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Case Report

An Unusual Case of Nausea and Vomiting in Pregnancy: A Case Report

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ABSTRACT

Malrotation of the gut is rare in adults. We discuss the case of a 30-year-old primiparous woman who presented to the acute gynecology ward at 19-weeks' gestation with ongoing nausea and vomiting throughout pregnancy. She attended on a number of occasions with the same symptoms and was trialed on a number of different antiemetics. Initial biochemical investigations were unremarkable, however, the patient started to develop signs of 'abdominal obstruction'. A magnetic resonance image (MRI) of the pelvis showed evidence of duodenal obstruction secondary to malrotation which may be secondary to a fibrous (Ladd's) band. She was treated laparoscopically *via* a Ladd procedure and had an uneventful recovery. Interestingly, the patient presented again in her second pregnancy with very similar symptoms and underwent another Ladd procedure, but *via* a laparotomy. This is an interesting, rare and unusual case of nausea and vomiting in pregnancy.

Keywords
Ladd bands; Pregnancy; Nausea; Vomiting; Hyperemesis; Volvulus.

INTRODUCTION

Nausea and vomiting in pregnancy are common. The most common diagnosis associated with such symptoms is hyperemesis gravidarum. However, it is important to be very mindful about other important, and life-threatening conditions that may also mimic hyperemesis gravidarum. We describe an unusual case of nausea and vomiting in pregnancy in this case report.

CASE REPORT

A 30-year-old woman in her first pregnancy presented at 19-weeks gestation to the acute gynaecology ward with worsening nausea and vomiting since the first trimester. She had been prescribed a multitude of different antiemetics throughout her pregnancy, but with limited effect. During her admission, she vomited 1200 ml of bilious fluid. She also had a positive urinalysis with leucocytes, nitrites and ketones; treatment for a urinary tract infection (UTI) was commenced with a cephalosporin. The same day, on auscultation of her tender abdomen she was found to have sluggish bowel sounds. She vomited a total of 1800 mls by the evening of that day. She continued intravenous crystalloids and conservative medical management to control the nausea and vomiting.

Initial differential diagnoses that were considered included urinary tract infection, an infective cause for the nausea and vomiting or atypical hyperemesis gravidarum.

An ultrasound abdomen showed a gravid uterus but a markedly distended stomach containing fluid and food debris. It also showed multiple distended fluid filled ileal loops in the upper abdomen. The liver, spleen, pancreas and both kidneys all appeared normal. There was no biliary dilatation nor gallstones. There was a small amount of free fluid in the pelvis. The ultrasound conclusions were in keeping with a degree of gastroparesis/small-bowel ileus. Following this a nasogastric tube was inserted.

She had a long-standing history of more than six months gastric reflux and difficulty in eating with bloated symptoms; she had been treated by her general practitioner (GP) and omeprazole.

In view of this positive finding an urgent esophagogastroduodenoscopy (EGD) was requested to exclude a duodenal or gastric ulcer.

An abdominal X-ray requested by the surgical team was reported as normal with no evidence of hernias nor obstruction. The nasogastric tube was spigotted and she was feeling better but still has biochemical and clinical evidence of dehydration. As the abdominal X-ray was inconclusive, an magnetic resonance imaging (MRI) scan of the abdomen and pelvis was requested by the general surgeons.

An MRI of the abdomen and pelvis showed the following:

- Dilated stomach and duodenum to distal D3 where it tapers and crosses towards the right.
- Superior mesenteric artery (SMA) and superior mesenteric vein (SMV) are probably inverted.
- Distal duodenum and mesenteric vessels twist into the vortex
- Difficult to identify right colon/caecum in the normal ana tomical location likely that the caecum is in the left iliac fossa (LIF).

The conclusion of the report was duodenal obstruction secondary to malrotation which may be secondary to a fibrous (Ladd's) band.

A multidisciplinary team with an obstetrician, surgeon and nutrition consultant reviewed her with the plan of total parenteral nutrition when a peripherally inserted central catheter (PICC line) was inserted and the risk of re-feeding syndrome was discussed. Risks of surgery were discussed with her, miscarriage and preterm labour.

She underwent a laparoscopic release of the bands using Hasson entry at the umbilicus two weeks after her initial presentation using three 5 mm ports. During surgery there was no obvious cut-off point but there was a degree of malrotation with concern to the left of the midline with an ileal loop underneath it with band adhesions. The bands were taken down slowly and the bowel was run several times to gain orientation and placement.

Apart from well controlled asthma and Raynaud's phenomenon, she did not have any other significant past medical, surgical or gynecological history. Her family history included a sister affected with Turner's syndrome. She never smoked and only occasionally had alcohol.

DISCUSSION

This is a very unusual and interesting case of nausea and vomiting in pregnancy. Quite often, in early pregnancy, many pregnancy patients will experience some form of nausea and vomiting. If the nausea and vomiting is severe enough where the patient is unable to tolerate oral intake, and this is associated with a biochemical disturbance, a diagnosis of hyperemesis gravidarum will be made.[1] It is thought that the nausea and vomiting is secondary to the human chorionic gonadotropin (hCG).[1] Levels of hCG will plateau by 17-weeks' gestation, and therefore, symptoms of nausea and vomiting associated with hyperemesis gravidarum should settle from this point onwards.[1]

It is important to understand the embryology of the midgut prior to understanding malrotation. There are three distinct stages involved in the embryology of the midgut.[2]

1. 5-10-weeks' gestation: midgut herniates into the umbilical cord and 90° anticlockwise rotation back into fetal abdomen
2. 11-weeks: Further 270° rotation in abdomen
3. Fixation of gut to mesentery

Malrotation is defined as 'the complete or partial failure of 270° counter clockwise rotation of the midgut around the superior mesenteric pedicle'.[3] Malrotation is rare in adults (0.2%).[4] It is commonly seen in the neonatal population (1 in 200-500) and symptomatic in approximately 1 in 6000 neonates.[4] In adults, the presentation will involve abdominal pain and vomiting, as well as multiple visits to the clinician. Patients with malrotation may also present with symptoms of a midgut volvulus, and if severe, may present with intestinal ischemia.[5]

A Ladd band is a congenital adhesive band made of fibrous peritoneal issue.[5,6] A Ladd procedure is complex and in summary involves four stages to include: delivery of the small bowel, untwisting the bowel counter clockwise, dividing the Ladd bands and detorting the bowel.[7,8]

The diagnosis of malrotation in pregnancy is very rare. In this case, it was pregnancy that prompted the diagnosis. It is important to appreciate the challenges pregnancy can pose in the diagnosis and management of malrotation. Often, the diagnosis will be delayed as the symptoms may 'mimic pregnancy-associated symptoms'. The gravid uterus can cause surgical challenges including gaining access to the abdomen, operating challenges as well as recovery. The risks of general anaesthesia have to also be considered, as well as the subsequent associated risk of pre-term labour or pregnancy loss. In pregnancy, it is important to recognise that the clinician may be averse to 'invasive' imaging or investigation, and therefore, contributing to delayed diagnosis.

Of interesting note, the patient re-presented two-years later in her second pregnancy with ongoing nausea and vomiting in early pregnancy. At 10-weeks' gestation, she had multiple episodes of bilious vomiting and therefore an MRI of the pelvis was organised. This showed an intermittent volvulus due to malrotation and likely associated Ladd band, and subsequently, the patient underwent a second Ladd procedure and appendicectomy as a laparotomy.

CONCLUSION

In summary it is important to consider the following learning points from this rare and interesting presentation:

- Think outside the box — presumed hyperemesis in this case

- Close multi-disciplinary team working vital in obstetric medicine
- Consider non-pregnancy associated causes of vomiting-especially in later pregnancy
- Timely recognition is key.
- Malrotation should be suspected in anyone with recurrent episodes of abdominal pain and bilious vomiting.

CONSENT

The authors have received written informed consent from the patient.

ETHICAL APPROVAL

The patient has signed a consent form to indicate she is happy to allow publication of the case report.

CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

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