THE USE OF ORAL CONTRAST MEDIA IN THE MANAGEMENT OF ADHESIVE SMALL BOWEL OBSTRUCTION IN PREGNANCY: A CASE REPORT

Dr. Amanda Ifejika[1], Dr. Ma Camilla De Dios[1], Assoc. Prof. Ajay Vatsayan[1]
[1]Department of Obstetrics and Gynaecology, Hornsby Ku-ring-gai Hospital, Hornsby, NSW

BACKGROUND

Small bowel obstruction (SBO) is a rare cause of acute abdomen in pregnancy with a reported incidence of 1 in 2500 to 1 in 17000 pregnancies. Typically caused by post-surgical adhesions, other aetiologies include volvulus, hernia, and malignancy. The diagnosis and treatment of SBO in pregnancy presents a unique challenge as clinical symptoms are often mistakenly attributed to pregnancy. Moreso, anatomical changes secondary to the enlarging uterus make physical examination difficult and clinicians are often reluctant to perform diagnostic tests due to risks associated with fetal irradiation. A delay in management may result in intestinal strangulation and necrosis and is associated with significant maternal and fetal morbidity and mortality[1].

The safety of oral contrast media as a treatment for adhesive SBO has been validated in the general population. However, the efficacy of its use in pregnancy has not been established[2]. Here we report a case of SBO in pregnancy managed with the use of oral contrast media, Gastrografin.

CASE REPORT

A 37-year-old primipara presented at 17 weeks and 6 days gestation with sudden onset abdominal pain, bilious vomiting, and obstipation. Her surgical history included laparoscopic excision of endometriosis and a partial colectomy three years prior.

On admission, her observations were within normal range. There were no signs of fetal distress. Her abdomen was soft but distended with generalised tenderness worse over the epigastrium and minimal bowel sounds. There was no uterine tenderness. Laboratory studies showed a normal white cell count. Haemoglobin was 116 g/L and platelets were 227 g/L. CRP was 22 g/L. Electrolytes, renal, and liver function tests were unremarkable. Urinalysis showed significant ketonuria but was negative for protein. An abdominal X-ray demonstrated several dilated loops of small bowel containing air-fluid levels consistent with SBO (Figure 1).

She underwent an unsuccessful trial of conservative management with nasogastric decompression and bowel rest. In discussion with General Surgery, a decision was made to trial oral contrast media, Gastrografin. 48 hours following Gastrografin administration, the patient reported a complete resolution of her symptoms.

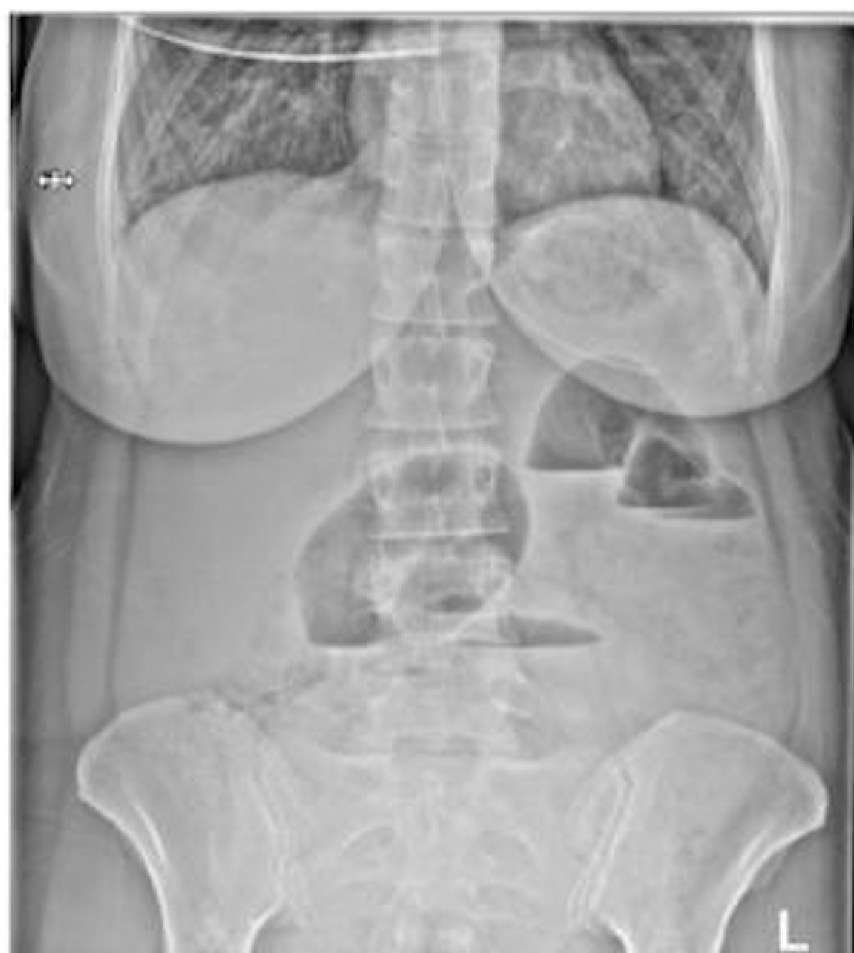

Figure 1. Plain radiograph showing dilated loops of small bowel and air-fluid levels consistent with small bowel obstruction

DISCUSSION

Clinical Presentation

The cardinal features of acute intestinal obstruction in pregnancy are abdominal pain and distension (89%), nausea and vomiting (89%) and obstipation (80%)[3].

Investigations

Laboratory studies are used to assess the degree of dehydration, monitor for electrolyte imbalance, and evaluate for signs of infection and ischemia. The presence of dilated loops of bowel with air-fluid levels on plain radiography confirms the diagnosis of SBO[4]. MRI has been shown to be a useful adjunct in the evaluation of SBO in pregnancy. MRI can be used to identify the transition point, severity of obstruction, aetiology, and features indicative of complications including ischemia, necrosis, and perforation and may be performed with or without the use of oral contrast. There are no reported risks associated with MRI exposure on the developing fetus and it may be used in any trimester of pregnancy[5].

Management

Similar to the general population, the management of SBO in pregnancy depends upon the aetiology and severity of the obstruction. For adhesional SBO, a trial of conservative management can be attempted. If unsuccessful, Gastrografin may be a valuable tool in the non-operative management[4]. Gastrografin exerts its therapeutic effects by reducing bowel wall oedema and enhancing smooth muscle contractility to generate effective peristalsis to overcome the obstruction. Gastrografin does not reduce the need for surgical intervention, but it has been shown to expedite the resolution of adhesive SBO in patients undergoing conservative management, therefore reducing the length of hospital stay[6].

The use of Gastrografin for the management of adhesive SBO has not been well-studied in the pregnant population. A literature review of Medline, PubMed and Google Scholar returned one result. Robertson et al[2] describe a similar case of adhesive SBO in the third trimester successfully managed with Gastrografin. Our findings add to the body of literature to suggest the utility of oral contrast media in the management of adhesional SBO in pregnancy.

CONCLUSION

Clinicians should maintain a high index of suspicion for SBO in pregnant women presenting with persistent and progressive vomiting and constipation, especially in those with a history of previous abdominal or pelvic surgery. Oral contrast media may be a useful adjunct in the management of adhesive SBO in pregnancy.

REFERENCES

1. Loukopoulos T, Zikopoulos A, Galani A, Skentou C, Kolibianakis E. Acute intestinal obstruction in pregnancy after previous gastric bypass: A case report. Case Reports in Women's Health. 2022 Oct 1;36:e00473.
2. Robertson R, Wu L. Adhesive small bowel obstruction in pregnancy and the use of oral contrast media: a case report. Journal of Surgical Case Reports. 2020 Mar;2020(3):rjaa018.
3. Latha MS, Abraham R, Chitra TV. Intestinal obstruction in pregnancy: three case reports. International Journal of Reproduction, Contraception, Obstetrics and Gynecology. 2013 Sep 1;2(3):491-4.
4. Ten Broek RP, Krielen P, Di Saverio S, Coccolini F, Biffl WL, Ansaloni L, Velmahos GC, Sartelli M, Fraga GP, Kelly MD, Moore FA. Bologna guidelines for diagnosis and management of adhesive small bowel obstruction (ASBO): 2017 update of the evidence-based guidelines from the world society of emergency surgery ASBO working group. World Journal of Emergency Surgery. 2018 Dec;13(1):1-3.
5. Webster PJ, Bailey MA, Wilson J, Burke DA. Small bowel obstruction in pregnancy is a complex surgical problem with a high risk of fetal loss. The Annals of The Royal College of Surgeons of England. 2015 Jul;97(5):339-44.
6. Assalia A, Schein M, Kopelman D, Hirshberg A, Hashmonai M. Therapeutic effect of oral Gastrografin in adhesive, partial small-bowel obstruction: a prospective randomized trial. Surgery. 1994 Apr 1;115(4):433-7.