Anal Canal Duplication in a 12-Year-old Girl

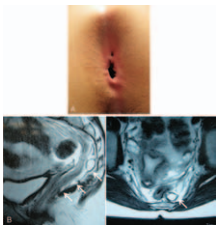

FIGURE 1. (A) orifice of the duplication of the anal canal in the midline behind the anus (prone position), (B) MR images of the patient showing the duct and the presacral cysts. MR = magnetic resonance.

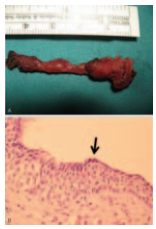

FIGURE 2. (A) The macroscopic view of the surgical specimen, (B) histological examination of the duct, which was predominantly lined with squamous, and focal with columnar and transitional epithelium (arrow).

A 12-year-old girl was referred for intermittent abdominal pain and mucous discharge around the anus. Physical examination revealed a secondary anal orifice located at 6 o'clock posterior to the anus diagnosed as anal canal duplication (Fig. 1A). Magnetic resonance imaging (MRI) showed a duct with presacral cysts posterior to the rectum (Fig. 1B). The duct and associated cystic structures were removed through a posterior sagittal approach. All structures were adjacent, but separated from the rectum. The postoperative course was uneventful with normal anal function. The operative and classic histological findings of the specimen supported our preoperative diagnosis (Fig. 2A and B) (1).

Anal canal duplication is a secondary anal orifice located posterior to the true anus on the midline and is the least common duplication of the alimentary tract. So far, fewer than 100 cases are reported in the literature (2–4). It is predominantly found in girls. Early diagnosis can be made by simple perineal inspection. Before surgery, pre-operative imaging is important to determine the extent of the lesion proximally. Most anal canal duplications have a tubular structure, although they do occasionally have a cystic component proximally, as in our case. Surgical removal is recommended (3,5,6).

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Preduodenal Portal Vein Associated With Intestinal Malrotation as a Possible Cause of Intermittent Acholia

FIGURE 1. Gastrointestinal transit showing a duodenum with no rotation, which remains on the right of the midline with the rest of the small intestine.

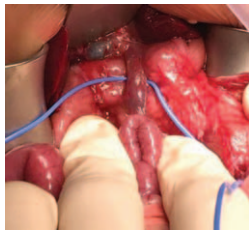

FIGURE 2. Intraoperative image showing a preduodenal portal vein (blue vessel loop) compressing the duodenum.

A 2 week old girl, born at 32 weeks gestational age and birth weight 1900 g, presented with occasional acholic stools. Abdominal examination was normal. Biochemical study revealed high-serum gamma-glutamyl transferase (GGT) levels (114 U/l [normal: 11–50 U/L]), normal alkaline phosphatase (252 U/L [150–400 U/L] and normal conjugated bilirubin (0.2 mg/dL [0–0.2 mg/dL]). Doppler ultrasound showed inversion of the superior messenteric vessels and a normal biliary system. Gastrointestinal contrast study revealed intestinal malrotation (Fig. 1). Exploratory laparoscopy confirmed a nonrotation of the midgut (malrotation type 1A) (1) and a preduodenal portal vein (PPV) causing partial obstruction (Fig. 2). After a Ladd bands procedure, laparotomy was necessary to perform an end-to-end duodenojejunal anastomosis anterior to the PPV. Stools became normal after the operation, and the GGT levels decreased to 25 U/L 3 months later.

PPV is an infrequent cause of duodenal obstruction (4%) (2). Three-fourths of them have a defective situs determination. Half of children remain asymptomatic. We, however, suspect its involvement in our patient intermittent acholia.

On the other hand, intestinal malrotation has an incidence of 0.2% (3) and a PPV should be considered during its operative correction (4). Duodenoduodenostomy and duodenojejunostomy are the most described surgical treatments when this vascular anomaly leads to a complete or partial blockage (5).

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The authors report no conflicts of interest.

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