Endoscopic visualization of annular pancreas after duodenoduodenostomy

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This case report is a presentation of endoscopic visualization of an annular pancreas after duodenoduodenostomy (Video 1, available online at www.VideoGIE.org).

CASE REPORT

The patient was an 8-month-old female infant with a history of trisomy 21 and annular pancreas, who had the classic double-bubble sign on imaging (Fig. 1). She had undergone duodenoduodenostomy as a neonate to bypass the duodenal obstruction. She was seen at the clinic shortly after she was introduced to solid foods with symptoms of grunting and pushing with feedings. Her parents interpreted this as abdominal pain and discomfort and requested evaluation. A contrast study of the upper-GI system demonstrated an area near her previous anastomosis that was concerning for stricture (Fig. 2).

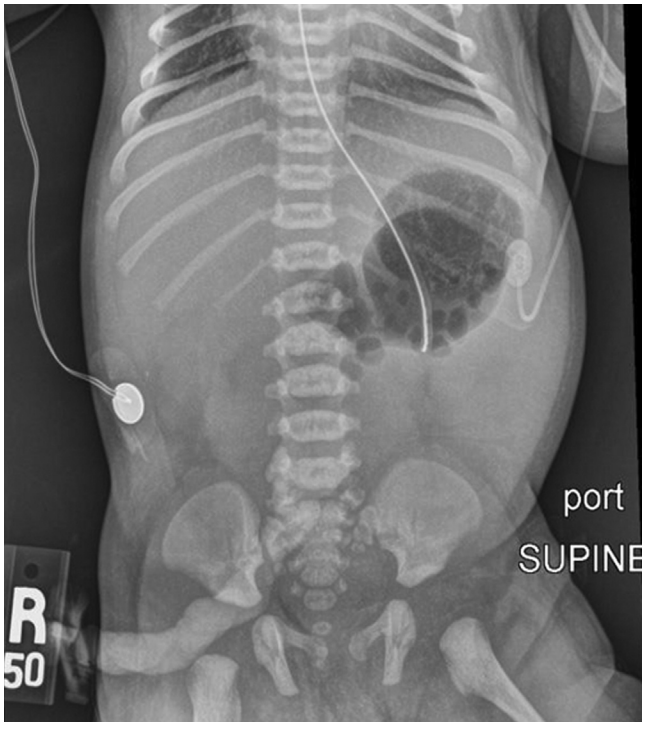

Figure 1. Abdominal radiograph demonstrating the classic double-bubble sign associated with duodenal obstruction.

PROCEDURE

The patient underwent esophagogastroduodenoscopy to evaluate and treat the stricture. Upon entry to the duodenum, 3 openings were visualized: the native duodenum constricted by the annular pancreas, the ampulla, and the duodenoduodenostomy (Fig. 3). The duodenoduodenostomy was noted to be widely patent.

OUTCOME

No stricture was observed. Her symptoms resolved with time and were determined to be behavioral.

DISCUSSION

Annular pancreas is a rare congenital anomaly that results in pancreatic tissue circumferentially constricting the duodenum. Symptomatic annular pancreas in children is uncommon, making up only 1% of the pathologic states resulting in duodenal obstruction.[1] Annular pancreas can be associated with other GI malformations, including intestinal malrotation, duodenal atresia, and duodenal stenosis.[2,3] It is commonly associated with Down syndrome (trisomy 21) and Edwards syndrome (trisomy

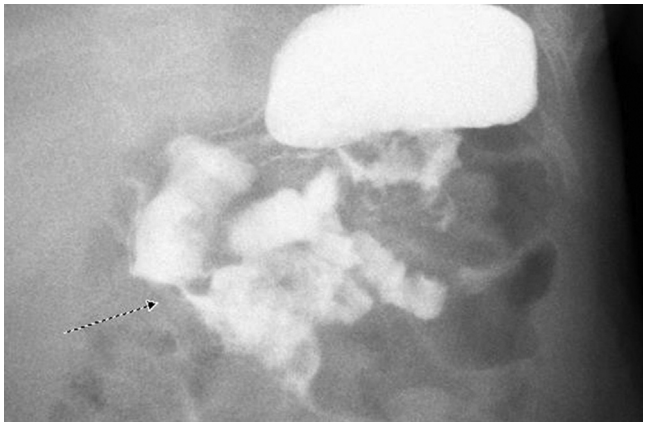

Figure 2. Upper-GI view demonstrating an area near the site of the patient's previous anastomosis (*arrow*) that appeared concerning for stricture.

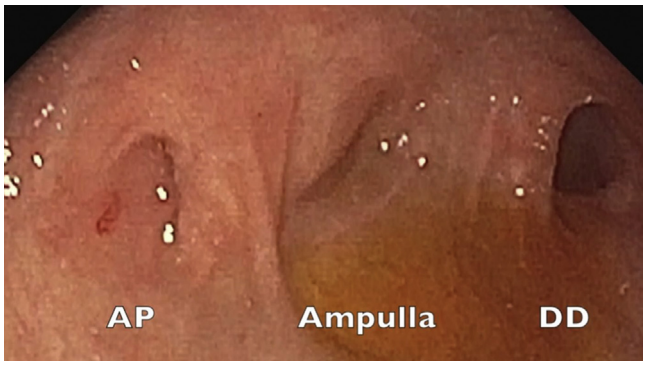

Figure 3. Endoscopic view of the 3 openings: on the left, the native duodenum constricted by the annular pancreas (AP); in the middle, the ampulla (ampulla); on the right, the duodenoduodenostomy (DD).

18).[4] Pancreatitis, biliary obstruction, and peptic ulcer disease have previously been reported to be associated with annular pancreas.[5-9] Pediatric patients with obstructive symptoms routinely undergo duodenoduodenostomy and have good postoperative outcomes.[4] The use of ERCP to diagnose annular pancreas preoperatively in adults has been described.[10] To our knowledge, this is the first reporting of the endoscopic appearance of a pediatric patient with an obstructing annular pancreas after duodenoduodenostomy. Clear understanding of the proximity of the ampulla to the anastomosis is crucial to prevent injury to this structure intraoperatively.

DISCLOSURE

Dr Pauli is the recipient of royalties from UpToDate, honoraria for speaking from Bard and Cook, and honoraria for consulting from Actuated Medical and Boston Scientific. All other authors disclosed no financial relationships relevant to this publication.

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