

Correspondence and Short Communications

Comments on published articles, short communications of a preliminary nature, case reports, technical notes and the like are accepted under this heading. The articles should be short and concise and contain a minimum of figures, tables and references.

COMPLETE REMISSION AFTER REPEATED TROFOSFAMIDE TREATMENT IN RELAPSING HIGH-GRADE MALIGNANT NON-HODGKIN'S LYMPHOMA—A CASE REPORT

Trofosfamide was developed in 1968 and is an cyclophosphamide analogue belonging to the oxazaphosphorines, with a third chlorethyl radical in the position of the cyclic nitrogen compared with the chemical structure of cyclophosphamide. It has been used in the treatment of various solid tumours and malignant lymphomas. More than 50% response rates have been reported in both Hodgkin's disease and non-Hodgkin's lymphoma. The tolerance for the drug is good, even in older patients. Trofosfamide has been used at the Department of Oncology, University Hospital of Tromsø, for recurrent high-grade malignant non-Hodgkin's lymphoma when first and second line therapy have failed. Repeatedly treatment is possible when complete remission is achieved. A case is reported.

Case report. A 54-year old woman, previously treated medically for hypertension and surgically for mammaehypertrophica and tonsilhypertrophica, developed non-Hodgkin's lymphoma affecting epipharynx, neck and groin. The lymphoma was classified as stage III, high-grade malignant B-cell lymphoma. Treatment with three cycles of the standard MACOP-B regime (methotrexate, doxorubicin, cyclophosphamide, vincristine, prednisone, bleomycin) was started in September 1989 and resulted in complete remission. Eight months later recurrent tumor masses were revealed in the groin and the parasplenic area. The MIME regimen (methylglutamine, ifosfamide, methotrexate, etoposide) was administered as second line therapy. Laparotomy with splenectomy was performed after 11 cycles and a complete remission was confirmed. Autologous bone marrow transplantation (ABMT) was planned. However, three months later a second relapse was confirmed with cervical lymphadenopathy and bilateral malignant pleural effusions. Left-sided chylothorax was diagnosed and treated by the insertion of an intercostal drain, aspirating the pleural fluid and secondly pleurodesis using bleomycin as sclerosing agent. Trofosfamide (50 mg $\times$ 3) orally was added as systemic therapy and administered for 10 months resulting in complete remission. Two months later recurrent left-sided chylothorax and lymphatic masses located paraaortic in abdomen, in mediastinum and the left upper claviclar fossae, were revealed. For the second time she was treated with trofosfamide (50 mg $\times$ 3) orally and pleurodesis using bleomycin. Complete remission was observed two months later and the treatment was continued for three more months. However, further two months later she was hospitalised with dyspnoea and large tumour masses paraaortic in the abdomen and bilaterally in the neck. Trofosfamide was employed for the third time (50 mg $\times$ 3) and complete remission was achieved after three months' therapy. The treatment was continued for another two months. However, after an interval of two months recurrent disease was detected bilaterally in the upper claviclar regions. Trofosfamide was now administered orally for the fourth time (50 mg $\times$ 3). Today three months later, she is in complete remis-

sion. Trofosfamide has been tolerated very well. Only a minor reduction in trombocyte, leukocyte and red blood cell counts has been revealed. She has for 29 months repeatedly (four times) been treated with trofosfamide, each time resulting in complete remission.

Discussion. Recurrent high-grade malignant non-Hodgkin's lymphoma has a poor prognosis. Especially for treatment of elderly patients, there is a need for low-toxicity regimens with a high ability to achieve responses of shorter or longer duration. Single drug trofosfamid orally may be such a regimen. Potzi et al. (1) treated 29 patients with 'malignant lymphomas' (10 Hodgkin's disease, 8 chronic lymphatic leukaemia, 4 Morbus Brill-Symmers, 3 reticulosarcomas, 3 lymphosarcomas and 1 myeloma) and achieved 13 CR and 11 PR. Gerhartz (2) reported an 81% response in chronic lymphocytic leukaemia and over 50% response in both Hodgkin's disease and non-Hodgkin's lymphoma among 115 patients with malignant lymphoma. Küböck et al. (3) treated 8 patients with non-Hodgkin's lymphomas with daily doses of 50–150 mg and reported 2 CR and 6 PR. Falkson & Falkson (4) treated 24 patients with chronic lymphatic leukaemia with trofosfamide achieving 5 CR and 16 PR. Wist & Risberg (5) treated 23 patients with non-Hodgkin's lymphoma, achieving 5 CR and 9 PR. Even in a heavily treated patient with Hodgkin's disease (6), symptomatic relief is reported on trofosfamide therapy. To my knowledge there are no studies on the possibility of repeated trofosfamide therapy when recurrent disease is revealed after prior CR. One could argue that our patient should have been treated with continuous trofosfamide therapy until progression. However, this way of treatment may induce trofosfamide-resistance of the lymphoma cells. For the future there is a need for further studies to clarify the optimal trofosfamide treatment in malignant lymphomas.

JAN NORUM

Department of Oncology
University Hospital of Tromsø
Tromsø
Norway

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Correspondence to: Dr Jan Norum, Dept. of Oncology, University Hospital of Tromsø, Postboks 7, N-9038 Tromsø, Norway.

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