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*Short communication*

# Treatment of myeloblastic sarcoma in the sacral canal with high-dose cytosine arabinoside

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***Summary.*** *We report a case of recurrent myeloblastic sarcoma in the sacral canal following local radiotherapy, treated effectively with high-dose cytosine arabinoside.*

## Case report

A 45-year-old man presented in May, 1980, complaining of pain at the back of the right thigh, perianal numbness, and difficulty in initiating micturition. A myelogram showed a block in the sacral region, and subsequent exploration revealed a mass filling most of the sacral canal and surrounding the cauda equina roots. Decompression was performed and as much of the mass as possible removed; histological examination revealed that it was a myeloblastic sarcoma.

Postoperatively, bladder control was regained and both pain and numbness resolved. Full blood count, bone marrow aspirate, and trephine biopsy were normal. In June, 1980 the patient was treated with radiotherapy, 35 Gy to the sacral canal in 15 fractions. He remained well until January, 1981 when he developed low back and right leg pain and was treated with a further 35 Gy in 20 fractions to the same area for presumed recurrence. The pain subsequently resolved.

In January, 1983 he again complained of difficulty in initiating micturition and a 2-month history of worsening low back pain radiating to the right leg. On examination pin-prick sensation was impaired over the lateral and posterior aspects of the right leg and sole of the right foot, muscle power was normal, and there were no other abnormal physical findings. Full blood count and bone marrow aspirate were normal. A myelogram showed a block in the sacral region and lumbar puncture produced clear cerebrospinal fluid (CSF) with a pressure of 8 cm CSF with free rise and fall. The CSF protein content was 0.9 g/l (normal range; 0.1–0.4 g/l), and cytological testing demonstrated the presence of myeloblasts.

Treatment with cytosine arabinoside was commenced at a dose of 2 g/m$^2$ as an IV infusion over 3 h every 12 h, a total of 12 doses being given over 6 days. Prophylactic oral non-absorbable antibiotics and prednisolone eye-drops were given. Toxicity from this treatment included severe nausea and vomiting, diarrhoea and neutropenia (neutrophils $<1.0 \times 10^9$/l from day 7 to day 23). An episode of pyrexia without evidence of infection during neutropenia was treated with tobramycin and cephazolin. Platelet transfusions were given to maintain the platelet count above $20 \times 10^9$/l.

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Within 5 days of the start of treatment the pain had almost completely resolved. Following recovery from chemotherapy a repeat myelogram showed no abnormality, and CSF protein content was 0.24 g/l with no abnormal cells. Subsequently, regular intrathecal injections of cytosine arabinoside were given as maintenance. He remained well until August 1983, when leg pain recurred and a myelogram demonstrated extradural deposits at L4 and L5 although the CSF remained clear. Full blood count and bone marrow aspirate were normal.

## Discussion

Patients with acute or chronic myelogenous leukaemia may occasionally develop extramedullary tumours comprised of myeloblasts, monoblasts, or more mature cells. The term chloroma was originally applied to these tumours because of their distinctive green colour; however, this is not present in all, and the term myeloblastic or granulocytic sarcoma is more appropriate. These tumours have been described in most sites of the body, although the subperiosteal region of bone is the most common [3, 5]. Spinal cord compression due to extradural deposits usually responds well to decompression and subsequent local radiotherapy [3]. Reports of the appearance of these tumours preceding the development of leukaemia by intervals in some cases of years, are of interest [2, 5].

In the case described, further local radiotherapy was not possible and therefore systemic chemotherapy was indicated. At the same time attention had to be given to the CSF involvement. Recently high-dose cytosine arabinoside has been used to treat patients with relapsed acute myelogenous leukaemia, and may provide a means of overcoming resistance to the drug occurring in conventional dosage [1]. In addition, when it is given in high doses IV, levels of the drug can be achieved in the CSF which should be effective in the treatment of central nervous system (CNS) leukaemia [4].

High-dose cytosine arabinoside therefore seemed appropriate treatment in this situation, where both systemic and CNS treatment was required. A gratifying response was achieved, albeit of limited duration.

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