna rescue is being tested in an ongoing phase II study for osteogenic sarcoma by the EORTC soft tissue and bone sarcoma group. Preliminary results on 11 evaluable pretreated patients showed two partial responses and six no changes for an overall response rate of 18%.

IF 2 g/m^2 in combination with cisplatin 30 mg/m^2 daily for 3 days resulted in 1 CR and 2 PR in a series of 11 miscellaneous solid tumors resistant to conventional chemotherapy.

A program of sequential combination chemotherapy including IF (8 g/m^2, given as a 24 h continuous infusion) followed by MTX, ARA-C, cisplatin, ADR and Act D, was started in 1984 to treat solid tumors relapsing during conventional chemotherapy. In a series of 29 children treated so far, 5 CR and 9 PR were observed. Of 6 children with RMSA, one had a CR and 4 a PR; of 10 children with NBL, 2 had CR and 4 PR. Initial response was always observed shortly after the administration of IF.

Toxicity from IF consists mostly in severe nausea and vomiting during the 24 h administration, requiring supportive treatment. Myelosuppression is often severe (WBC less than 1000/mm^3 platelets less than 100,000/mm^3) but quickly reversible and rarely complicated by infections. Macroscopic hematuria was observed in 2 of 29 cases and was self-limiting in a few days after drug administration. No case of impairment of the renal function was observed.

High-dose IF is active in inducing remissions in previously treated resistant solid tumors in children. The administration of the drug requires hospitalization and careful follow-up; however, toxic effects, while often severe, are manageable and reversible. No life-threatening complications were observed. It should be thoroughly investigated in single-drug and combination therapy to establish the best schedule of administration.

Offprint requests to: M. Gasparini