Sigmoid volvulus

A **volvulus** is a twisting or axial rotation of a portion of bowel about its mesentery. When complete it forms a closed loop of obstruction with resultant ischaemia secondary to vascular occlusion.

Volvuli may be primary or secondary. The primary form occurs secondary to congenital malrotation of the gut, abnormal mesenteric attachments or congenital bands. Examples include volvulus neonatorum, caecal and sigmoid volvulus. A secondary volvulus, which is the more common variety, is due to actual rotation of a piece of bowel around an acquired adhesion or stoma.

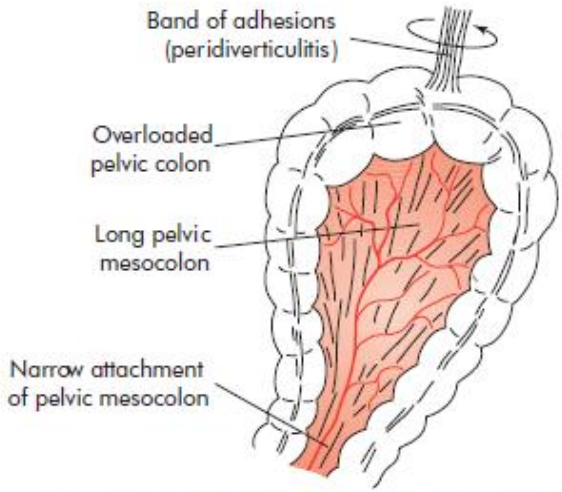

Figure 66.6 Causes predisposing to volvulus of the sigmoid colon. Idiopathic megacolon usually precedes the volvulus in African people.

Predisposing factors

1) Narrow attachment of pelvic mesocolon
2) Overloaded pelvic colon.
3) Long pelvic mesocolon.
4) Band of adhesions (Peri diverticulitis)

Rotation nearly always occurs in an anticlock wise direction.

High residue diet and chronic constipation predispose to sigmoid volvulus.

Clinical Features

The symptoms are those of large bowel obstruction which may initially be intermittent, followed by passage of large quantities of flatus and feces.

Presentation varies in severity and acuteness with younger patients appearing to develop the more acute form. Abdominal distension is an early and progressive sign which may be associated with hiccough and retching. Vomiting occur late. Constipation is absolute. In the elderly a more chronic form may be seen.

Investigations

Plain radiography shows massive colonic distension.

The classic appearance is a dilated loop of colon running diagonally across the abdomen from right to left (inverted U shape pointing to the right upper quadrant), with two fluid levels seen, one within each loop of bowel. Barium enema shows bird beak deformity.

Treatment

First apply the usual measures applied for every case of intestinal obstruction:

1) Correction of fluid and electrolyte deficit
2) Nil by mouth
3) Nasogastric decompression
4) Antibiotic cover.

If the patient proved to have sigmoid volvulus on radiographic bases, do rigid or flexible sigmoidoscopy, this will:

1) Confirm the diagnosis
2) Assess the viability of the colonic mucosa in the affected segment
3) Therapeutic in ≅ 85% (Reduction of the volvulus).

If successful reduction is achieved & the colonic mucosa appears viable, the patient can undergo bowel preparation prior to sigmoid resection at this hospital admission.

Conservative management alone has recurrence rate of 30-90% making resection as the only viable option.

Indications of urgent surgery include:

1) Hematochezia **2)** peritonitis **3)** free intraperitoneal air **4)** endoscope shows ischemia.

With such conditions, **Hartman's** procedure should be performed as the risk of primary anastomosis in this setting will be unacceptable.

(A)

(B)

Volvulus of the sigmoid colon (A) before and (B) after untwisting