end of 12 hours the patient received 18 ampoules of antivenom if in group 1 and 10 ampoules if in group 2. Lyophilised polyvalent antivenom (Haffkine Biopharmaceutical Corporation, Bombay) was used throughout. The dose of antivenom was dissolved in distilled water and then added to 100-300 ml 5% glucose for infusion. Children and adults were given the same dose.

Comparison of the two groups was based on the interval between administration of the first dose of antivenom and the first normal clotting time and on the number of patients developing complications. For the purpose of the study acute renal failure was defined as oliguria for 24 hours (urine output below 400 ml) or more with raised blood urea or serum creatinine concentrations.

The study was conducted between July 1982 and June 1983 and included 53 patients. The interval between the patient being bitten and treatment being started, the period for the clotting time to become normal, and the number of patients who developed acute renal failure and other complications were not appreciably different between the two groups (table). None of the patients had any neurological deficit attributable to envenomation by cobra or krait. None were sensitive to antivenom on skin testing, and serum reactions to antivenom were transient and did not necessitate treatment being stopped.

Comment

The poisonous snakes in this area are cobra (*Naja naja*), common krait (*Bungarus caeruleus*), saw scaled viper (*Echis carinatus*), and Russell's viper (*Vipera russelli*). Viper bite causes disseminated intravascular coagulation and primary pathological fibrinolysis.[4] Measurement of the clotting time is a readily available, simple, and inexpensive test for confirming envenomation by viper. Lyophilised antivenom is preferred to antivenom supplied in liquid form because it is more stable. Administration of antivenom by slow intravenous infusion is the preferred method, and doses should be given until the clotting time is normal. The dose recommended by the manufacturers is based on mouse protection studies and scaling the dose in proportion to the average yield of venom.[3] In the absence of any definite recommendations, we and other clinicians have been using high doses.[5] This study suggests that giving 7·9 ampoules of antivenom according to our protocol is as effective as using higher doses.

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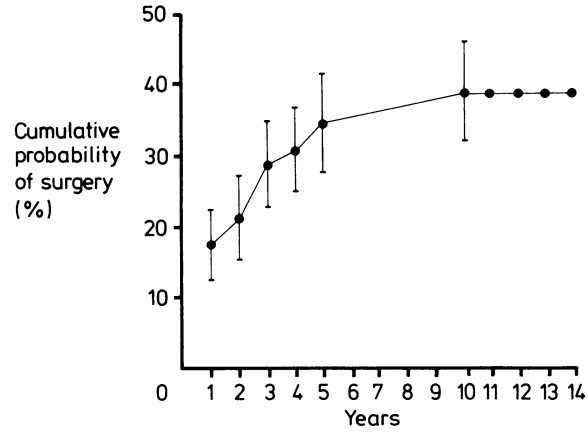
Prognosis of colonic Crohn's disease

To avoid bias in selecting patients it is necessary when assessing prognosis to study patients in whom the diagnosis was made soon after the onset of symptoms. We report the prognosis of all 57 patients with Crohn's disease predominantly affecting the large bowel seen within six months of the onset of symptoms during 1969-78 and followed up until 1984. Six patients with a previous anal lesion were excluded.

Patients, methods, and results

Colonic Crohn's disease was diagnosed using a scoring system[1]; typical granulomas were found in 38 patients. The disease was rectal in six cases, rectal and colonic in 35, and colonic only in 16. The terminal ileum was affected in six patients, and an anal lesion was found at presentation or later in 42 patients. Twenty two patients were aged less than 30 and 20 were 60 or over.

In all but two patients the initial treatment was medical. Twenty patients required bowel surgery, 10 within a year of first being seen. Ten patients needed an operation for an acute attack and 10 for chronic symptoms. At the end of the follow up 11 of the 14 patients treated surgically who were still alive had a permanent abdominal stoma. The cumulative probability of surgery was 35 (SD 7)% at five years and 39 (7)% at 10 years (figure).



Cumulative probability of surgery in 57 patients with colonic Crohn's disease with symptoms lasting less than six months.

During follow up 15 patients died; the expected mortality was 10. The cause of death was known in all patients: Crohn's disease was a contributory factor in four cases, and in 11 the cause was unrelated. During medical treatment 42 patients received sulphasalazine, 29 systemic corticosteroids, 20 azathioprine, and nine antibacterial drugs. At the end of follow up the 28 patients who had been treated conservatively were well. Seventeen were not taking any drugs, eight were taking sulphasalazine (plus steroids in one case), and three were taking systemic steroids (plus azathioprine in one case).

Comment

In a similar study of 269 patients with ulcerative colitis the probability of surgical treatment was only 8 (2)% at five years and 15 (4)% at 10 years,[2] whereas in this series it was four times as great at five years although less than three times as great at 10 years. Three deaths related to their disease occurred among the 269 patients with ulcerative colitis, compared with four among the 57 patients in this series with Crohn's disease. The present analysis shows that when surgery was required it was necessary in the early years of the disease, whereas after five years there was little likelihood of surgery. In both series about half the patients who needed surgery did so within the first year of being seen. In four cases severe anal lesions were the reason for the first operation involving a stoma.

In a previous study restricted to patients after their first admission to hospital for colonic Crohn's disease 72% required abdominal surgery within six years after admission.[3] This proportion is similar to that in another published series.[4] Our report may give a more representative picture of the prognosis because of the inclusion of 15 patients treated only as outpatients and the uniformly short history, and it is in keeping with another recent series.[5] Our experience suggests that about half of all patients with colonic Crohn's disease can be treated successfully without abdominal surgery and that the need for treatment with drugs tends to decrease with time.

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