INTESTINAL OBSTRUCTION IN
A CASE OF DUPLICATION OF THE TERMINAL ILEUM

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Duplication of the alimentary tract is a rare but
well-known condition, the aetiology of which is
imperfectly understood. The present knowledge
and theories are discussed by Willis (1958). Dupli-
cations occur on the dorsal or mesenteric aspect of
the normal alimentary tract and may or may not
communicate with it. Often they do not communi-
cate and the secretions of the epithelial lining lead
to cyst formation, giving rise to a variety of
symptoms. Such cysts are found throughout the
alimentary tract but are most common in the
terminal ileum. They are lined by epithelium,
which resembles the adjacent bowel but which may
contain any type of intestinal epithelial cell. The
muscular coat is intermingled with that of the
adjacent bowel and their blood supply is common,
making operative dissection of the cyst impossible
(Gross, 1953).

Intestinal obstruction may result from pressure on
the adjacent bowel when it and the cyst lie where
movement is restricted. Duodenal duplications
are particularly prone to give rise to obstruction in
infancy, showing a picture akin to that seen in
pyloric stenosis. Duplications in the rest of the
bowel are not likely to give rise to early obstruction
as the bowel can be displaced by the growing cyst.

A case is described in which an anatomical
structure was seen to be the cause of the neonatal
intestinal obstruction.

On examination the child was slightly dehydrated but
in good general condition. Peristalsis was visible and
bowel sounds were excessive.

In the right iliac fossa there was a smooth well defined
cystic swelling, which was mobile in both directions. On
rectal examination the lump could be felt bimanually and
its smooth surface and cystic nature were confirmed. It
was also noted to be grooved rather like a plum.

A plain radiograph of the abdomen showed distended
loops of small intestine. The appearance of the chest
and spine were normal on the antero-posterior radio-
graph (see Fallon, Gordon and Lendrum, 1954).

A diagnosis of low small bowel obstruction was made
and was thought to be due to the palpable cystic mass.
It was felt that this must therefore be a duplication of the
ileum. The significance of the groove was not appreci-
ated.

Rehydration was begun and the child was submitted
to laparotomy. Through a right lower rectus-splitting
incision the abdomen was entered and the ileo-caecal
region was exposed. The terminal ileum was obstructed
by a cystic swelling on the mesenteric border, the normal
bowel being compressed against a firm vascular band
running to the caecum. The diagnosis of duplication
was therefore confirmed and a resection of the ileum
adjacent to the cyst and the caecum was performed. A
two-layer end-to-end anastomosis was made between the
ileum and ascending colon, and the mesentery was
repaired.

The bowel sounds returned on the second post-opera-
tive day and normal feeding was resumed on the fourth
day. He was discharged on the twentieth post-operative
day having been delayed by a persistent oral thrush.

This specimen removed at operation consisted of a
cystic mass 5 cm. in diameter on the mesenteric border of
the ileum at the ilio-caecal angle (Fig. 1). The normal
ileum was shown to be patent by passing a probe into
the caecum but the lumen was compressed by a cyst.
Acute obstruction occurred where the vascular fold of
the caecum formed an unyielding structure on the anti-
mesenteric border of the bowel (Fig. 2). This fold is a
normal anatomical structure and contains the anterior
caecal branch of the ileo-colic artery. This formed the

Case Report

N.S., a male child, was admitted aged 15 days.
Delivery had been normal at full term and his birth
weight was 9 lb. He had been fed with National Dried
Milk. Meconium was passed and a normal stool was
seen on the fourth day. The bowels continued to be open
until the fourteenth day, when vomiting, which had been
occasional and mild, became marked and changed from
milk curds to brown fluid.
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A number of such cases have been described. It is less common for obstruction to be caused by obstruction of the ileo-caecal valve, although Gross (1953) mentions six cases. In the case here recorded I suggest that intestinal obstruction occurred early in life because the ileum was compressed against the vascular fold of the caecum. Pachman (1939) and Hardaway, Wedgwood, Swartley and Rudman (1952) record similar cases at the ages of 2 and 5 days respectively. They do not mention the presence of the caecal fold though in both cases the description and photographs lead one to suspect that this may have been the cause of the obstruction.

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REFERENCES

Discussion
A reduplication cyst of the terminal ileum is a rare cause of intestinal obstruction. These cysts may cause obstruction due to intussusception and groove which was palpable per rectum. Microscopically the cyst was lined by flattened epithelium of the small bowel type. In some areas groups of cells were seen similar to Brunner’s glands of the duodenum.