Images

Ladds band duodenal obstruction

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A 12-year-old female, with no medical history, presented at A&E with abdominal pain and vomiting with intolerance, over the last 48 hours. Physical exploration: no temperature, diffuse abdominal pain, no masses or signs of peritonism. Normal biochemistry and haemogram. Gastroduodenal study: large gastric dilation through to the pelvis, with barium contrast "cascading" down. Double bubble due to gastric and duodenal dilation, with little distal air (Figure 1). Following aspiration of gastric content, linear repletion defects (Ladd bands) were observed in the 2nd duodenal portion (Figure 2). An abdominal CT scan on an empty stomach did not show any pathological findings.

Intestinal malrotation includes rotation and fixation anomalies which are formed during foetal development. These exist in many forms, a fact which poses a diagnostic challenge. Ladd bands are bands of peritoneal fibrous tissue which attempt to compensate an insufficient mesenteric fixation. They extend from the caecum to the sub-hepatic region, posterior peritoneum or abdominal wall, and lead to compression of the 2nd or 3rd duodenal portions. These are more frequent in infants but can appear at any age. The pain is due to episodes of intermittent duodenal obstruction caused by the bands. Many patients remain asymptomatic and are diagnosed by chance during surgery for another reason. Dilated stomach and duodenum, which would cause the "double bubble", with little distal gas in a patient presenting with vomiting and acute abdominal pain, are all indicative of duodenal obstruction (Figure 1). If there is no evidence of volvulus, these cases are generally due to Ladd bands. Emergencists are currently unfamiliar with the images obtained from barium studies, but we must not forget that there are pathologies, such as the case in question, in which a simple radiography and/or digestive transit can be enough to obtain a diagnosis.

REFERENCES

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Figure 1. Sign of "double bubble" due to dilation of stomach and duodenum.

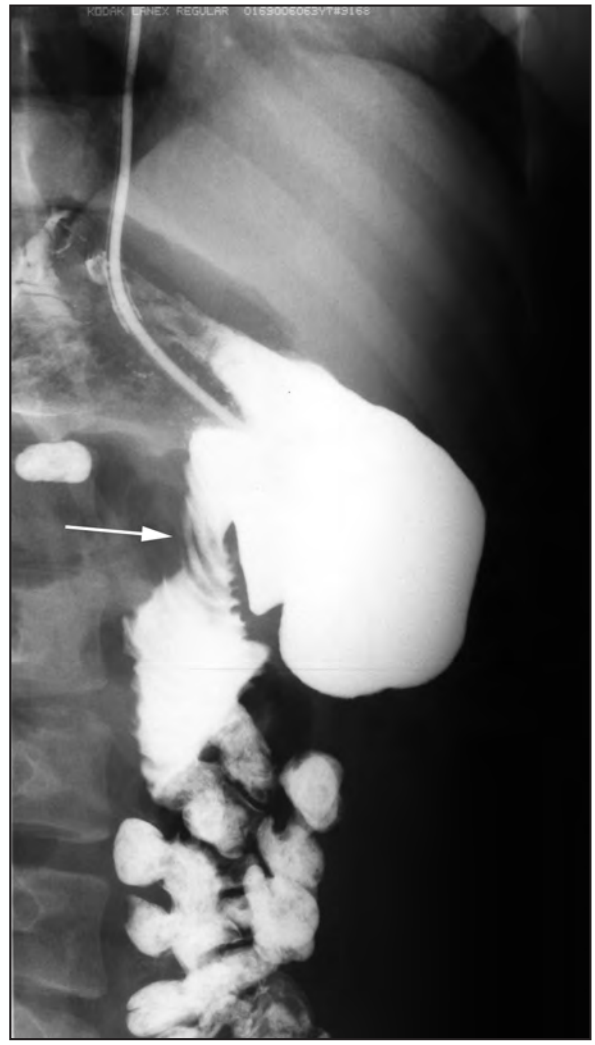

Figure 2. Linear repletion defects (arrow) in 2nd duodenal portion due to the presence of Ladd bands.