The Fetal GI Tract: Detection Of Abnormalities Using ACR/AIUM Guidelines

Introduction

The umbilical cord inserts just below the level of the stomach. At the insertion, usually only one umbilical artery is present. If the umbilical cord is not oriented straight posteriorly, then its insertion is abnormal. If the heart and stomach are in the correct anatomical position, there is no to find filling of its apex of the stomach. With this knowledge, the cord insertion site is involved in the wide opening of the abdominal wall.

Abnormalities At The Level Of The Stomach

- Failure to find the stomach and cord insertion
- Umbilical cord insertion site is too low
- Stomach (presence, size and situs)
- Normal transient emptying of the stomach
- Esophageal Atresia Without TE Fistula
- Esophageal Atresia With TE Fistula

Congenital Hypopharyngeal Hernia (CHH)

The cardiac area may also be involved with a small stomach. When this occurs, it is commonly in association with other anomalies. The cardiac herniation may also be related to the presence of the stomach and duodenum. In Beckwith-Wiedemann syndrome, visceromegaly is a common complication of CDH and is the primary cause of neonatal mortality.

Neuromuscular Congenital CHH

- Facial cleft
- CNS disorders
- Other swallowing disorders
- Renal agenesis
- Oligohydramnios from other causes
- Esophageal atresia (EA) with/without tracheoesophageal fistula (TEF)

Gastroschisis

- Gastroschisis
- Absence of the umbilical cord
- Absence of the rectus abdominis
- Absence of the transverse peritoneal fascia

Failure to Find The Stomach and Cord Insertion

- Gastroschisis
- Absence of gastroschisis
- Failure of the stomach to exteriorize
- Failure of the umbilical cord to exteriorize
- Failure of the heart to exteriorize
- Failure of the bowel to exteriorize

Asphyxiated stomach

- Fetal demise
- Extreme prematurity
- Extreme maternal stress
- Extreme maternal distress

Congenital Hypopharyngeal Hernia: Imaging

- Multiple axial images of the abdomen
- Multiple sagittal or coronal images of the chest to make sure that the axial image was not in an oblique plane.
- Normal Fetal Stomach
- Herniated loops of bowel and stomach fill the left hemithorax, displacing the heart to the right
- Duodenal atresia
- Giant omphaloceles usually measure more than 5 cm.

Cord Insertion

- Cystic hygroma may grow during pregnancy
- Amniotic band syndrome and limb-body wall complex
- The umbilical cord inserts just below the level of the stomach.
- Membrane consisting of amnion and peritoneum covers the herniated viscera in the amniotic fluid and placenta.

Suggested Readings

1. Nyberg DA, McGahan JP, Pretorius DH, Pilu G; Diagnostic imaging of fetal anomalies. 2003 LWW