Hospital Topics

Recurrent sigmoid volvulus in young people: a missed diagnosis

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Summary

In nine young patients with recurrent attacks of sigmoid volvulus there was a long delay before a correct diagnosis was made, yet volvulus was indicated in most of them by a well-taken history. All were treated successfully by excision of the redundant colon. This condition is not as uncommon in young people as was thought.

Introduction

Sigmoid volvulus is usually thought to affect the elderly,¹⁻³ so the finding of two women in their teens and another in her middle 30s with recurrent bouts of volvulus prompted us to see how often the condition occurred in young people. Examination of the notes of patients admitted to Guy's Hospital from January 1960 to December 1974 showed that 21 patients had been admitted with sigmoid volvulus, in seven of whom symptoms had started at the age of 35 or younger.

Two other young patients, one from Edenbridge Hospital and one from St Mark's Hospital, were also included. Each gave a similar history and in all cases there was a long delay before the diagnosis was made. We hope, therefore, that this report will indicate that recurrent sigmoid volvulus is not uncommon in young people.

Case reports

Case 1—This 19-year-old woman had suffered recurrent attacks of pain in the right iliac fossa from the age of 12; they occurred five or six times a year and consisted of a stab followed by an ache for about half an hour. In January 1972, when she was 17, a sudden cramp in the right side of the abdomen was followed by a stabbing pain for 12 hours, accompanied by vomiting. After similar symptoms the next night her appendix was removed and proved to be normal. Subsequently, she had "niggly pains" near the scar about every two weeks until September 1972, when weekly episodes of colicky abdominal pain and visible distension lasting up to two days began. These attacks would end with the passage of watery faeces and slime five or six times for four to six hours. Barium enema examination showed a long redundant sigmoid colon which "might be undergoing volvulus." Laparotomy in May 1973 showed white striae on the sigmoid mesocolon characteristic of recurrent sigmoid volvulus.⁴⁻⁶ After resection of the redundant colon she remained symptom free.

Case 2—This 43-year-old man had suffered for 20 years from constipation and a dragging pain in the left lower abdomen that occurred about twice a week and was relieved by bowel action. Barium enema 20 years after first seeking medical advice showed sigmoid volvulus; the colon was resected.

Case 3—This 22-year-old woman was always constipated. She had had intermittent abdominal distension for a year which was relieved by bowel action. She took antihistamines for hay-fever and had been treated for anorexia nervosa. A barium enema examination showed a long and redundant sigmoid colon. Laparotomy showed a "scarred sigmoid mesocolon," and sigmoid colectomy was performed.

Case 4—This 21-year-old woman was also always constipated. For three years there had been a nagging ache in the right iliac fossa and occasionally through to the back. She suffered occasional bouts of severe abdominal pain. A barium enema examination was suggestive of sigmoid volvulus. Laparotomy showed "fibrous markings on the mesocolon" and a long redundant sigmoid, which was resected.

Case 5—This 36-year-old woman had recurrent episodes of persistent lower abdominal pain with bouts of griping, lasting two to six hours, every three weeks for two years. She vomited 200-400 ml of yellow-green fluid within two hours of onset. During the episodes the abdomen was swollen and this was relieved by the passage of two or three loose motions. Symptoms became so bad that she resorted to pethidine and was suspended from her position as a nursing sister. A barium enema examination supported the probability of sigmoid volvulus. Laparotomy showed "white streaks" on the mesocolon, and sigmoid colectomy was performed.

Case 6—This 20-year-old man had suffered recurrent episodes of moderate to severe abdominal pain for three years. These were associated with distension and borborygmi lasting for up to two days two or three times a week. Each attack ended with the passage of much flatus. His mother thought the symptoms were psychological. A barium meal and enema examination showed nothing abnormal. At laparotomy white streaks were found in the sigmoid mesocolon, and sigmoid colectomy was performed.

Case 7—In this 37-year-old woman a clear mucous rectal discharge had been noted six years earlier; this was improved by propantheline bromide (Pro-Banthine), but she tended to become constipated. Ten weeks before emergency admission, bowel movements became irregular, the rectal discharge returned, and the abdomen became distended. A barium enema examination showed sigmoid volvulus. Symptoms were temporarily relieved by passage of flatus tube, but their recurrence necessitated sigmoid colectomy.

Case 8—This 50-year-old woman had been constipated for 20 years and took purgatives regularly. She was told that the recurrent abdominal distension and pain in the right iliac fossa were due to anxiety. Pain usually occurred at night two or three times a week and lasted for two hours. Pain was relieved by the passage of very loose faeces two or three times in an hour. Laparotomy showed white striae on the sigmoid mesocolon and dilated proximal colon (histologically normal). Colectomy with ileorectal anastomosis was performed.

Case 9—This 53-year-old man had had asthma since childhood and recurrent abdominal pain for 18 years. When aged 41 a barium enema examination showed an enormous colon, with the sigmoid touching the left diaphragm. He was reassured. Ten years later he was admitted with colicky abdominal pain for five days, distension, and constipation. An x-ray examination suggested sigmoid volvulus, which was relieved by passing flatus tube. When he became obstructed again a year later

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and was explored a long redundant sigmoid colon with white striae on the mesocolon was found and resected by Paul's operation. Histology showed normal innervation with definite myohypertrophy.

Discussion

Sigmoid volvulus is thus not uncommon in young people. A third of the patients seen at Guy's Hospital in the past 14 years started to have symptoms at an average age of 24.9 years. All had suffered repeated episodes of volvulus and in each case there was a long delay—from 1 year to 20 years—before the condition was recognised and treated.

In contrast with other series,⁷ in which sigmoid volvulus is two or three times more common in men than in women, we saw the condition in six women and three men. The explanation may be that our patients were younger and mentally normal, whereas in most series they have been old^{8, 9} and many have had mental disorders.^{7, 10}

Six of the patients complained of constipation, and four took laxatives. After operation each had a regular spontaneous bowel action. Two patients suffered from hay fever and another had had asthma from childhood for which he took choline theophyllinate, isoprenaline, and salbutamol. This raises the possibility that the respiratory condition or its treatment may have been an aetiological factor. Similarly, the illness in case 7 may have been influenced by long-term medication with propantheline bromide.

In most of our patients a well-taken history strongly suggested the diagnosis and received support from a good barium enema examination. The main symptoms were recurrent episodes of abdominal pain lasting usually two to 12 hours and as long as two days in two patients. During these times the passage of flatus was usually reduced and several patients vividly described feeling that their "insides were being twisted" and "blown up." In all cases the symptoms were relieved by the passage of flatus and, in most patients, several watery stools containing mucus. The pain was often generalised but usually began in or was localised to the right iliac fossa. Thus two patients were told they had a "grumbling appendix," and one patient (case 1) had hers removed. Vomiting was uncommon, occurring in only two patients.

The characteristic and diagnostic finding at operation is a whitish reticular thickening in the subserosa of the sigmoid mesocolon, the result of damage caused by repeated episodes of twisting (see fig). This appearance, in association with the appropriate history and radiological appearance, is an indication for sigmoid colectomy, which in our experience is safe and

White striae on sigmoid mesocolon and redundant loop of sigmoid colon.

invariably curative. Follow-up was for 18 months to 14 years with an average of five years. Ordinarily, some 30 cm of colon was resected, with end-to-end anastomosis. We have found no evidence of Hirschsprung's disease,^{8, 11} but muscular hypertrophy was seen in two patients who had had symptoms for 18 and 20 years.

Half the patients were seen in the past two years, which raises the question of whether this was due to an increasing awareness of the condition or to an actual increase secondary to, for example, a greater use of antihistamines and adrenergic drugs, a change of diet, or possibly altered bowel habit. Nevertheless, it is clear that volvulus is not as rare in young people as it was thought to be, and a greater awareness of the condition should prevent many patients suffering recurrent severe symptoms, the frustration of being told that their complaints are "psychological," and the danger of eventually presenting with complete obstruction, gangrene, or perforation of their colon.

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References

- 1 Drapanas, T, and Stewart, J D, *American Journal of Surgery*, 1961, **101**, 70.
- 2 Shepherd, J J, *British Journal of Surgery*, 1969, **56**, 353.
- 3 Wuepper, K D, Otteman, M G, and Stahlgren, L H, *Surgery, Gynecology and Obstetrics*, 1966, **122**, 84.
- 4 Friedlaender, E, *International Surgery*, 1970, **53**, 107.
- 5 Goligher, J C, *Surgery of the Anus, Rectum and Colon*, 2nd edn, p 1088. Baillière, Tindall, and Cassell, 1967.
- 6 Morson, B C, and Dawson, I M P, *Gastrointestinal Pathology*, p 493. Oxford, Blackwell Scientific Publications, 1972.
- 7 Sutcliffe, M M L, *British Journal of Surgery*, 1968, **55**, 903.
- 8 Hildebrand, H D, and Wilson, J W, *Canadian Journal of Surgery*, 1967, **10**, 449.
- 9 Carden, A B, *Australian and New Zealand Journal of Surgery*, 1966, **35**, 307.
- 10 Kerry, R L, and Ransom, H K, *Archives of Surgery*, 1969, **99**, 215.
- 11 Weeks, C, *Annals of Surgery*, 1929, **94**, 1050.

It has been said that polyuria in paroxysms of tachycardia is due to enhanced cardiac output. I find this implausible, especially as I have seen a patient who had polyuria some minutes after and not during the attack.

Cardiac output is not usually enhanced during paroxysms of tachycardia. With increasing heart rate a point is reached at which a further increase results in a rapidly diminishing stroke volume, owing to poor filling. Cardiac output, the product of stroke volume and heart rate, therefore falls. The critical point for this phenomenon varies from person to person, but is obviously reached at a lower rate in the diseased heart. Most paroxysms of supraventricular tachycardia occur at well above the critical rate, and, as a result, renal perfusion drops. Urine output falls and is further reduced by activation of the renin angiotensin system. At the end of an attack diuresis takes place. This is more likely to be noticed after a prolonged attack, especially if cardiac output was seriously reduced.

Can vitiligo be satisfactorily disguised by tattooing?

Tattooing is not recommended for disguising vitiligo. Though ochre and iron oxides in tattoos can produce a brown pigment, there is the impossible problem of adequate colour-matching with the surrounding skin. This is difficult enough with topical camouflages (artificial tans containing dihydroxyacetone and commercial preparations such as Covermark), which have the advantage that mistakes in matching are not irremediable. Tattooing is a drastic and near permanent measure. Extension or repigmentation of affected areas, both of which may occur in vitiligo, would not be disguised by tattooing and might look worse. Tattooing would also be useless in preventing sunburn of the vitiliginous areas.