easy to define. Six months later she was in excellent health. The mass in the lower right abdomen was still present but much smaller, and two normal menstrual periods had occurred.

COMMENT

The essential anatomy of this case was, in Schumann's (1931) classification, that of an extraperitoneal intraligamentary ectopic pregnancy. An uncommon type, it arises by slow erosion of the Fallopian tube so that the extruded ovum grows out between the layers of the broad ligament. At the time of operation the foetal circulation was still intact, and all tissues, foetal and maternal, were healthy. There was no haemorrhage, thrombosis, sepsis, or adhesions to complicate operation. The placenta, with its maternal blood supply intact, could be safely left and expected to undergo complete absorption.

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Transepiploic Hernia : Spontaneous Hernia through the Greater Omentum

Herniation of a viscus through a defect in the greater omentum is not common. The defect may arise *de novo*; it may follow surgery or disease. Dolton (1944), referring to mesenteric defects, quotes Prutz's classification, which can be applied to omental defects, as follows: (1) congenital, (2) spontaneous (arising as a primary condition during life), (3) following trauma, (4) following surgery, and (5) following inflammation. It is generally believed that most of these defects are acquired and belong to group 2. However, examples have been found in the full-term foetus; furthermore, it has been shown that if during development epithelial layers are opposed without enough intervening tissue they tend to fuse and leave a gap. Martzloff (1930) ascribes them simply to atrophy of connective tissue. Tanner (1946) notes that similar herniae through the transverse mesocolon occur in areas where the tissues are thin and tenuous and the blood supply poor. Reports of such spontaneous herniae are few. Johnson (1950), in a paper on internal herniae, mentions the conditions briefly. The most complete account appears to have been given by Gubler and Yedinak (1950). They quote Martzloff (1930), who found 15 reported cases that were recognized on account of the complication of obstruction or strangulation; all but one of these involved the small bowel, and no age group was exempt. Of nine who were operated on, eight recovered; in three unoperated cases the patients died; and the notes of the other three were incomplete. The authors quote five more cases since 1930 and report one of their own.

CASE REPORTS

The following two new cases occurred within one week of each other.

Case 1.—A boy aged 15 was admitted complaining of colicky central abdominal pain and vomiting for eight hours. He had eaten a number of green sour apples earlier that day. There was nothing relevant in the past or family history. His temperature was subnormal, pulse 100, respirations 20. His abdomen was a little distended, with generalized tenderness and guarding, most pronounced in the right iliac fossa, where there was a positive release sign. Bowel sounds were increased and obstructive in character; rectal examination was normal. Gastric aspiration and intravenous replacement therapy were started after a diagnosis of obstruction, with early strangulation, had been made. Through a right paramedian incision a moderate amount of

free sero-sanguineous fluid was found. Distended coils of small intestine presented, and the site of obstruction was seen to be about 4 in. (10 cm.) from the ileo-caecal valve, where about 2 in. (5 cm.) of ileum had strangulated through a hole in the omentum close to its free border. The gut was viable, and it was easy to relieve the strangulation and prevent recurrence. Recovery was uneventful.

Case 2.—A woman aged 50 was admitted complaining of abdominal pain for 12 hours, which had at first been generalized but had largely settled in the right iliac fossa some four hours before admission. She had vomited twice and the bowels had not been opened since the onset. There was nothing relevant in her past or family history. Her temperature was 98.6° F. (37° C.), pulse 96, respirations 20. The tongue was slightly furred. Her abdomen was not distended, and, though there was some generalized tenderness, it was maximal with guarding and a positive release sign in the right iliac fossa. Per rectum there was tenderness on both sides of the pouch of Douglas. So far the history and physical signs suggested acute appendicitis, but on auscultation bowel sounds were increased. Through a right paramedian incision free fluid was found as in the first case. About 12 in. (30 cm.) of mid-small-bowel had strangulated through a hole in the omentum. The strangulation was more severe this time, but the gut was quite viable and relief was effected as before. Recovery was uneventful.

COMMENT

The behaviour of internal herniae differs from that of external herniae in one important respect. Whereas there is a pressure gradient in the latter between the general peritoneal cavity and the hernial sac keeping the contents in place, there is no such force in the case of the internal variety, unless superadded obstruction is present. Once obstruction has developed, the enhanced peristalsis of the proximal loop is unremitting and leads to strangulation. Partial obstruction (excluding Richter's type) and spontaneous relief do not occur in this form of hernia.

It follows that simple internal hernia, unlike the external, is a very transient and symptomless, though recurrent, affair, resulting from the normal movements of the bowel. It is only when the neck and sac are huge that the exception occurs. For practical purposes the contents of an internal sac remain in place only in the presence of obstruction, and it is thus only that the condition is recognized clinically. It does not feature as a cause of recurrent abdominal pain of the type associated with intermittent obstructive attacks.

At first sight it may seem unlikely that omentum, being unfixed, easily displaced, and in these two cases so flimsy, should form the neck of a hernia at all. At all other hernial sites the neck is fixed and its edges are relatively rigid. A very forceful peristalsis must occur to cause the bowel to pass suddenly through this yielding gap. This can be assumed to have happened in Case 1, the young boy first having had colic as a result of eating sour apples. Once the herniation has occurred the omental neck is likely to give way and tear to a certain extent. Soon, however, the effect of trauma, causing inflammatory congestion, turns the neck into an unyielding ring so that strangulation can occur.

In both cases mentioned the gap was close to the free edge of the omentum. The omentum was thin and lace-like, though no other holes were found.

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