VOLVULUS OF SMALL BOWEL DIAGNOSED PRE-OPERATIVELY

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Volvulus of the small bowel is a comparatively rare condition. In Vick's (1932) collective statistics of 6,892 cases of intestinal obstruction volvulus was the cause in 176, one-fifth of them involving the small bowel. Most authors stress the difficulty of early diagnosis, and pre-operative diagnosis of this condition is so rare as to warrant the publication of the following cases.

Case 1

A 42-year-old woman was admitted to Surgical Department A of Frederiksberg Hospital as an acute case with a history of recurrent attacks of abdominal pain after undergoing a total hysterectomy for fibroids in a gynaecological department one year earlier. Thirty-six hours before admission diffuse pains had started in the upper abdomen; her bowels had been open 20 hours before admission. During the last 12 hours the pains had moved down in the right lower quadrant, and no flatus had passed.

On examination her temperature was 38.2° C., pulse 100. The tongue was dry, and direct and rebound tenderness was elicited in the right iliac fossa with a maximum about McBurney's point. The lower midline scar after the operation showed no hernia. A pelvic examination revealed extreme tenderness on both sides, especially the right. With a preliminary diagnosis of intestinal obstruction, perhaps appendicitis, operation was decided upon. (A phone call to the gynaecological department had given information of the extent of the gynaecological operation.)

At operation the abdomen was opened through a right lower pararectal incision; large amounts of thin faecal-smelling fluid gushed out, and dilated coils of small bowel were found. After removal of the normal appendix a cystic mass the size of a grapefruit was found in the pelvis. When lifted forward it was seen to consist of a gangrenous loop of ileum, twisted twice anti-clockwise. After cutting a fresh adhesion to the left ovary, detorsion was easy. A resection of 30 cm. of small gut with side-to-side anastomosis was carried out. The post-operative course was smooth.

Case 2

A 36-year-old woman was admitted to hospital for ileus one month after Case 1. Six months previously a supra-vaginal amputation of the uterus and a bilateral salpingo-oophorectomy had been done in the gynaecological department for benign disease. Since then she had had several attacks of pain in the right fossa. For three days she had been suffering from meteorism and borborygmi; her bowels had last been open 48 hours before admission. No flatus had been passed during the past 24 hours, and she had vomited three times. Clinical assessment of this case was rendered difficult because she had received several soothing injections by attending doctors at home before admission.

On examination the temperature and pulse rate were normal; the tongue was dry. The abdomen showed a lower midline scar; there was no dilatation or tenderness. A pelvic examination revealed a mobile uterine stump. With a suspicion of small-bowel volvulus—being wise after the above case—a straight x-ray examination of the abdomen was made. This revealed a coil of small bowel filled with fluid and air, showing air and fluid levels in the pictures taken with the patient erect: this is a characteristic picture of volvulus.

At operation the abdomen was entered through a lower midline incision through the old scar. Bloody fluid was met with. A dilated, bluish-red coil of ileum was found twisted once anticlockwise, fixed by a fibrous band to the mesentery and some smaller ones to the upper part of the old scar.

The gut was freed, and detorsion was easily accomplished. As the gut was viable the abdominal wall was closed in layers. The post-operative course was uneventful.

Discussion

Any condition causing fixation of one part of the gut while the neighbouring coil is mobile may lead to volvulus. It seems probable that a sudden filling of one segment of gut may lead to volvulus (Kerr and Kirkaldy-Willis, 1946), and peculiarities of diet may contribute to this (Kallio, 1932). According to McKechnie and Priestley (1936), the ileum is most frequently involved, especially the lower and middle parts. The gut rotates around the axis of the mesenteric artery, and a closed loop obstruction ensues. Torsion may be intermittent, but in some cases oedema and adhesions cause fixation of the rotated loop. This again leads to venous and arterial obstruction, oedema, growing dilatation, and fluid accumulation in the coil. Gangrene, perforation, and peritonitis will follow if intervention is delayed, and the mortality is high.

In the aetiology, congenital anomalies—malrotation, exomphalos, jejunal diverticula, or Meckel's diverticulum (Christensen, 1954)—may play a part. In adult persons acquired conditions—adhesions, tuberculosis, internal herniae, foreign-body impaction, tumours of the small gut (Ogilvie and Shaw, 1955)—are the cause. Torsion of the gut may also take place following gastro-enterostomy or subtotal gastrectomy (Poulsen, 1954).

Pre-operative diagnosis is very difficult. Attacks of colicky pains, vomiting with comparatively painless intervals, and tenderness of the abdomen should lead to a suspicion of volvulus. No dilatation is seen. In some cases, according to Evans and Bigger (1947), there is a definite "position of relief," as a rule on one of the sides, rarely the knee-elbow position: tension on the mesentery is relieved in this way. The x-ray picture is important: in about half the cases the typical arch pattern is seen, while the rest show multiple dilated coils and fluid levels in the erect films (Ripstein and Miller, 1950).

Early recognition and operation is of course imperative to counter the still too high mortality of strangulating obstruction of the small bowel.

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Medical Memoranda

A Case of Primary (Adeno) Carcinoma of the Jejunum

Adenocarcinoma of the jejunum or ileum is uncommon. Males are said to be affected twice as often as females, but collected series differ on whether the jejunum or the ileum is more frequently involved. In our case the lesion was in the proximal quarter of the jejunum. The cases are usually late in presenting, owing to the fluid nature of the contents of the small bowel, and the prognosis is poor. A resection is said to be possible in more than 50%, but the operative mortality is in the vicinity of 30% to 40%. The pre-operative correction of anaemia, hypoproteinaemia, and fluid and electrolyte deficiency should lower this figure. No more than 5% of the cases can be expected to survive a five-year follow-up. Kiefer (1933) gives the average duration of life after resection as one year, and Mayo and Nettrour (1937) as eighteen months.

CASE HISTORY

A man aged 77 presented in the out-patient department of Queen Mary's Hospital for the East End with a history