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CASE REPORT

T. Hasegawa · T. Sakurai · O. Monta · Y. Tazuke
S. Ueda · Y. Iwasaki · Y. Morimoto · S. Mizutani
J. Sumimura · H. Ban · T. Dezawa

Transumbilical resection and umbilical plasty for patent omphalomesenteric duct

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Abstract This paper describes a transumbilical resection and umbilical plasty for treatment of a patent omphalomesenteric duct (POMD). In a newborn infant with a POMD, a skin incision was made circumscribing the mucocutaneous junction of the protruded duct. The duct was completely extirpated with a wedge resection of the connection to the intestine and an umbilical plasty was performed. The postoperative appearance was excellent. It appears that transumbilical resection and umbilical plasty may be a satisfactory operation for POMD.

Key words Patent omphalomesenteric duct · Transumbilical approach · Umbilical plasty

T. Hasegawa (✉)[1]
Department of Pediatric Surgery,
Kinan General Hospital, 510 Minato,
Tanabe City, Wakayama,
Japan 646

T. Sakurai · O. Monta · Y. Tazuke ·
S. Ueda · T. Iwasaki · Y. Morimoto ·
S. Mizutani · J. Sumimura
Department of Surgery,
Kinan General Hospital, 510 Minato,
Tanabe City, Wakayama,
Japan 646

B. Ban · T. Dezawa
Department of Pediatrics,
Kinan General Hospital, 510 Minato,
Tanabe City, Wakayama,
Japan 646

Present address:
[1]Department of Pediatric Surgery,
Osaka University Medical School,
2-2 Yamadaoka, Suita, Osaka,
Japan 565

Introduction

A patent omphalomesenteric duct (POMD) is a form of umbilical remnant with a communication between the umbilicus and intestine that requires surgical resection [3, 6, 7, 9]. Complete resection is usually performed by entering the abdominal cavity through an upper or lower transverse incision or using an additional incision [1, 3, 5, 6]. However, these methods result in a large operative wound. We present a patient with a POMD who underwent complete resection of the duct through a transumbilical approach followed by an umbilical plasty.

Case report

A male, term infant with an uneventful perinatal course developed a purulent, green liquid discharge from the umbilicus at the age of 3 days. Intestinal mucosa protruded from the umbilicus and stool was eliminated from the central orifice (Fig. 1). Fistulography through the orifice visualized a POMD and small intestine. At operation on the 10th day of life, a circular skin incision was made around the mucocutaneous junction to enter the abdominal cavity. The duct was successfully dissected from the abdominal wall (Fig. 2). The connection of the duct to the small intestine was resected in a wedge-shaped fashion using interrupted one-layer 5-0 Maxon sutures. An umbilical plasty was performed after closure of the muscular layer. Histology of the duct showed intestinal structures without ectopic tissue. The postoperative course was uneventful. The cosmetic appearance of the umbilical plasty was excellent 3 weeks after the operation (Fig. 3).

Discussion

A POMD requires surgical resection because of the possible complications such as infection of the umbilicus, bleeding from the protruded intestinal mucosa, prolapse of the intestine, strangulation ileus, and the potential for malignancy [1, 2, 7–9]. Surgical treatment inevitably requires a laparotomy to resect the connection to the intestine. Most resections have been performed through a transverse infraumbilical incision, a transverse supraumbilical incision, a wide elliptic incision, or a laterally or vertically extended incision in addition to the circumscribing approach [1, 3, 5, 6]. However, these approaches produce a large, invasive operative wound.

To minimize both invasiveness and the length of the wound, we elected a transumbilical approach via a circular incision around the mucocutaneous junction, as recommended by Shaw [7], and performed an umbilical plasty. Dissection of the duct from the abdominal wall was easy, and the abdominal cavity was entered without any additional incision. Wedge resection of the connection to the intestine and the umbilical plasty were performed without difficulty. The postoperative appearance was excellent.

Recently, as a less invasive procedure, laparoscopic resection of the umbilical remnant has been attempted [4], but this requires the

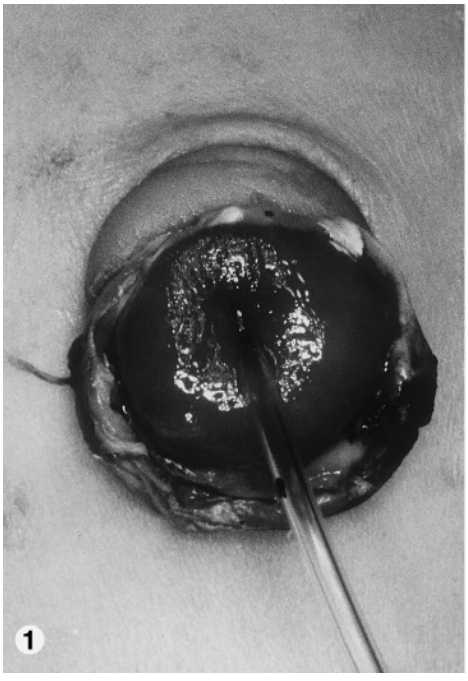

Fig. 1 Gross appearance of umbilicus with protruding intestinal mucosa and 6 Fr catheter inserted through the orifice

Fig. 2 Patent omphalomesenteric duct successfully dissected from abdominal cavity

Fig. 3 Appearance of umbilical plasty 3 weeks after operation

insertion of at least two trocars that require wide openings in the abdominal wall, which may be larger than that in the present method. Therefore, the laparoscopic approach appears less advantageous than the described transumbilical approach. However, when necrosis of the prolapsed intestine or strangulation of the intestine is suspected, the transumbilical approach may not be sufficient to allow resection of the intestine.

In conclusion, transumbilical resection and umbilical plasty may be a satisfactory alternative for surgical correction of POMD.

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