Case 3 A wound leak

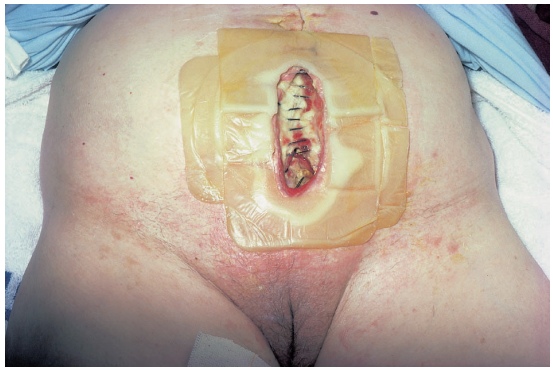

Figure 3.1

A housewife aged 68 years had a left hemicolectomy performed for severe diverticular disease complicated by a pericolic abscess. Her postoperative course was a stormy one. She developed a severe pulmonary collapse (she had been a heavy smoker), had a marked paralytic ileus, with severe abdominal distension and ran a persistent pyrexia. After a week, the abdominal scar was noted to be considerably inflamed and 3 days later faecal fluid and flatus began to discharge through its lower end, as shown in Fig. 3.1.

What is this condition called?

Postoperative faecal fistula, which has resulted from an – at least partial – break down of the large bowel anastomosis.

What is the definition of the term 'fistula'?

A fistula is a pathological communication between two epithelial surfaces – in this case, colon and skin. We have to add the word 'pathological' to this definition otherwise some purist would be able to call the alimentary tract a 'fistula between the mouth and the anal verge'!

What is the sheet of material that has been affixed around the fistula called and what is its importance?

This is a sheet of Stomahesive. A central hole has been cut out of it, which corresponds to the opening of the fistula. This material is invaluable. Unlike other dressings, it adheres to the skin even when this is wet and soggy. A collecting ileostomy pouch is attached to the Stomahesive. This prevents the enzyme-containing effluent intestinal contents from reaching, and digesting, the skin around the fistulous opening.

Before this material was available, gross excoriation of the skin was a distressing complication of bowel fistulae, especially of the upper alimentary tract, where the trypsin from escaping pancreatic juice is particularly harmful in this respect.

How can the track of the fistula be visualized radiologically?

By the injection of radio-opaque contrast fluid, for example Gastrografin, through a fine catheter into the fistula – a fistulogram. In Fig. 3.2 contrast is introduced into a midline wound fistula and rapidly fills a loop of small bowel and then moves on into the colon. There is contrast already in the rectum from a previous contrast enema.

In general terms, what conditions will prevent any fistula from healing spontaneously?

- If the two ends of the intestine are not in apposition to each other (Fig. 3.3a).
- If the mucocutaneous junction of the fistula has epithelialized (Fig. 3.3b). This is why a surgically established colostomy or ileostomy will not close – the surgeon sutures the mucosal edge of the bowel to

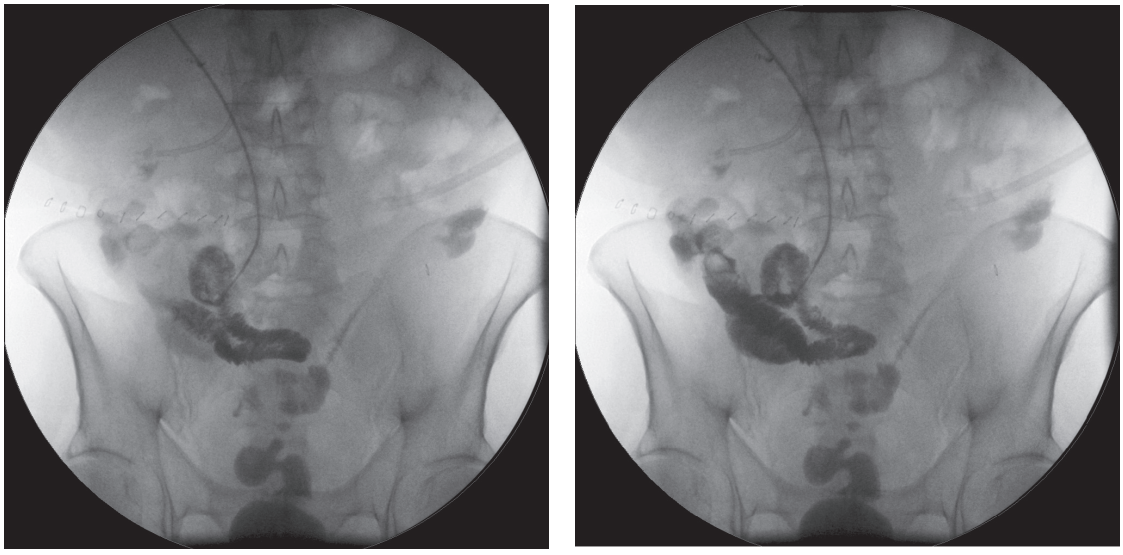

Figure 3.2 X-ray of a fistulogram.

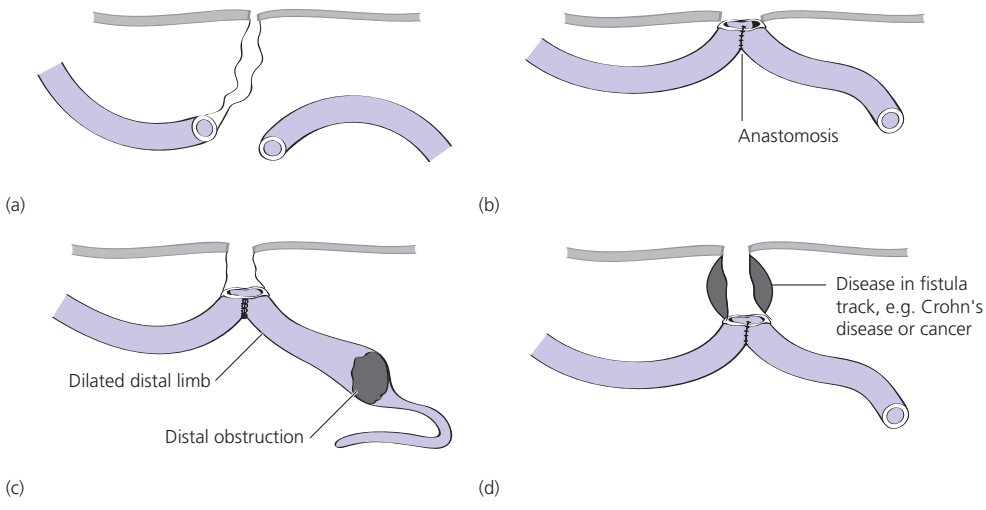

Figure 3.3 Causes of persistent fistulae: (a) bowel ends not in apposition, (b) mucocutaneous junction of the fistula has epithelialized, (c) distal obstruction to flow, and (d) disease in the fistula track.

the adjacent skin margin. The first step in closure of a stoma is to detach the mucosa from the skin edge.

- If there is distal obstruction (Fig. 3.3c); for example, a suprapubic cystostomy will close within a few days of removal of the cystostomy tube in the normal subject, but if there is distal obstruction, from an enlarged prostate or a urethral stricture, for example, the fistula goes on draining urine.
- If there is disease in the fistula track; for example, if the bowel fistula leads down to an area of Crohn's disease (Fig. 3.3d).

What are the principles in the treatment of a bowel fistula?

This has been summarized in the acronym SNAP:

- Skin: Protect the skin around the fistula from excoriation by means of Stomahesive and a stoma pouch to collect the effluent.
- Nutrition: Replace the patient's fluid and electrolytes, ensure adequate nutrition and restore the haemoglobin level if necessary. (Note that in a high intestinal fistula this will require parenteral nutrition by means of an intravenous central line.)
- Anatomy: Investigate the anatomy of the fistula by means of a fistulogram, often combined with an abdominal CT scan; drain any pus collection.
- Plan and proceed: If any factors are found to be present that will prevent spontaneous healing of the fistula (see question above), plan an appropriate surgical strategy and proceed when the patient's general condition has been returned to as near normal as possible. This may take several months.