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Case Series

Obstetrics and Gynaecology Section

A Bolt from the Blue for an Obstetrician: A Case Series of Life Threatening Surgical Emergencies following Evacuation of Unwanted Pregnancy

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ABSTRACT

Unwanted pregnancies are those that are mistimed, unplanned or unwanted at the time of conception and mostly end up in induced abortion. Dilation and Curettage (D&C) is a procedure which involves dilatation of the cervix and introduction of a thin instrument to remove tissue from the inside of the uterus. D&C is associated with quite a few complications, one being perforation of the uterus which isn't an uncommon accident during D&C. Uterine perforation consequent intestinal perforations and bowel prolapse not only occur with inexperienced and untrained persons but also amongst experienced doctors in certain cases. The most frequent surgical management of uterine perforation with bowel injury is repair of the uterine wall along with resection and anastomoses of the injured bowel. In present series, three cases of abortions performed by cervical D&C in a tertiary care hospital in Delhi, India in February and March 2021, of which two resulted in uterine perforation and bowel prolapse through the vagina, and one was a suspected perforation. Both patients with bowel prolapse were rigorously resuscitated and taken up for an emergency laparotomy. Though complications such as perforation and bowel injury are inevitable, further morbidity to the patients can be alleviated if handled with expedient identification and intervention.

Keywords: Bowel prolapse, Perforation, Resection and anastomoses

INTRODUCTION

Worldwide, the unintended pregnancy rate is approximately 45% of all pregnancies [1]. Unsafe abortion is a procedure for terminating an unintended pregnancy carried out either by persons lacking the necessary skills or in an environment that does not conform to minimal medical standards, or both. Between 2015 and 2019, on average, 73.3 million induced (safe and unsafe) abortions occurred worldwide each year. Three out of 10 (29%) of all pregnancies and 6 out of 10 (61%) of all unintended pregnancies ended in an induced abortion [2]. Among these, 1 out of 3 was carried out under unsafe conditions which contribute 8% of all maternal deaths annually. However, complications can occur even with trained personnel in the best of circumstances. The overall (significant) complication rate for surgical evacuation of the uterus is approximately 6%. Incidence of uterine perforation varies from 0.4 to 15 per 1000 abortions as reported by different studies [3,4]. Bowel injuries associated with uterine perforation are not uncommon, but prudent actions may help to limit their perilous consequences.

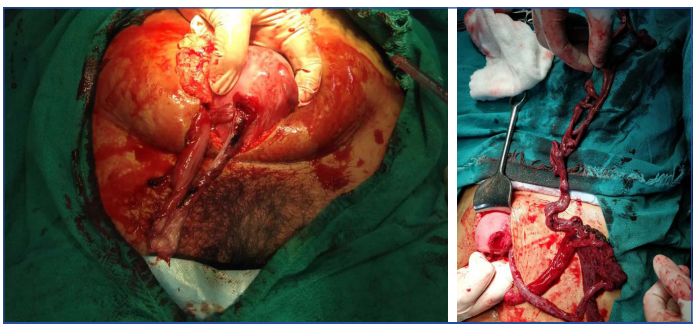
CASE SERIES

Case 1

A 24-year-old P2L2A1 patient came to Gynaecology emergency with complaints of pain abdomen and bleeding per vaginum. She gave history of D&C for 2½ month pregnancy in a private nursing home one day before admission. On examination patient was conscious, oriented, afebrile and her pulse rate was 110/minute and Blood Pressure (BP) was 112/74 mmHg. On per abdominal examination, her abdomen was distended and there was guarding and tenderness all over abdomen. On per speculum examination loop of intestine was seen coming through the os. On per vaginal examination, the os admitted two fingers, uterus was bulky, anteverted, bilateral fornices were tender. Ultrasonography was suggestive of an echogenic tubular structure in the endometrial cavity with extension into the cervix, whose proximal extent couldn't be made out, likely bowel loops. Patient was taken up for emergency laparotomy and a general surgeon was called in for assistance. During laparotomy a rent of 2×2 cm in size on the anterior wall of the uterus was present through which small bowel loops were entering the uterine cavity [Table/Fig-1]. Uterine rent was repaired with 2-0 catgut sutures. Appropriately, 20 cm gangrenous part of ileum was resected and re-anastomoses was performed. Peritoneal cavity was irrigated thoroughly with normal saline and abdominal drain was placed and abdomen closed in layers. Postoperative recovery was good.

Case 2

A 26-year-old P1L1A2 presented to casualty with complaints of per-vaginal bleeding and diffuse abdominal pain following termination of a 9-week pregnancy by D&C from a primary care centre about an hour and a half prior to presentation. On examination, she was hypotensive (BP-96/54 mmHg) and her pulse rate was 120 beats per minute. Per vaginal examination revealed a loop of intestine coming through the cervical canal. Per abdomen examination revealed diffuse tenderness. As the patient was vitally unstable, she was resuscitated with crystalloids and immediately taken up for an emergency laparotomy. Perforation was noted at the fundus (2x2 cm) with loops of jejunum entering into the uterus. About 100 cm segment of jejunum was gangrenous with multiple seromuscular tears [Table/Fig-2].



[Table/Fig-1]: Image showing rent in the anterior wall of the uterus and prolapsed small bowel withdrawn through it. **[Table/Fig-2]:** Image showing fundal perforation with prolapsed part of the jejunum withdrawn through it. (Images from to left to right)

This segment was resected and end-to-end anastomoses of the remaining segment was performed. Mesentery was stripped off from the bowel loops at the mesenteric border without any vascular disruption. Large bowel was intact. Abdominal cavity was thoroughly irrigated and followed by insertion of an intraperitoneal drain which was removed on the fifth postoperative day. Patient recovered well following surgery.

Case 3

A 29-year-old G6P2L2A3 presented to the casualty with a history of unsupervised intake of pills for medical termination of an 8-week pregnancy. She gave history of passage of fleshy mass and continuous bleeding for six hours, having soaked eight pads. On examination, patient was conscious, oriented, afebrile and her pulse rate was 100/minute and BP was 106/66 mmHg. On per abdominal examination, abdomen was soft. On per speculum examination, products of conception were seen in the vagina and fresh bleeding was seen through the os. On per vaginal examination, the os was open, products of conception were felt through the os, uterus was bulky and anteverted, bilateral fornices were free. Patient was taken up for D&C. While completing the procedure, the surgeon felt a sudden loss of resistance. The procedure was abandoned and patient taken up for emergency laparoscopy to look for any perforation. The patient's vitals remained stable, with pulse rate being 102/minute and BP 116/68 mmHg. On laparoscopy, uterine integrity was found to be maintained and there was no evidence of any perforation. Patient was discharged on postoperative day 2 and recovered well.

DISCUSSION

Induced abortion may be done medically or surgically. The surgical abortion uses uterine maneuvers with instruments that should be performed by trained hands as there are chances of serious complications such as haemorrhage, infection, and, rarely, uterine perforation. Factors predisposing to uterine perforation include increased maternal age, greater parity, advanced gestational age, history of prior caesarean section, and uterine attitude. Kaali SG et al., found that uterine perforation occurred in 14/706 first-trimester elective abortions (1.98%), of which 12 were recognised only by laparoscopy immediately after abortion [5]. When bowel injury is recognised, immediate laparotomy should be performed. The ileum was the most commonly involved bowel, while the uterine injury was on the fundus most of the time. Mabula JB et al., reported a sudden increase in bowel perforation from induced abortion in their centre, where D&C was the most standard method used in 82% of their cases [6]. Resection and anastomoses with uterine repair, as given in present study patient, was the surgical procedure performed in 87% of their cases. Matsubara S et al., reported a case similar to present series, where following a D&C in a tertiary centre of a developed country, perforation at the low anterior uterine wall occurred through which the ileum had prolapsed [7]. The mesentery of the prolapsed ileum was detached entirely, and the ileum was necrotic, which was resected. Augustin G et al., reviewed D&C- related bowel injury in the west and reported 24 articles with 28 cases of small bowel evisceration through the vaginal introitus. All of them had intestinal resection and anastomoses due to gangrenous changes [8].

Authors attempted to review similar cases, reported in India. Nine articles with 11 cases of bowel injuries were studied [Table/Fig-3] [9-17]. Two cases involved prolapse of the omentum, requiring the omentum to be clamped, cut, and ligated, while one involved bowel perforation and necessitated primary repair. Four cases had gangrenous small bowel, while four had mesenteric stripping and ended up in resection and anastomoses of the involved bowel. Eight cases presented within 24 hours of the D&C, two within 3-4 days, and one case 45 days after the D&C. Present study included presentation within a day of occurrence of complications due to

Studies	Amenorrhea	Time from Abortion	Length of Bowel Injured/Type of Bowel Injury	Site of Uterine Injury	Small Bowel Operation	Uterine Operation
Sherigar J et al., (2005) [9]	12 weeks	1.5 hours	Mesenteric stripping (400 cm)	Fundus	Resection and anastomoses	Sutures
Agarwal R et al., (2013) [10]	2 months	45 days	Gangrenous terminal ileum	Posterior wall	Resection and anastomoses	Subtotal hysterectomy
Chandrakanta S et al., (2014) [11]	3 and a half months	Same day	Mesenteric stipping (76 cm)	Anterior wall (2-3 cm)	Resection and anastomoses	Sutures
Sinha P et al., (2015) [12]	2 months	3 days	Omentum prolapse	Fundus (2x2 cm)	Omentum clamped, cut and ligated	Sutures
	Unknown	4 days	Bowel perforation	Posterior wall	Primary repair	Sutures
Rekha S and Durg G, (2015) [13]	4 months	6 hours	Mesenteric stripping (90 cm)	Fundus	Resection and anastomoses	Sutures
Chandi A et al., (2016) [14]	Unknown	Same day	Distal ileum 10cm prolapse with disruption of ileocecal junction	Anterior wall (7x3 cm)	Resection and anastomoses	Sutures
	3 months	7 hours	Omentum prolapse	Anterior wall (5x5 cm)	Omentum clamped, cut and ligated	Sutures
Verma K and Baniya G, (2016) [15]	2 and a half months	1 day	Gangrenous small bowel (90 cm)	Fundus (2x2 cm)	Resection and anastomoses with loop ileostomy	Sutures
Singla R et al., (2020) [16]	18 weeks	12 hours	Gangrenous small bowel (160 cm)	Posterior wall (3x3 cm)	Resection and anastomoses with end jejunostomy followed by stoma closure	Sutures
Samantray SR and Mohapatra I, (2020) [17]	3 months	Same day	Gangrenous small bowel (50 cm)	Left anterolateral wall (3x3 cm)	Resection and anastomoses	Digital evacuation of retained products of conception and sutures
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Neelakandan A et al., (2021)	2 and a half months	1 day	Gangrenous ileum (20 cm)	Anterior wall (2x2 cm)	Resection and anastomoses	Sutures
	9 weeks	1.5 hours	Gangrenous jejunum (100 cm)	Fundus (2x2 cm)	Resection and anastomoses	Sutures
	8 weeks	6 hours	Nil	Nil	Nil	Nil

[Table/Fig-3]: Similar cases and interventions taken in India (including present cases) [9-17].

early recognition followed by a prompt intervention which reduced consequent need for surgery and further distress to the patients. Third case highlights timely vigilance which might necessitate a negative laparoscopy or laparotomy, but will affirmatively rule out any life threatening complications. It was observed from previous studies and present study that the earlier the complication was identified, and necessary action including referral to a tertiary care hospital was taken, the better the prognosis were for the bowel. Appropriate measures reduced morbidity for the patient like shortened duration of stay in the hospital, avoiding ileostomy care, avoiding need for secondary closure and reduced negative impact on the mental health of the patient.

Unsafe abortion can be prevented through comprehensive sex education, prevention of unintended pregnancy through effective contraception, including emergency contraception; and provision of safe, legal abortion. In addition, deaths and disabilities from unsafe abortion can be reduced by the timely emergency treatment of complications. Though prevention would be the key to reducing complications, complications of D&C can occur even in skilled hands, despite supervision.

CONCLUSION(S)

Bowel injury after surgical evacuation of unwanted pregnancy is a nightmare for an obstetrician and can happen even with the most experienced hands. One must be vigilant and be prepared to deal with such surgical emergencies at the earliest as timely recognition saves the bowel and precludes the need for a second laparostomy closure surgery, thereby mitigating the surgical complications involved and further morbidity to the patient.

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