

Case Report

UTERINE INVERSION- AN OBSTETRICIAN’S NIGHTMARE

Neelotparna Saikia^{1✉}, Himadri Bhuyan², Shiwani Patidar³, Priyanka Singh⁴

ABSTRACT

Puerperal acute inversion of uterus is a rare obstetric condition observed as a serious complication during the third stage of labor. The mechanisms are not completely known. However, extrinsic factors such as umbilical cord traction or abdominal expression are important factors. Here we report two cases of uterine inversion which presented to our facility; first was a case of subacute uterine inversion and the second was a case of acute uterine inversion.

KEY WORDS: Puerperal, inversion, umbilical cord traction

INTRODUCTION

Puerperal inversion of the uterus is one of the classic hemorrhagic disasters encountered in obstetrics. Unless promptly recognized and managed appropriately, associated bleeding often is massive. Risk factors include alone or in combination: fundal placental implantation, uterine atony, cord traction applied before placental separation, abnormally adhered placentation such as with the accrete syndromes, fundal pressure for delivery of the baby^{1,2,3,4}. Depending on the presence of the contributory factors, the incidence and severity of uterine inversion varies.

The first classification is according to the **delay between the delivery and the diagnosis of the uterine inversion:**

- 1) The acute inversions arising immediately or within 24 hours after delivery.
- 2) The subacute inversion occurring after the first 24 hours and within four weeks after delivery.
- 3) The chronic inversion arising after more than four weeks of the delivery⁵.

The prevalence of each class of inversion is 83.4%,

2.62% and 13.9% respectively⁶.

The second classification is according to **degrees** of uterine inversion.

- 1) First degree- the fundus inverts but does not herniate through the level of the internal os.
- 2) Second degree the fundus passes through the cervix and lies within the vagina.
- 3) Third degree the entire uterus is turned inside out and hangs outside the vulva.

Complications are shock, puerperal sepsis, anuria and Sheehan’s syndrome. If untreated, mortality can be high. The incidence of uterine inversion ranges from 1 in 2000 to 1 in 20,000 vaginal deliveries.^{7,8,9}.

CASE 1:

Mrs XX, 33 years old female married for 13 years, (P6L5) with once post LSCS followed by 5 VBAC came in emergency with history of home delivery attended by traditional birth attendant one day prior to with complains of urine retention and something coming out per vagina. A diagnosis of

subacute uterine inversion with anemia in shock was made and resuscitation was performed. She was started on intravenous broad-spectrum antibiotics and immediately shifted to OT. Vaginal reposition of the inverted uterus was tried under GA but it was unsuccessful. Then we proceeded to do laparotomy and the cervical ring was identified and incision was given over the cervical ring anteriorly after pushing the bladder (Ocejo method). Manually uterine fundus was pushed up per vaginum. Reposition of the uterus was successful. Incision was then sutured in double layers and subsequently uterotonic were given. Bilateral tubal ligation was done using modified Pomeroy's method, hemostasis was achieved and abdomen was closed in layers. The patient received 3 units of blood and on post-operative day 8 discharged in hemodynamically stable condition.

CASE 2:

The patient is 25-years-old, P3L3, once post LSCS. She had a VBAC delivery at a local PHC, immediately post-delivery patient had PPH which was managed conservatively but vitals were deteriorating, hence was referred to our facility for further management. On general examination patient was conscious but agitated, gasping for air and was severely pale. The vitals were not recordable, fluid resuscitation was done and immediate cross match was sent. Per abdomen, fundus was not palpable and on pelvic examination revealed a polypoidal red mass protruding in the vagina and there was no active bleeding. The placenta was not attached and the mass was not edematous. The perineum was intact. Patient was started on broad-spectrum antibiotic therapy and was shifted to OT for repositioning. A manual reduction was attempted under aseptic conditions in the OT, the patient was placed in the lithotomy position and the prolapsed uterus was manually replaced into the vagina and then carefully reduced into the abdomen by gently pressing first on that part of the corpus which was inverted last, followed by the fundus through the dilated cervix. A hand placed on the lower abdomen anteriorly elevated the uterus into the abdomen. Uterotonics were started, high dose oxytocin along with methergine. Intra-operatively, she was started on

ionotropic agents and 2 units of blood were transfused. Oxytocin infusion was maintained for 24 hours. She was transfused a total of four units of blood. She made uneventful recovery and was discharged home on oral antibiotics, hematinic and advised on contraception and the need for adequate antenatal care and hospital delivery in case she conceives.

DISCUSSION

The diagnosis of the puerperal uterine inversion is mainly clinical. It is based on three elements: hemorrhage, shock and a strong pelvic pain^{10,11}. The hemorrhage strength is directly connected to the inversion duration. The bleeding is massive in more than 70% of cases and the shock is the most constant sign^{12,13}.

Proper education and training regarding active management of third stage of labour, diagnosis and management of uterine inversion should be imparted to traditional birth attendants, so that this potentially life-threatening obstetric emergency could be averted.

Uterine inversion is an uncommon but potentially life-threatening obstetric emergency. Once diagnosed, an attempt is made to replace the uterus manually repositioning without removing the placenta, if separation has not yet occurred¹⁴. Otherwise, the patient is liable to bleed excessively, which could precipitate shock¹⁵. If manual reduction fails, then employing the use of hydrostatic replacement or O'Sullivan's technique would be the next approach. If uterine inversion has persisted despite non-surgical approaches, then surgery will usually be required.

The surgical approach can be done by laparotomy or laparoscopy. Huntington's surgical method clamps the round ligaments below the depression, formed by the inverted uterus and tractions them until all the inversion is corrected^{16,17}. Obstetric suction cups can be used in abdominal corrections instead of clamps, as shown by Antonelli, in order to be less harmful to the round ligaments during traction¹⁸. If it fails, the Haultain technique can be tried, which performs a longitudinal hysterotomy in the posterior portion of the median uterine wall, inferior, of 5-6 cm, reaching the inversion cervical

ring, which facilitates disinvagination^{16,17}. If the incision is made in the anterior wall, it is called Ocejo method.^{16,17,19}

Laparotomy has the advantage of easy conversion to hysterectomy, but it is a procedure that requires a large incision, which generates greater postoperative pain and consequently longer hospitalization²⁰. Besides that, the risk of adhesions is much higher, which can complicate in subsequent pregnancies due to the increased risk of uterine rupture¹⁹. The laparoscopic approach requires more infrastructure, surgical experience and hemodynamic stability of the patient, but with minimal trauma, and has a more favorable postoperative with fewer complications and less pain²⁰.

Vaginal procedures include Spinelli's and Kustner's technique and are used mainly in non-puerperal conditions^{16,21,18,19}.

In our case patient had home delivery without proper management of third stage of labour. Treatments may be reduced if the patient is rescued promptly by a qualified team of paramedics with knowledge of the third stage of labor.

In our case Johnson's maneuver, was attempted but failed, due to the congestion and edema and thus we proceeded to do a laparotomy and attempted the Ocejo method. After repositioning of the uterus administration of uterotonic agents (oxytocin or misoprostol) is essential to prevent recurrence. Broad spectrum antibiotic prescription is also recommended to prevent endometritis or sepsis.

CONCLUSION

In a country like India where home deliveries are still very common, though institutional deliveries should be encouraged, due to various logistical problems birth should be assisted by trained birth attendants or dais. Proper ante natal follow up, recognition of high-risk cases, proper contraceptive methods in multi-gravidas should also be encouraged.

Most important thing is the proper management of this obstetric emergency is rapid recognition and prompt attempts of resuscitation and reposition of inverted uterus either vaginal route or by surgical

methods can save the life of the woman.

In some of the cases, surgical correction via a laparotomy may be needed which we have done after the failed attempt of reposition by vaginal route. It is essential to keep in mind this diagnosis in all cases of postpartum hemorrhage, and be updated about the medical therapy and surgical techniques required to solve this type of complication.

REFERENCES

- [1] Thoulon JM, Heritier Ph, Muguet D, Spiers C, Lebrat J, Dumont M. L'inversion uterine. *Rev Fr Gynecol Obstet*. 1980;75:321-6.
- [2] Watson P, Besch N, Bowes WA Jr *Obstet Gynecol*. 1980 Jan; 55(1):12-6.
- [3] Shah-Hosseini R, Evrard JR *Obstet Gynecol*. 1989 Apr; 73(4):567-70.
- [4] Personnier A, Ko-Kivok-Yun P, Reme JM *Rev Fr Gynecol Obstet*. 1995 Jul-Sep; 90(7-9):362-6.
- [5] Wendel PJ, Cox SM. Emergent Obstetric management of uterine inversion. *Obstet Gynecol Clin North Am*. 1995;22:261-74.
- [6] Dali SM, Rajbhandadari S, Shrestha S. Puerperal inversion of the uterus in Nepal: case reports and review of literature. *J Obstet Gynaecol Res*. 1997;23:319-25.
- [7] Coad S, Dahlgren L, Hutcheson JA: Risk and consequences of puerperal uterine inversion in the United States, 2004-2013. *Am J Obstet Gynecol* 217:377, 2017
- [8] Ogah K, Munjuluri N: Complete uterine inversion after vaginal delivery. *J Obstet Gynaecol* 31(3):265, 2011
- [9] Witteveen T, van Stralen G, Zwart J, et al: Puerperal uterine inversion in the Netherlands: a nationwide cohort study. *Acta Obstet Gynecol Scand* 92(3):334, 2013
- [10] Wendel PJ, Cox SM *Obstet Gynecol Clin North Am*. 1995 Jun; 22(2):261-74.
- [11] Lago JD *Am J Emerg Med*. 1991 May; 9(3):239-42.
- [12] Chambrier C, Zayneh E, Pouyau A, Pacome JP, Boulétreau P *Ann Fr Anesth Reanim*. 1991; 10(1):81-3.
- [13] Miras T, Collet F, Seffert P *J Gynecol Obstet Biol Reprod (Paris)*. 2002 Nov; 31(7):668-71.
- [14] Brar HS, Greenspoon JS, Platt LD, Paul RH.

Acute puerperal uterine inversion. New Approaches to Management. J Repro Med 1989;34:173-7.

[15] Kochenour NK. Intrapartum obstetric emergencies. Crit Care Clin 1991; 7:851-864

[16] Neves J, Cardoso E, Araújo C, Santo S, Gonçalves P, et al. Inversão uterina. 2006; 19: 181-184

[17] Zugaib M. Zugaib Obstetrícia. Barueri(SP). Editora Manole. 2020; 1406.

[18] Antonelli E, Irion O, Tolck P, Morales M. Subacute uterine inversion: description of a novel replacement technique using the obstetric ventouse. BJOG. 2006; 113: 846-847. Senior Consultant, Department of Obstetrics and Gynecology, Nazareth Hospital, Shillong, Meghalaya, India.

[19] Sardeshpande NS, Sawant RM, Sardeshpande SN, Sabnis SD. Laparoscopic correction of chronic uterine inversion. J Minim Invasive Gynecol. 2009; 16: 646-648.

[20] Shepherd LJ, Shenassa H, Singh SS. Laparoscopic management of uterine inversion. J Minim Invasive Gynecol. 2010; 17: 255-257.

[21] Ida A, Ito K, Kubota Y, Nosaka M, Kato H, et al. Successful Reduction of Acute Puerperal Uterine Inversion with the Use of a Bakri Postpartum Balloon. Case Rep Obstetr Gynecol. 2015; 2015: 1-5

Received: 23.12.2021

Accepted: 29.12.2021

Published online: 31.01.2022

Citation: Saikia N, Bhuyan H, Patidar S, Singh P. Uterine Inversion- An Obstetrician's Nightmare. J Indian Acad Obstet Gynecol. 2022;3(2):45-48.

1.Senior Consultant, Department of Obstetrics and Gynecology, Nazareth Hospital, Shillong, Meghalaya, India.

2, 3, 4. Secondary DNB (T), Department of Obstetrics and Gynecology, Nazareth Hospital, Shillong, Meghalaya, India.

✉ Email: neelots@gmail.com