Conservative surgery for vesicocolic fistula¹

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Summary: Vesicocolic fistula due to diverticular disease of the colon is conventionally treated by resection of the diseased bowel and closure of the vesical defect. Three cases are described in which separation of the viscera and simple suture of the vesical and colonic defects was carried out. A greater omental graft was interposed between the rectum and bladder. Two of the patients are well 12 and 26 months postoperatively. The third patient died a year postoperatively from a complication of her diverticular disease.

Introduction

In an address to the Royal Society of Medicine in May 1958, Mr L E Lockhart-Mummery said: 'Simple separation and suture of the two viscera involved in a [colovesical] fistula without resection of the diseased part is seldom satisfactory, has a high recurrence rate, and is not worth doing'. The purpose of this paper is to demonstrate that this, like so many other dogmatic surgical statements, is not always true.

Vesicocolic fistulae very seldom close spontaneously and ordinarily require surgery for their treatment. The operation that is usually performed involves separation of the fistula, closure of the vesical defect, and resection of the diseased bowel with a margin of healthy tissue. End-to-end anastomosis of the colon is carried out, and further colovesical adhesions may be discouraged by placing a sleeve of greater omentum around the anastomosis.

Sigmoid colectomy is known to have a high morbidity and mortality (Charnock *et al.* 1977) and some elderly patients who present with vesicocolic fistula may not be fit for such a procedure. Vesicocolic fistulae can arise in patients with minimal diverticular disease in otherwise healthy colons, so that, were it not for the presence of the fistula, there would be no indication for colonic surgery. Three cases are reported of vesicocolic fistula treated by simple division of the fistula with closure of the two involved viscera, and interposition of greater omentum.

Operative technique

The abdomen is opened through a lower abdominal incision. The viscera are best separated by blunt dissection and, indeed, can be pinched apart with finger and thumb quite easily without producing any damage. If colonic resection is considered necessary, the operation can be completed in the conventional manner. If, however, the bowel involvement is minimal or the patient is very unfit, then the colon is simply closed transversely and one, or at the most two, stitches are placed across the vesical defect. There is no need to resect bladder.

A patch of greater omentum is mobilized into the pelvis and is sutured to the back of the bladder to separate the two viscera. A drain is left for a few days.

Case reports

Case 1: A 50-year-old man had a two-year history of *E. coli* urinary tract infection and vesical stones on X-ray. He was treated by litholopaxy and a vesicocolic fistula was observed

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Figure 1. Barium enema of Case 1 showing limited diverticular disease. The bladder is outlined by a gas shadow

Figure 2. Barium enema of Case 3 demonstrates the stricture resulting from severe diverticular disease. The bladder contains both gas and barium

cystoscopically at that time. Barium enema demonstrated moderate diverticular disease of the sigmoid colon and gas in the bladder (Figure 1). He made an uneventful recovery from simple division of the vesicocolic fistula, except for a transient flare-up of his diverticular disease about a month postoperatively. He is at present well, 26 months after the original procedure.

Case 2: A woman aged 70 had a history of urinary tract infection and pneumaturia for three months. Barium enema showed diverticular disease with spasm, and at cystoscopy a fistula was apparent above the left ureteric orifice. Bimanual examination under anaesthetic demonstrated a small mass in the left iliac fossa. She was treated by simple division of the fistula and made a satisfactory recovery without complications. She is at present symptom-free one year postoperatively.

Case 3: An 85-year-old woman gave a history of urinary tract infections and frank faeces in the urine. Sigmoidoscopy showed a stricture 10 cm from the anal verge which was demonstrated by barium enema to be due to diverticular disease (Figure 2). The same investigation showed barium and gas in the bladder on the postevacuation film. The presence of a fistula was confirmed by cystoscopy. She was treated by simple division of the fistula because she would probably not have survived a more radical procedure. Postoperatively she nearly died from a respiratory tract infection which responded to physiotherapy and antibiotics. Eventually she made a satisfactory recovery and was discharged 15 days postoperatively. Two months later she was readmitted with subacute bowel obstruction which responded to suppositories and enemata. She also developed a *Pseudomonas* urinary tract infection which was treated with carbenicillin, but there was no evidence of reformation of her fistula. Twelve months after her operation she was admitted again with large bowel obstruction, and a defunctioning transverse colostomy was carried out. On this occasion she again developed respiratory failure and died the following day.

Discussion

Since 1958, when Lockhart-Mummery delivered his address, the importance of a high-fibre diet in diverticular disease of the colon has been recognized (Brodrigg & Humphreys 1976), resulting in a decrease of its general complications (Hyland & Taylor 1980). In addition, better agents such as metronidazole are used for exacerbations of the disease, so that direct colonic surgery is less often needed.

One of our patients was not fit for direct colonic resection, and the other two had colonic disease which did not, *per se*, require surgery. Following division of the fistula and effective prevention of its recurrence, no indication remains for colonic resection, and patients may be spared the associated mortality and morbidity.

References

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