

CASE REPORT

# Adhesive small bowel obstruction in pregnancy and the use of oral contrast media: a case report

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## Abstract

Bowel obstruction in pregnancy is a high risk situation for both the mother and baby. We present a case of a 30-week-pregnant woman who presented with abdominal pain and vomiting and was diagnosed with adhesive small bowel obstruction (SBO). Oral contrast media was successfully used as a treatment. The patient was discharged home and 10 weeks later delivered a healthy baby girl. We were unable to find any cases in the literature describing oral contrast media to treat adhesive SBO in pregnancy. From our experience and research, we consider oral contrast media as a method of treating adhesive SBO in pregnancy under the proviso that there are no signs that indicate urgent surgical intervention.

## INTRODUCTION

Small bowel obstruction (SBO) in pregnancy is a high risk situation for both mother and baby with maternal mortality ranging from 2 to 4% and fetal/neonatal loss from 13 to 17%. Preterm delivery occurs in ~45% of the cases. Adhesions were the most common pathology in 30–50% followed by internal hernias and volvulus [1, 2].

In a systematic review [2] of 78 studies describing 92 pregnancies from 2006, the most common risk factor for SBO in pregnancy was previous abdominal surgery (49%). The most common presenting symptoms were abdominal pain (88%), vomiting (67%), examination findings of tenderness (49%) and distension (28%). Abnormal laboratory parameters were seen only in 26%. Webster *et al.* [1] reviewed cases from 1992 to 2014 with 46 cases of SBO identified. Of the case reports, five out of six (83%) women with adhesive SBO were treated surgically. One was treated successfully with conservative management. Of the case series, 16 cases of adhesive SBO were treated surgically (94%) with 1 case successfully managed conservatively.

This case occurred in public (state-funded) hospital, which is the only type of hospital of which acute surgery is managed in New Zealand.

## CASE REPORT

A 37-year-old female was admitted under obstetrics, 30 weeks pregnant, with vomiting and abdominal pain. She had presented to her provincial hospital with increasing abdominal and back pain, and the following day she developed nausea and vomiting so was referred to our tertiary centre for further assessment. Her past surgical history included a lower segment caesarean section, laparoscopic ovarian cystectomy, laparoscopic cholecystectomy and laparoscopic posterior fundoplication with crus repair. Her only medical history was mild asthma. She was a smoker.

She described the pain 'feeling like contractions' with severe nausea and dry retching. She was passing flatus and her bowels had opened normally the day prior. She denied urinary symptoms. On examination her observations were within normal range. Her abdomen was soft with a nontender uterus; however, she had severe left-sided abdominal with localized percussion tenderness.

Laboratory studies showed a leucocytosis of  $15.56 \times 10^9/l$  and neutrophilia of  $11.75 \times 10^9/l$ . Her C-Reactive Protein (CRP) was 29 mg/l. Her haemoglobin was 109 g/l and she had unremarkable

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**Figure 1:** Abdominal X-ray with Gastrografin oral contrast media seen in the large bowel, with her 30-week-old baby seen in the lower abdomen and pelvis.

liver function tests. Her urine dipstick indicated ketones 2+ and protein 1+.

An ultrasound scan (USS) of her abdomen had been completed in the provincial hospital and had reported moderate dilatation of fluid-filled small bowel loops with hyperperistalsis in the left abdomen.

A nasogastric (NG) tube was placed which gave symptomatic relief.

The case was discussed with the consultant on call. A magnetic resonance imaging (MRI) abdomen was performed, which was unremarkable. She was managed conservatively with an NG tube on free drainage; however, her symptoms persisted and she stopped passing flatus. She was counselled about radiation exposure, and the decision was made to trial Gastrografin oral contrast media followed by an abdominal X-ray (see Fig. 1). Her symptoms resolved, and she was discharged home. She later gave birth to a healthy baby girl at term.

## DISCUSSION

A PubMed, MEDLINE and Google Scholar search of 'small bowel obstruction' and 'pregnancy' and 'Gastrografin' or 'oral contrast media' returned one result.

Bower *et al.* [3] looked at SBO overall, with a section specific to pregnancy. It stated that safety analyses have not been completed on gastrointestinal contrast in pregnancy. The following recommendations were then made: indications for urgent operative management are the same as for nonpregnant adults;

urgent MRI is advised if there are not immediate indications for surgery; SBO owing to a cause other than adhesions should undergo urgent operative management; adhesive SBO should undergo trial of nonoperative management with a low threshold for operation and surgery for partial or incomplete adhesive SBO can be delayed for foetal maturity if there is no clinical evidence of a complication.

SBO in pregnancy is an uncommon condition with limited available literature. We were unable to find any literature describing oral contrast media in SBO in pregnancy. Majority of cases in the literature were secondary to adhesions. The safety and use of oral contrast media (Gastrografin) have been validated as a treatment of adhesive SBO [4]. In light of this, we consider oral contrast media as a method of treating adhesive SBO in pregnancy under the proviso that there are no signs that indicate urgent surgical intervention.

## CONFLICT OF INTEREST STATEMENT

None declared.

## FUNDING

No funding was received.

## ETHICAL APPROVAL

No ethics approval is required.

## CONSENT

The patient gave written informed consent for their image and case to be published.

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