

Case	(494) Neonatal midgut volvulus
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## CASE PRESENTATION

A newborn baby girl 5 days-old was admitted at the Emergency department with persistent bilious vomiting and diffuse abdominal pain. The parents denied fever and changes in bowel transit. The baby was delivered through vaginal birth, with no complications during or after labour and was discharged two days after birth.

Due to persistent vomiting and abdominal pain, with no remarkable laboratory findings, a plain abdominal X-Ray was performed, showing a double bubble sign. An abdominal ultrasound (US) was requested with the suspicion of large intestinal obstruction.

US Images provided showed dilated duodenum and a clockwise rotation of superior mesenteric vein (SMV) around the superior mesenteric artery (SMA) which is highly suggestive of neonatal midgut volvulus. Doppler flow was preserved (not shown) and there was no free fluid in the peritoneal cavity.

## DISCUSSION

Midgut volvulus is a rare entity which occurs as a complication of midgut malrotation. It is a life-threatening entity which can lead to vascular obstruction, bowel necrosis and death. It can occur at any age, although the majority of the cases occur within the first month of birth.

Early diagnosis is critical due to high mortality rate. Unfortunately, abdominal plain radiograph is not useful for diagnosis because it is usually non-specific (although a double bubble sign may be present as in this case).

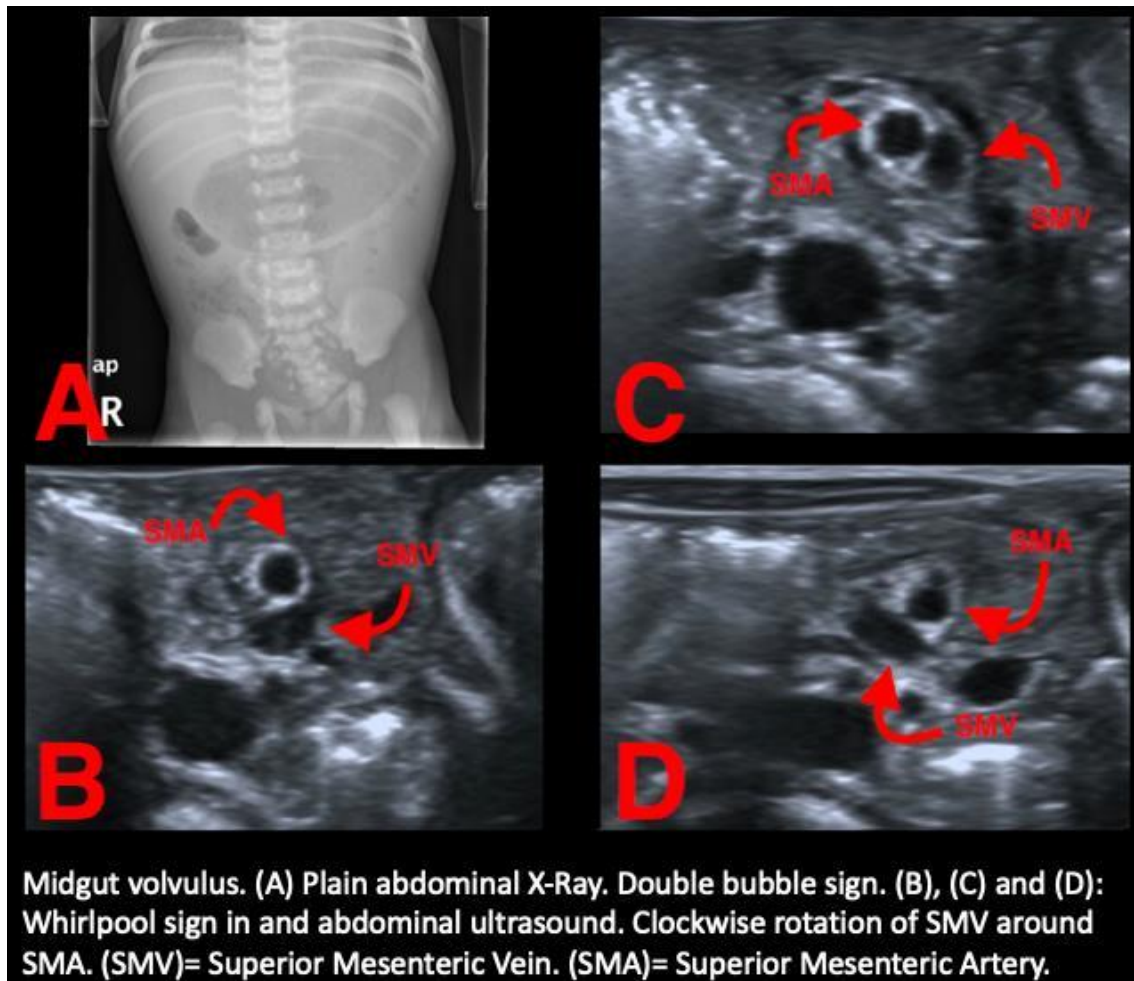
Diagnosis is usually reached by abdominal US in the acute setting. Specific sonographic features include the whirlpool sign (clockwise rotation of SMV around the SMA), dilated duodenum proximal to the obstruction and abnormal mesenteric vessels with possible vascular obstruction.

Differential diagnosis includes pyloric stenosis (although vomiting is non-bilious), duodenal web, duodenal atresia or annular pancreas. Urgent surgical repair is mandatory to prevent ischemia or resect affected bowel loops and the prognosis depends on the state of the bowel loops.

## CONCLUSION

Due to its high morbidity and mortality rate, the radiologist must be aware of this entity in cases of small bowel obstruction. Early diagnosis is mandatory and it should be reached by abdominal US.

Radiologist must look for the clockwise rotation of SMV around the SMA, also known as the whirlpool sign, and Doppler signs of vascular obstruction.



## BIBLIOGRAPHY

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