

Diagnostic Dilemma of a Case of Sigmoid Volvulus Complicating Pregnancy

Nur Azurah AG¹(✉), Ani Amelia Z¹, Sagap I²

¹Department of Obstetrics and Gynaecology, Universiti Kebangsaan Malaysia Medical Centre, Jalan Yaacob Latif, Bandar Tun Razak, 56000 Cheras, Kuala Lumpur, Malaysia

²Department of Surgery, Universiti Kebangsaan Malaysia Medical Centre, Jalan Yaacob Latif, Bandar Tun Razak, 56000 Cheras, Kuala Lumpur, Malaysia

Abstract

We report the case of a 34-year-old Malay, admitted for constipation and abdominal pain at 35 weeks of gestation. Initially, she was diagnosed to have paralytic ileus and was managed conservatively. As her condition did not improve, emergency laparotomy was performed for suspected intestinal obstruction. She delivered a baby boy weighing 2.84kg with good Apgar score through a caesarean section. Intra-operatively, she was noted to have sigmoid volvulus and sigmoidopexy was performed. Post-partum, colonoscopy and bowel decompression was performed. She recovered well and was discharged on day 5. This case illustrates the need to diagnose or suspect volvulus in pregnant woman presenting with severe constipation as early surgical intervention can reduce morbidity to both mother and fetus.

Keywords: Diagnosis, sigmoid, volvulus, pregnancy, complication.

Correspondence:

Dr Nur Azurah Abdul Ghani, Department of Obstetrics and Gynaecology, Universiti Kebangsaan Malaysia Medical Centre, Jalan Yaacob Latiff, 56000 Cheras, Kuala Lumpur, Malaysia. Tel: +603-91455949, Fax: +60391738946 Email: zurah@ppukm.ukm.my

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Introduction

Volvulus of the bowel during pregnancy and puerperium often pose diagnostic challenges to treating clinicians due to several factors. It has been reported that the prevalence is only 1 in 66,451 pregnancies (1-3). These occur commonest in the sigmoid colon, with 44% of cases (4). Due to its rarity, this condition is often not considered as a differential diagnosis. Furthermore, the predominant symptoms of volvulus are constipation and abdominal cramp-like pain making it difficult to distinguish this condition from other pregnancy related condition or surgical emergencies such as appendicitis and peptic ulcer.

Delay in the treatment may result in septic shock or even death of the mother and fetus. It has been reported that maternal and fetal mortality was 13 and 20 percent respectively (3).

Case report 1

A 34-year-old primigravida lady was admitted at 35 weeks of gestation after a 10-day history of abdominal pain, nausea and vomiting. Associated with these, was constipation. On admission, she was dehydrated but afebrile with blood pressure of 120/70mm Hg. Clinical examination revealed tender abdomen without rigidity or contractions. The bowel sound was sluggish. The uterus corresponded to 36 weeks of gestation and the os was closed.

Urinalysis showed no sign of urinary tract infection. Her total white cells, urea, serum electrolytes and amylase were normal. Cardiotocography was reactive with no contractions documented. Ultrasonography revealed a fetus with parameters corresponding to 36 weeks and there was no obvious abruption of the placenta seen.

She was treated conservatively for paralytic ileus and kept fasted with nasogastric tube aspiration plus intravenous fluid re-hydration. An emergency laparotomy was performed as her condition did not improve. A healthy baby boy weighing 2.84kg with good Apgar score and pH of 7.321 was delivered through a lower segment caesarean section. A sigmoid volvulus (Fig.1) was found and sigmoidopexy was performed. Post-laparotomy, bowel decompression was performed via colonoscopy. She had an uneventful recovery and was discharge well on day 5.



Fig 1: Showing dilated bowel during operation

Discussion

Volvulus is the second most common cause of intestinal obstruction after adhesion in pregnancy (3). Pregnancy itself is said to be the precipitating factor for occurrence of volvulus. It is postulated that the gravid uterus can cause a redundant or abnormally elongated sigmoid colon to rise out of its pelvis and twist around its fixation point on the pelvic side wall (5).

Too often, the diagnosis of volvulus is not being considered as a diagnosis due to its rarity and also its non-specific symptoms which may mimics pregnancy related conditions or even surgical emergencies.

This patient was at 35 weeks of gestation at the time of diagnosis. The incidence of volvulus has been shown to increase with increasing gestation especially during rapid enlargement of the uterine size (between 16-20 and 32-36 weeks) (6). During those periods, the enlarged uterus will compress on the distal colon and disrupt the normal colorectal function and terminal act of defecation mechanically and reflexly. Stasis of the bile during pregnancy will further reduce the motility of the intestine. During later stage of

pregnancy, fetal head engagement will result in increase pressure of the rectum and making defecation an anopelvicrectal effort.

The diagnosis of intestinal obstruction during pregnancy is based on the same triad of symptoms found in the general population – abdominal pain, vomiting and constipation. Retrospectively, this patient presented with all the classical symptoms of intestinal obstruction. Nevertheless, conservative approach was taken as the diagnosis of intestinal obstruction was not convincing in view of its rarity. Furthermore, she had no risk factor for such condition e.g. no previous surgery. Constipation is a common symptom among women taking haematinics and crampy abdominal pain could resemble either labour pain or even urinary tract infection. It was only after her symptoms did not improve and we had ruled out pregnancy related problems e.g. urinary tract infection, abruption of the placenta, she was subjected to emergency laparotomy for suspected intestinal obstruction.

Prior to surgery, we did not suspect her to have a volvulus, thus no plain abdominal X-ray was requested. Although many rarely performed plain abdominal X-ray in fear of overexposing fetus to radiation, it was reported that it may be diagnostic in 80% of cases. The classical findings on the film would be a bent inner tire sign with its apex pointing towards the left lower quadrant (7).

During the abdominal exploration, sigmoid volvulus was revealed and sigmoidopexy was performed as the bowels were still viable. Sigmoidopexy however, does not prevent recurrence and thus colonoscopy was performed post-operatively to decompress the bowel. In a case of non-viable bowel, sigmoid colectomy and Hartmann's procedure would be the option.

On the other hand, if volvulus was suspected much earlier, colonoscopy should have been offered as it has a high reduction rate (60-90%) (8,9). There had been several reports on the success of colonoscopic detorsion and rectal tube decompression especially during early gestation without peritonism. It is safe to repeat this method until the fetus had reached maturity (10). Due to high recurrence rate of more than 50% during pregnancy, these women would eventually require surgical intervention.

In conclusion, acute intestinal obstruction due to sigmoid volvulus in pregnant women poses management challenges to the attending obstetricians and surgeons. Radiological and colonoscopic

examination may have a role in diagnosing the condition and thus help to reduce the morbidity and mortality to both mother and foetus.

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