Ischaemic colitis associated with psychotropic drugs

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Summary
Two cases of patients with ischaemic colitis requiring operative treatment are presented. Both had received a commonly used psychotropic drug in large dosage before the acute episode. Evidence is produced which may link the drugs used with the condition of ischaemic colitis.

KEY WORDS: ischaemic colitis, acute colonic gangrene, tricyclic antidepressants, chlorpromazine.

Introduction
Ischaemic colitis is a well-recognised disease but the aetiology is often multifactorial. Certain drugs have been implicated in the aetiology, the most common being digoxin; however, to date, no psychotropic drugs have been included. Two patients are presented where such drugs may have contributed to the problem.

Case 1
A 49-year-old woman presented to her general practitioner with a 2-week history of depression. She was prescribed thirty 50 mg capsules of amitriptyline (Lentizol) to take one tablet nightly. After 9 days she was more ill and was admitted as an acute psychiatric emergency. She complained of abdominal pain and the vomiting of brown fluid, but there was no disturbance in bowel habit. Her general condition was poor with a pulse rate of 120/min and blood pressure of 90/40 mmHg. She had mild abdominal distension.

After transfer to the Surgical Unit she was noted to be agitated with a coarse tremor and dilated pupils. Abdominal examination showed mild distension and minimal tenderness in the left iliac fossa. The bladder was palpable requiring catheterization. Blood urea and electrolytes, and chest and abdominal X-rays were normal; the electrocardiogram showed sinus tachycardia only. The clinical picture suggested tricyclic overdosage. She admitted taking 20 capsules of amitriptyline during the 48 hr before admission as she felt there had been no response to the initial treatment. Over the next 5 hr with intravenous fluids there was some improvement in her condition but her condition then deteriorated rapidly with an increased tachycardia to 150/min and a systolic blood pressure of 70 mmHg. Her abdominal signs had also altered significantly with increased distension, overall tenderness, minimal guarding and absent bowel sounds. Urgent laparotomy was planned following initial improvement with increased intravenous fluids. At induction of anaesthesia her condition deteriorated further with a marked reduction in cardiac output. Despite this laparotomy proceeded and the colon was found to be gangrenous from the caecum to the sigmoid colon although the serosa was not breached. A total colectomy was performed with terminal ileostomy. The rectal stump was closed. By the end of the operation her condition had improved dramatically. She was ventilated for 24 hr postoperatively and treated with broad spectrum antibiotics.

Her subsequent recovery was uneventful and at the time of her discharge the wound had healed, she was managing her ileostomy well and psychiatric support had been given. Re-establishment of intestinal continuity will be considered in the future. The histology of the colon showed mucosal oedema and acute inflammation consistent with non-occlusive ischaemia.

Case 2
A 61-year-old female with a long history of manic depression was admitted to the Psychiatric Unit with an exacerbation of depression. She was commenced on chlorpromazine 100 mg orally as required. During the next 3 days she complained of increasing abdominal pain, anorexia and latterly abdominal distension, although she was passing one loose stool.
each day. A surgical consultation was requested because of increasing abdominal distension. On examination she was peripherally shut down with a pulse of 100/min, blood pressure 100/60 mmHg. Abdominal examination revealed an irreducible right femoral hernia, abdominal distension and lower abdominal tenderness, but no guarding. Bowel sounds were absent and rectal examination was normal. Blood urea and electrolytes, and a full blood count were normal. Abdominal X-rays showed dilated small intestine with fluid levels.

A diagnosis of strangulated femoral hernia was made and exploration planned following a period of resuscitation with intravenous fluids. At operation the hernial sac contained only turbid peritoneal fluid. A formal laparotomy was then performed and there were three areas of ischaemia with early necrosis in the colon at the splenic flexure, the mid-descending and mid-sigmoid colon. A total colectomy with ileostomy and rectal mucous fistula was performed.

Following operation she made a slow but uneventful recovery. Histology confirmed the operative diagnosis of ischaemic colitis. Four months later intestinal continuity was restored by ileo-rectal anastomosis without incident and she has remained well since. During the first 3 days of her admission she was taking the chlorpromazine and in the 30 hr before the surgical consultation she had had 300 mg.

Discussion

There is no evidence directly linking either amitriptyline or chlorpromazine with ischaemic colitis. However, both drugs have non-therapeutic effects which may induce two of the factors known to precipitate ischaemia in the colon. These are colonic distension and reduced intestinal blood flow (Marston, 1977).

Paralytic ileus and distension of the colon have been well described in relation to the use of both tricyclic antidepressant drugs and chlorpromazine (Milner and Hills, 1966; Ritama, 1969). With the former drug the mechanism is thought to be anticholinergic, but in the latter the mechanism is not as clear cut as chlorpromazine affects the whole autonomic nervous system. Reduction of intestinal blood flow may occur with both drugs. Amitriptyline is known to produce tachycardia and hypotension because of its anticholinergic properties. Chlorpromazine causes hypotension because of a direct heart depressant effect and vasodilatation caused by alpha adrenergic blockade (Goodman and Gilman, 1980).

Although these drugs have not previously been linked with ischaemic colitis, a review of the literature does reveal two reported cases with similar clinical histories. In one patient high standard doses of both drugs were used for the treatment of depression, and 36 hr later the patient died with what was described as a paralytic ileus (Burkitt and Sutcliffe, 1961). In the other patient, a young woman developed an ischaemic lesion in the colon, diagnosed at operation, which resolved spontaneously. She had been taking chlorpromazine (Clark, Lloyd-Mostyn and Sadler, 1972).

In conclusion, we feel there is circumstantial evidence to link both amitriptyline and chlorpromazine with the ischaemic intestinal disease which developed in these two patients, and that intestinal ischaemia should be borne in mind as a possible diagnosis in patients who are taking these medicines, who develop abdominal symptoms and signs.

Acknowledgments

We would like to thank Mr I. E. W. Gilmour for allowing us to report Case 1 and Mrs A. W. Wood for secretarial help.

References


(Accepted 29 June 1983)
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Postgrad Med J 1984 60: 564-565
doi: 10.1136/pgmj.60.706.564

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