



Multiple intestinal atresias associated with angiodysplasia in a newborn

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Abstract This is a report describing the association of multiple small bowel atresias with multifocal angiodysplasia of the intestinal wall in a newborn. To the authors' knowledge, such association has never been reported.

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Small bowel atresia is a main cause of intestinal obstruction in the neonatal period. When multiple, they can account for up to 32% of atretic intestinal lesions [1]. The best accepted hypothesis concerning the etiology of most intestinal atresias is that of an accident affecting the mesenteric vasculature during embryonic development [2].

Intestinal angiodysplasia refers to the presence of abnormally large, thick-walled, and ectatic blood vessels in the intestinal wall. Although a relatively common cause of gastrointestinal blood loss in the elderly, it is rarely seen in the pediatric population [3,4].

We here report the case of a newborn with multiple small bowel atresias in conjunction with diffuse angiodysplasia affecting the intestinal wall, which, to our knowledge, has not been reported.

1. Case report

1.1. Clinical summary

A 35-week-gestation newborn girl was transferred to St Christopher's Hospital for Children because she had been noted, at prenatal ultrasound evaluation, to have dilated bowel loops. Upon arrival, she presented with abdominal distension and bilious emesis. Abdominal radiographs confirmed the suspicion of dilated bowel loops. An upper gastrointestinal study demonstrated no malrotation and a normally positioned ligament of Treitz. Barium enema showed a microcolon.

1.2. Operative findings and procedure

At laparotomy, after performing a transverse right upper abdominal incision and uneventful dissection into the peritoneal cavity, it was possible to deliver the entire small bowel and examine the organ, which disclosed 4 atresias in the small bowel. The most proximal was jejunal with a markedly dilated proximal segment ending blindly, corresponding to a

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type 3A atresia in the Grosfeld, Ballantine, and Shoemaker classification [5]. Just distal to this area was a 1-cm segment with atresias on both sides. The proximal part was associated with the proximal jejunal atresia, as described above; and the distal part was a type 2 atresia that was resected with electrocautery. The open segment of jejunum was then inspected; and a red rubber catheter was passed, but would not go beyond 2 cm, confirming the presence of a type 1 atresia at this point. This area was also resected. The distal bowel was then examined, revealing another type 3A atresia in the ileum, representing the fourth atresia. Saline solution was then passed through the remaining segments of intestine, which was the vast majority of the small intestine, with passage of the fluid into the cecum. The proximal jejunum was then tapered with the stapler. The bowel just distal to this point was opened on its back, and end-to-back anastomosis was performed with interrupted 5-0 PDS. The mesenteric defect was then closed with a 4-0 Vicryl. The distal bowel was then examined, and short segments were resected to

fashion the ends for appropriate anastomosis. Both ends were opened on the back, and an anastomosis was performed in a single layer with interrupted 5-0 PDS. The mesenteric defect was also closed with 4-0 Vicryl. The bowel was returned to the abdominal cavity, and irrigation was subsequently performed with warm saline solution. The fascia was closed in 2 layers with running 3-0 Vicryl. The Scarpa layer was closed with 4-0 Vicryl, and the skin was closed with 5-0 Monocryl.

In the surgeon's judgment, less than 10% of the small bowel had been resected.

1.3. Histopathology

Histological examination of the surgical specimens corresponding to the atretic segments of ileum and jejunum and their vicinity showed several abnormally enlarged and ectatic blood vessels in the submucosa and dilated capillaries in the lamina propria (Fig. 1). Most of the vascular channels had

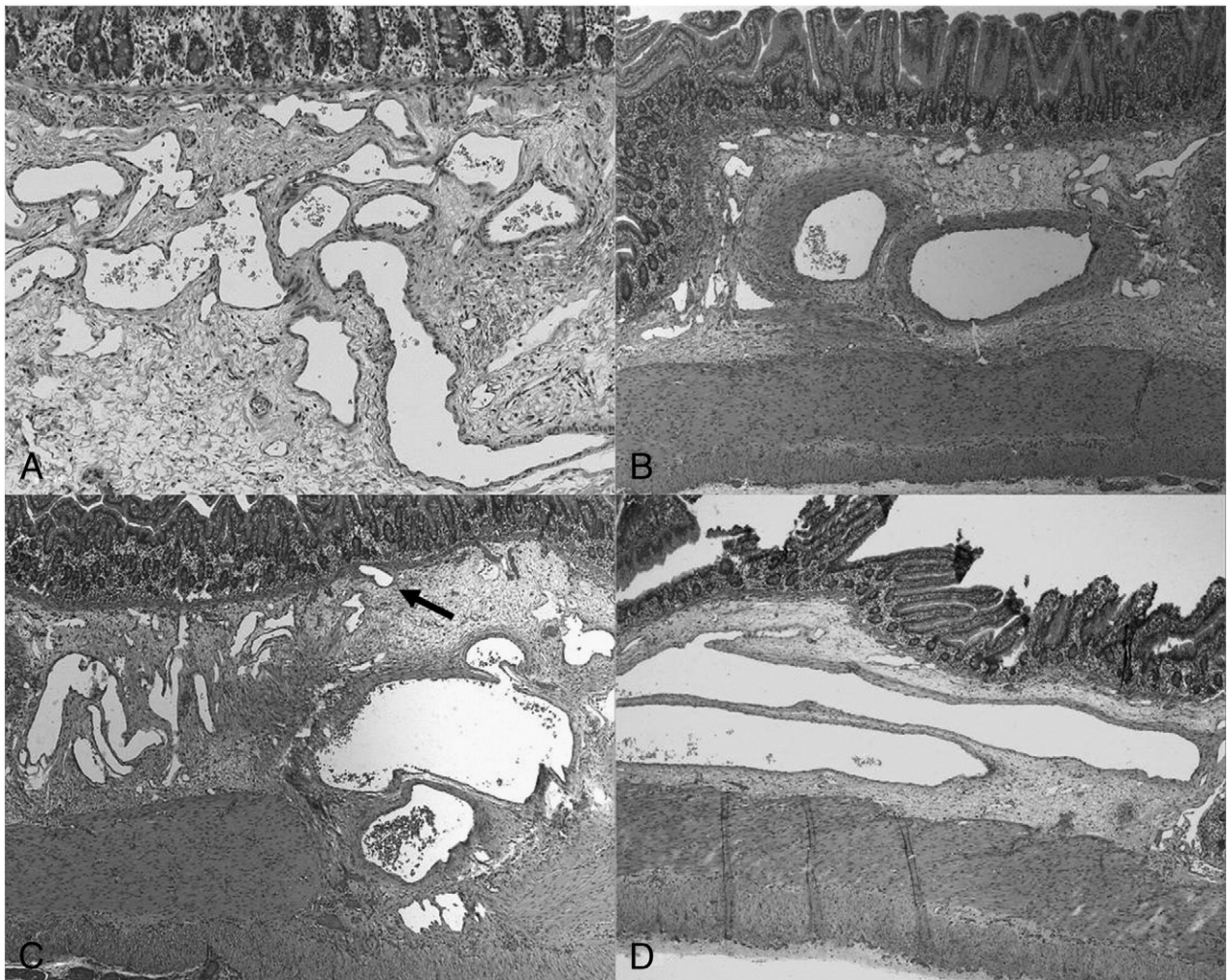


Fig. 1 Histopathological features of the diffuse intestinal angiodysplasia. A, Classic, thin-walled, ectatic vessels in the submucosa. B, Illustration of some of the vessels endowed with a very hyperplastic muscularis. C, Vessels, some large and ectatic, penetrating the muscularis propria and muscularis mucosae (arrow). D, Very enlarged vascular channels in the submucosa.

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