

Chronic Inversion of Uterus Following Spontaneous Abortion: A Case Report

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Abstract

Uterine inversion is a rare entity but poses a serious threat if not diagnosed and managed timely. Here we present a case of chronic uterine inversion in a 30-year-old lady who presented in emergency with a mass coming out per vagina, blood mixed vaginal discharge, and lower pain abdomen for the last 15 days. She underwent laparotomy and was found to have uterine inversion. The patient was attempted for repositioning of uterus with the Huntington's approach, but it was unsuccessful, hence Haultain's operation was done with a total abdominal hysterectomy and bilateral salpingectomy with right-sided ovarian cystectomy for a dermoid cyst. Our case emphasizes the importance of keeping chronic uterine inversion as a differential diagnosis in women presenting with pain abdomen, mass, and bleeding per vagina, and with a recent history of second-trimester abortion. Timely recognition, especially in chronic inversion, will decrease the morbidity and mortality associated with this rare but life-threatening condition.

Keywords: hysterectomy, spontaneous abortion, uterine inversion

Uterine inversion is a rare but potentially life-threatening puerperal complication. It may be associated with severe postpartum hemorrhage, shock, and death.^{1,2} The uterine inversion usually occurs following delivery and only a handful of post-abort uterine inversion cases have been reported so far.³⁻⁵ Here, we report a case of post-abort uterine inversion in a woman who presented with a mass coming out of the vagina and per vaginal bleeding. Written informed consent from the patient and ethical clearance from the institutional review committee was obtained for publishing this case report.


CASE

Thirty-years P₂A₁L₂ woman, with the last childbirth seven years back, presented with a history of something coming out per vagina, pain lower abdomen and blood mixed per vaginal discharge for 15 days, with increased severity since the last two days. She had a history of manual vacuum aspiration for incomplete abortion six weeks before the presentation. Both the previous deliveries were full-term spontaneous vaginal delivery at home and were uneventful. On examination, she was pale and had tachycardia but normotensive. Per abdominal examination revealed mild tenderness in the hypogastric region. On per speculum examination, there was a mass

occupying the whole vaginal canal with foul-smelling blood mixed discharge. Cervix was not visualized. On bimanual examination, there was a globular, tender, hard mass of around 8 × 8 cm², with a regular surface occupying the whole vaginal canal. The cervical rim and fundus of the uterus could not be appreciated. Uterine fundus could not be felt on digital rectal examination. On investigation, her hemoglobin was 8.4 gm/dl. Ultrasonography revealed a bulky uterus with an 8 × 7.5 cm² cervical fibroid. She was planned for laparotomy. Intra-operatively, there was a dimpling over the fundus of the uterus with tubes and ovaries in the crater of the inverted uterus showing classical flower vase appearance (Fig. 1a and 1b). There was a dermoid cyst of 1 × 1 cm² in the right ovary with the normal left ovary and bilateral fallopian tubes. We attempted to reposition the uterus with Huntington's approach, but it was unsuccessful, hence Haultain's operation was done with a total abdominal hysterectomy and bilateral salpingectomy with right-sided ovarian cystectomy for a dermoid cyst. Her postoperative period was uneventful, and she was discharged on the 4th postoperative day.

DISCUSSION

Uterine inversion refers to the condition wherein the uterus is turned inside out. Inversion is classified according to the timing of presentation and the degree of inversion which can be acute (within 24 hours), subacute (> 24 hours to < 4weeks), and chronic (> 4 weeks).⁵ Similarly there are four degrees of inversion: first degree- the corpus or wall of the uterus extends to the cervix but does

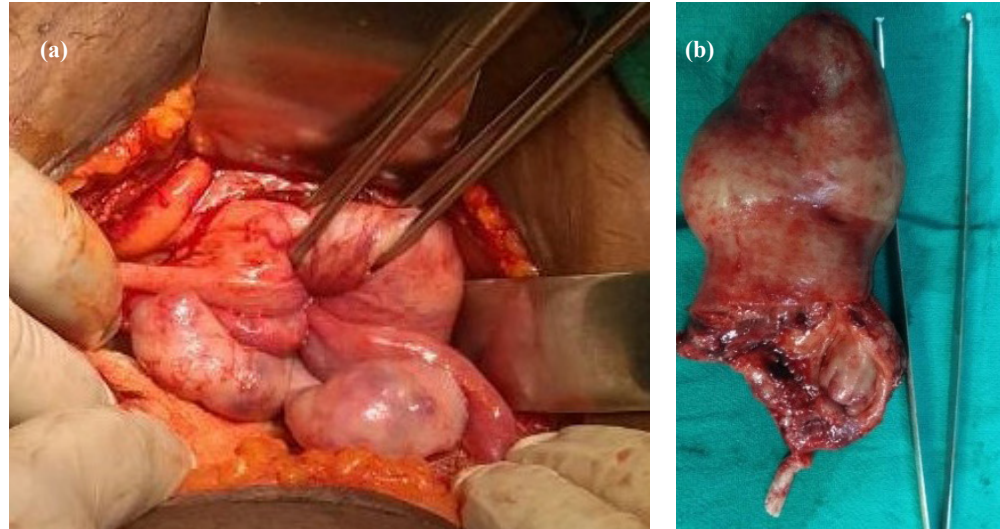
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Figure 1.

(a) Flower vase appearance of the uterus (intraoperative image).

(b) Inverted uterus (resected specimen)



not protrude beyond the cervical ring, second degree- the corpus passes through the cervical ring but does not reach the perineum, third degree- the fundus extends to the perineum, and fourth degree- the vagina inverts along with the uterus past the perineum.¹

The incidence of uterine inversion varies from 1 in 1739 to 20,000 deliveries.^{1,5} In a nationwide study from 2004 to 2013 in the United States, there were 2427 cases in 8,294,279 deliveries, corresponding to an incidence of 2.9 per 10,000 deliveries.³ It is a puerperal event, with only 150 cases of non-puerperal inversion reported in the literature from 1887 to 2006.¹ The mortality rate due to uterine inversion has decreased from 15% to zero or as low as 4.1 per 10,000.^{1,3} A report of six cases of uterine inversion from Nepal described morbidity but no mortality.⁶

The etiology of uterine inversion is still not well understood. Mismanagement of the third stage of labor was thought to be the most common cause for uterine inversion but recently this theory has been challenged. Prolonged labor, short umbilical cord, manual removal of placenta, placenta accreta, uterine atony, sudden uterine emptying, fetal macrosomia, and uterine tumors are other risk factors.¹ Uterine inversion usually occurs following delivery. Post-abortion uterine inversion is very rare, and only a few cases have been reported.^{4,5} The most common features of inversion are pain abdomen, post-partum hemorrhage and shock, whereas chronic inversion may present with chronic vaginal discharge, irregular vaginal bleeding, anemia, and pelvic discomfort. Unlike acute inversion where an abdominal examination reveals significant findings, chronic inversion may be subtle. Chronic inversion may be diagnosed with the finding of fundal depression on digital rectal examination but as in our case, it may not

be apparent in all cases. Transvaginal or transabdominal ultrasonography and/ or MRI can confirm the diagnosis when the clinical examination is not clear.¹ Sometimes its presence may not be appreciated until the time of surgery, hence a high index of suspicion is required for the diagnosis.

Treatment of the uterine inversion starts with initial resuscitation, followed by attempts to reposition the uterus by non-surgical or surgical approaches. Non-surgical approaches like O'Sullivan maneuver and Johnson maneuver to replace the uterus is usually feasible in the acute inversion of the uterus.⁵ Surgical approach via abdominal (Huntington or Haultain procedure), or transvaginal (Spinelli procedure) is the next in line for the failed nonsurgical attempt.^{4,5} In resistant cases, a hysterectomy may be needed. In this era of minimally invasive surgery, there are few reported cases of successful reposition of uterine inversion laparoscopically,⁷ but it may not be feasible in hemodynamically unstable patients.

CONCLUSION

Uterine inversion following an abortion is an extremely rare but life-threatening condition. A high index of suspicion is required for diagnosis. With early identification, active resuscitation, and timely intervention, it can be treated with a favorable outcome.

DECLARATIONS

Ethics approval and consent to participate: Ethical approval obtained from the Institutional Review Committee of B. P. Koirala Institute of Health Sciences, Dharan.

Consent for publication: Obtained from the patient.

Availability of data and materials: The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request. All relevant data are within the manuscript and its supporting information files.

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