Death from paralytic ileus following vincristine therapy

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VINCRIStINE sulphate (Oncovin) is a toxic drug which has been used since 1962 for the treatment of the lymphomas and leukaemias. Its common side-effects are related to bone marrow depression and neurotoxicity. Whilst paralytic ileus has been reported we have been unable to trace any previous report of death occurring from this complication.

Case report

A 46-year-old man had been seen 15 months earlier with excessive bleeding following dental extractions. Full blood count and bone marrow examination showed him to have acute lymphoblastic leukaemia. He was treated initially with prednisolone 40 mg/day and later with a combination of prednisolone 30–40 mg/day and 6-mercaptopurine 50–150 mg/day. Although full haematological remission was never obtained he remained in fairly good health requiring blood transfusions approximately every 3 months to prevent his haemoglobin falling below 6.0 g/100 ml.

Treatment with vincristine was commenced on his last admission as his transfusion requirements had increased in the preceding 2 months. At that time there was pallor, some skin purpura and facial 'mooning' due to prolonged steroid therapy but no other abnormal signs. The peripheral blood count was as follows: Hb 5.4 g/100 ml; WCC 10,800/mm³; neutrophils 8%; lymphocytes 14%; monocytes 8%; blast cells 70%; platelets 118,000/mm³.

He received 3 pints of packed cells and was given vincristine 0.075 mg/kg body weight (6.0 mg). Four days after receiving vincristine he developed mild abdominal pain and distension, but bowel sounds were present and he was not unduly constipated. Two days later his abdominal distension had increased markedly, he began vomiting and bowel sounds were no longer heard. A straight X-ray of the abdomen showed marked distension of the small gut with multiple fluid levels (Fig. 1). The colon appeared distended as far as the left transverse colon. Gastric suction and intravenous fluids were given but he continued to deteriorate and died 8 days after receiving vincristine.

FIG. 1. X-ray of the abdomen showing marked distension of the small gut with multiple fluid levels.

Necropsy (Dr J. S. P. Jones)

Necropsy showed marked distension of the entire small gut and part of the large bowel. No obstructive lesion was present and there was no evidence of peritonitis.

Discussion

Neurotoxicity due to vincristine is common and muscle weakness, paraesthesiae and loss of deep tendon reflexes have all been reported (D'Agostino & Jancho, 1964; Hildebrand & Kenis, 1965). Necropsy studies have shown the anatomical lesion

to be distal demyelination and axonal degeneration (D'Agostino & Jancho, 1964) and these neurological changes are presumably the basis for the constipation which is common, being reported in thirty-three of sixty-two cases reported by Shaw & Bruner (1964), and in ten of nineteen patients reported by Martin & Compston (1963).

The first account of paralytic ileus after vincristine was recorded by Costa, Hreshchyshyn & Holland (1962) in recording the experience of the Eastern Co-operative Group in Solid Tumor Therapy in the United States.

Other non-fatal cases were later described by Martin & Compston (1963), Gubisch *et al.* (1963) and Bohannon, Miller & Diamond (1963). There does not seem to be any constant relationship between nerve damage and paralytic ileus although one of the patients of Bohannon *et al.* (1963) had both paraesthesiae and ileus.

Our patient showed no neurological signs and the ileus developed with very little preceding constipa-

tion within 1 week of receiving a single dose of vincristine. Clearly this complication must be borne in mind whenever a patient on the drug develops acute abdominal pain and distension.

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