MEDICAL PRACTICE

*Clinical Topics***Sclerosing peritonitis due to practolol**

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Six patients developed intestinal obstruction from sclerosing peritonitis due to practolol. Complete surgical removal of the abnormal membrane appears to be necessary.

Introduction

Although skin and eye changes were first noticed in 1972 as a rare side effect of the beta-blocking drug practolol,¹ it was not until 1974 that the associated lesion of sclerosing peritonitis was reported.² Since then there have been several single-case reports. A similar condition has also been reported in a few patients who were not taking beta-blocking drugs.³

We have now treated six patients who were referred to us after developing this condition while or after taking practolol. We report their clinical details and the results of our management as we believe that radical surgical treatment is necessary to relieve their intestinal obstruction permanently.

Case histories

Case 1—This 60-year-old woman was initially treated for angina and tachycardia with propranolol, but from June 1970 to June 1974 she received practolol, 100 mg four times a day. In October 1973 she developed the ocular and skin changes related to practolol and in

December 1974 small intestinal obstruction developed, and she was admitted as an emergency to hospital. Two laparotomies were carried out within a week, and on each occasion an ileocolic anastomosis was performed to bypass dense adhesions thought to be causing the obstruction. She made a poor recovery, developing a faecal fistula and a pleural effusion, and was transferred to St Thomas's Hospital. In March 1975 she was fit enough to undergo a further operation, when a large, chronic, extraperitoneal abscess was drained, the fistula having closed spontaneously. She then developed duodenal obstruction, and at her fourth operation unusual adhesions affecting the entire small bowel were noted. They were not typical of sclerosing peritonitis but were stripped away from the small bowel to free it completely, and the previous anastomoses were taken down. Another faecal fistula developed, and at a further laparotomy adhesions were again found and removed.

After this she improved sufficiently to be discharged in June 1975, but was readmitted two and a half months later with chronic large bowel obstruction. She underwent a sixth operation in September 1975, when typical sclerosing peritonitis of the large bowel was found, now causing obstruction of the colon at the splenic flexure. The fibrous tissue was removed, and she made a good recovery, being discharged in October 1975. She has improved slowly since then, and has put on weight, but her bowel movements are still irregular. The pleural effusion spontaneously resolved.

Case 2—A 55-year-old man developed a myocardial infarction at the age of 49 and subsequently angina of effort. He was treated with practolol, 100 mg three times a day, from February 1974 until February 1975, when a rash appeared. In April 1975 he developed subacute small intestinal obstruction, and at laparotomy the typical appearances of sclerosing peritonitis were found with a thick fibrous membrane encasing the entire small bowel. No definitive procedure was undertaken. One month later he was readmitted with recurrent obstruction and transferred to St Thomas's Hospital. At laparotomy the membrane was found to cover the entire small bowel, as well as the sigmoid colon, caecum, and anterior wall of the stomach, and the membrane was stripped from the bowel to free it completely. The patient had a further myocardial infarction but otherwise made a good recovery. Recently we understand that he has developed pleural thickening.

Case 3—A 63-year-old woman received practolol, 100 mg three times a day, for two years until May 1973 for long-standing paroxysmal tachycardia. This was changed first to oxprenolol, 40 mg three times a day, for 10 months, then to practolol from April to July 1974,

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and finally to propranolol, 40 mg three times a day, on which she continues. In the summer of 1974 she developed painful watering eyes. Nine months after the last dose of practolol she developed abdominal pain. A mobile lower abdominal mass was palpable, and an ovarian cyst was diagnosed. She underwent laparotomy in April 1975 when sclerosing peritonitis was found; there was no evidence of pelvic disease. No definitive procedure was undertaken.

Abdominal distension, borborygmi, vomiting, and weight loss continued, and an erect abdominal radiograph showed numerous fluid levels. In November 1975 she was transferred to St Thomas's Hospital and underwent a second laparotomy, when an extensive fibrous membrane was found to be covering the entire small bowel and extending on to the large bowel and stomach. This membrane was stripped completely to free the bowel, and the patient made a good recovery, although the immediate postoperative course was complicated by a transient abdominal mass, fever, and a fall in the haemoglobin level. This was presumed to be an intra-abdominal haematoma for it resolved completely within two weeks. Ten months after the operation she has some intermittent residual abdominal pain and occasional diarrhoea, but is generally greatly improved.

Case 4—Practolol, 100 mg three times a day, was prescribed for angina of effort for a 63-year-old woman from February 1971 until October 1974, when it was stopped because of ocular changes. Colicky abdominal pain and vomiting developed in May 1975, and subacute small bowel obstruction was diagnosed. At laparotomy typical sclerosing peritonitis was found, but no definitive procedure was undertaken. After this operation she slowly deteriorated, and in January 1976 a lower abdominal mass was noted. She was transferred to St Thomas's Hospital, where a second laparotomy was performed and the membrane stripped completely from the whole of the small bowel and also from the large bowel. Her symptoms have since completely resolved.

Case 5—A 62-year-old woman was treated for angina with practolol from March 1973 to June 1975. Ocular and skin changes developed in January 1975 and nausea and vomiting a few months later. At laparotomy in May 1975 the typical features of sclerosing peritonitis were noted, but no definitive procedure was undertaken. After further attacks of chronic small intestinal obstruction and the development of a lower abdominal mass, she was transferred to St Thomas's Hospital. In May 1976 a second laparotomy was performed and the abnormal membrane stripped completely to free the small bowel. Four months later her condition was excellent.

Case 6—A 62-year-old man with angina received practolol, 100 mg three times a day, from July 1972 until April 1975, when ocular and skin side effects developed. Colicky abdominal pain first occurred in January 1976. At laparotomy in March 1976 typical sclerosing peritonitis was found, but no definitive procedure was undertaken. Postoperatively his symptoms continued. The patient was transferred to St Thomas's Hospital, and on 24 July the membrane was stripped from the small bowel from the duodenojejunal flexure to the caecum. He made a good recovery, but small pleural effusions and considerable bilateral pleural thickening were noted. A pleural biopsy specimen showed non-specific fibrosis.

Discussion

The typical appearances of the abdominal lesion have been well described^{2,4-18}. As in other reports, both from Britain and elsewhere, all our patients presented with the symptoms and signs of chronic intestinal obstruction, and these were not relieved by conservative treatment. Four of the patients also had a palpable abdominal mass caused by the matted small intestine cocooned in the characteristic fibrous membrane. In five patients the appearance of the sclerosing peritonitis at laparotomy was distinctive and similar to that reported by Brown *et al.*² Repeated laparotomies, however, may cause infection and conventional postoperative adhesions, which may confuse the characteristic appearances and make recognition and removal of the membrane difficult. This occurred in case 1. The fibrous membrane is usually restricted to a cocoon around the small bowel, but occasionally the large bowel peritoneum may be thickened, which may cause large bowel obstruction, as in case 1. The membrane may also extend on to the stomach as in cases 2 and 3, but we are not aware of any reports of gastric obstruction.

Unlike Brown *et al.*² we have not found radiology of the small bowel to be helpful, for in our experience the appearances are

only those of small bowel obstruction. Indeed, we believe the diagnosis is made by clinical assessment and not by ancillary investigations. The histological appearances of the removed membrane were similar to those reported,² but in case 1 they were difficult to distinguish from a fibrous reaction to the intra-abdominal sepsis.

Although a pleural effusion developed in case 1, we cannot be certain that it was part of the polyserositis that has occurred in similar patients,^{12,13,19-21} for it developed during her prolonged illness and may have been non-specific. The pleural thickening that developed in cases 2 and 6, however, is probably part of the syndrome.

We do not know how many patients with minor symptoms recover without surgical operation, but we were impressed by the repeated attacks of intestinal obstruction that occurred in our patients, and the dramatic relief obtained by surgical removal of the membrane. Procedures less definitive than complete removal of the membrane only delay recovery and make later laparotomies more difficult. It will be important to establish that such operations produce permanent improvement, for abdominal symptoms may develop months after stopping practolol,^{2,6,10,14,15,17} and the membrane may perhaps regrow after its removal. Case 2 has been followed for 16 months after operation, and his abdominal symptoms have not returned, but cases 1 and 3, who have been followed for 12 and 10 months respectively, still have mild abdominal symptoms.

We urge that sclerosing peritonitis should be considered in all patients with subacute intestinal obstruction who have taken practolol and that, if it is suspected, an elective laparotomy is performed by an experienced surgeon prepared to carry out a time-consuming operation that may last up to five hours. We emphasise that definitive stripping of all the abnormal tissue from both small and large bowel should be performed; details of this are reported elsewhere.²²

Finally, all that is abdominal pain is not sclerosing peritonitis. A man with the ocular syndrome caused by practolol was referred to us because of intermittent, severe, central abdominal pain, but investigation disclosed a chronic duodenal ulcer. At laparotomy there was no evidence of sclerosing peritonitis, and his pain was relieved by truncal vagotomy and gastro-jejunostomy.

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