Midgut malrotation is a congenital intestinal anomaly which can predispose to a volvulus. It affects commonly the pediatric age group and the incidence is gradually decreased with age. Failure to diagnose the midgut volvulus during pregnancy carries a high mortality and morbidity rate for both mother and fetus. The potential hazards from ionizing radiation techniques as computed tomography (CT) on pregnancy make US is ideal to diagnose acute abdomen during pregnancy, but the displacement of intra-abdominal organs with the enlarged uterus makes some limitation of US role. In this case we used MRI as another reliable imaging technique to confirm the diagnosis of midgut volvulus during pregnancy.

Case report

A 34-year-old pregnant woman presented at 14 weeks gestation with subacute abdominal pain associated with intermittent nausea and vomiting for one month before. She had no relevant medical history except non complicated pregnancy with normal vaginal delivery six years ago.

The clinical examination revealed a distended abdomen with epigastric pain on palpation. Laboratory examination was normal.

Ultrasound showed a vascular intestinal mass in the epigastric area without any other intra-abdominal abnormalities (Fig. 1).

MRI was advices to confirm the origin of this mass, which revealed a characteristic whirlpool sign of midgut volvulus (Fig. 2). The patient has been transferred immediately to the operation room for surgery which confirmed the radiologic diagnosis.

Discussion

Midgut malrotation is a type of congenital intestinal anomalies resulting from a complete nonrotation or an incomplete counterclockwise rotation of the primitive intestinal loop around the superior mesentery artery (SMA) during fetal development. The failure to complete rotation results in a narrow base of the mesentery, which can predispose to neonatal midgut volvulus and may be a bowel obstruction (1).

Midgut volvulus is a rare complication of pregnancy with high morbidity and mortality rates. Clinical diagnosis may be difficult in pregnant women. Ionizing radiation imaging modalities are not advised. Ultrasonography (US) is safer but sometimes is unable to reveal the characteristic whirlpool sign of midgut volvulus. Magnetic resonance imaging (MRI) contributed to confirm diagnosis in our case. We present here a case of 34-year-old pregnant woman at 14 weeks of gestation who presented with abdominal pain, nausea and vomiting. US was not conclusive. MRI revealed the typical whirlpool sign of midgut volvulus.

Key-word: Intestines, volvulus.
Conclusion

Mid-gut volvulus is a rare complication of pregnancy. Late diagnosis can carry a high mortality and morbidity rate for both mother and fetus. Clinical diagnosis is often difficult and delayed due to unspecific symptoms in pregnant women.

Ultrasoundography is the first-line diagnostic tool in acute abdomen during pregnancy but it can be inconclusive where MR imaging can play an important role in diagnosis of midgut volvulus.

For our patient, surgical intervention was based on the MRI diagnosis.

References