Prenatal diagnosis of a gastric duplication cyst: utility of MRI.

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Objective
Duplication cysts constitute a rare group of malformations that can occur anywhere along the gastrointestinal tract. Gastric duplications cysts account for 4% of all enteric duplications, approximately 17 cases per million births. With the present report, we intend to show the findings of an infrequent pathology, as well as to show the usefulness of the magnetic resonance in their prenatal diagnosis.

Methods
This is a case report.

Results
A 40-years-old patient, gravida III, para I, was referred at 20+1 weeks of gestation for routine obstetrical ultrasound examination. This detected a 10 x 6 mm cyst in the upper abdomen of the fetus, adjacent to the fetal stomach. Given the finding of an image suggestive of double bubble sign in certain sections, we performed amniocentesis for the study of the fetal karyotype, with a normal result. On subsequent sonograms obtained during the course of gestation, the image gave the impression of a cyst protruding into the lumen of the stomach. The rarity and uncertainty of the prenatal ultrasound findings prompted us to undertake prenatal MRI to define better the cyst origin and relationship with adjacent organs. T2-weighted sequences showed a round, well-circumscribed, hyperintense 1 cm mass without communication with gastric lumen, below the diaphragm and adjacent to the gastric fundus / gastro-esophageal junction. The other abdominal organs appeared to be normal. Omental, mesenteric, choledochal, and neurenteric cysts should be considered in the differential diagnosis.

At 40+2 weeks’ gestation, an apparently normal and healthy 4050 g girl was delivered with no suggestion of a gastrointestinal obstruction. The newborn was treated by excision of duplication cyst by laparoscopic approach at 14 days of life, being its immediate and long-term evolution without complications. Histologic test confirmed a duplication cystic lesion of the stomach.

Conclusion
Gastrointestinal duplications are tubular or cyst structures composed of intestinal mucosa and muscle that are usually closely adherent to some part of the gastrointestinal tract. Their mucosa is often similar to that of the portion of bowel to which is attached, and the lumen is generally cystic with clear mucus secreted by the cells of the mucosal lining. Approximately 75% of duplications are located within the abdominal cavity, while the remaining are intrathoracic (20%) or thoracoabdominal (5%). Seventy five percent of duplications are considered cystic, without communication to adjacent intestine, while the remaining are cylindrical structures that may or may not have one or more direct communications across the common septum.

Gastric duplications are typically no communicating cystic structures located along the greater curvature or antrum, although more rarely have been reported at the level of the pylorus. Usually they present as a cyst in the upper abdomen, which may vary in length from a few to several centimeters. Ultrasound may reveal the inner echogenic mucosal and outer hypoechoic muscle layers that are typical of a gastrointestinal tract duplication although it is difficult to visualize in prenatal examinations.

With infrequent or inconclusive ultrasound findings, the realization of an MRI can confirm the presumptive ultrasound diagnosis, providing additional information on the malformation site and the nature and relationship with other organs, thus contributing to treatment planning.