

A Rare Case Report of Acute Uterine Inversion

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Received: 05 Jan 2023; Accepted: 20 Feb 2023; Published: 25 Feb 2023

Citation: Dorcas S Onuminya, Reuben A Eifediya. A Rare Case Report of Acute Uterine Inversion. J Med - Clin Res & Rev. 2023; 7(2): 1-3.

ABSTRACT

Background: Uterine inversion is a rare obstetric emergency with associated high maternal morbidity and mortality if intervention is delayed. The low incidence of uterine inversion results in sparse experience in resolving this obstetric emergency. There are many treatment strategies, but they are poorly described. The aim of this paper is to describe a rare case of acute uterine inversion and discuss its management.

Methods: A rare case report of acute uterine inversion following delivery in a multiparus woman which was treated promptly by obstetric team intervention with good outcome.

Results: We were able to recognize the acute inversion of the uterus postpartum and offered manual uterine reversal using Johnson maneuver at an early stage without complications. The risk factor for uterine inversion was the fundal implantation of the placenta.

Conclusions: The best management options for acute inversion of the uterus are not known, it is however important to keep in mind this diagnosis and be updated about the strategies required to achieve uterine reversal at an early stage.

Keywords

Acute uterine inversion, Management outcome, Rare case report, Irrua.

Introduction

Inversion of the uterus is a rare obstetric emergency with associated maternal morbidity and mortality if intervention is delayed. The incidence of uterine inversion is low owing to the scarce nature of the condition [1-4]. The best treatment option for this condition is not known, owing to lack of experience in managing this obstetric emergency. We present a rare case of acute uterine inversion in a multiparus woman following delivery to highlight the key points on management.

Case Report

Mrs. O.S. was unbooked. She was referred to Irrua Specialist Teaching Hospital (ISTH), Irrua from a nearby maternity home at Irrua town. She presented in the labour ward late at night in company of her husband and mother in – law with history of protrusion of “something” down the vagina following spontaneous vaginal delivery. She described it, as the uterus with placenta still attached and there was no history of bleeding. She ruptured her membranes two hours prior to presentation at the same maternity home. The labour lasted for about six hours and subsequently had a normal term delivery of a live male infant. She was referred to ISTH, Irrua following acute uterine inversion and retained placenta. The pregnancy was booked in the same maternity home and had been largely uneventful. There was no history of dizziness

or collapse on presentation. There was no such history of uterine inversion in the previous deliveries. She was para 6 - four alive with 3 boys and one girl. She had 6 spontaneous vaginal deliveries, all in the same maternity home at Irrua. She had lost two from early neonatal death and febrile illness at 9 months of age. The postpartum periods were uneventful. Her menarche occurred at the age of 14 years. She menstruated for 5 days in a regular cycle of 28 to 30 days. She had normal menstrual flow and had no history of dysmenorrhea. She had used the injectable form of contraception for 4 years prior to the index pregnancy. She stopped because she wanted to get pregnant. There were no complications. Her systemic review was not significant.

She was a tall woman, anxious and in painful distress. She was moderately pale. She was not jaundiced. There was no pedal oedema. The breasts were normal. Her respiratory system was normal. The pulse was 120 beats per minute, regular and of normal volume. Her blood pressure was 100/60 mmHg. The first and second heart sounds were normal. There were no murmurs. The abdomen was full, soft, with mild suprapubic tenderness. The liver, spleen and kidneys were not palpably enlarged. The fundus could not be felt except a dimple at the suprapubic region and it was tender. The vulva and the vagina were normal. Uterine fundus with firmly attached placenta was observed in the vagina. There was no active vaginal bleeding. A diagnosis of acute uterine inversion with retained placenta was made.

The patient was admitted with her baby. The diagnosis and subsequent line of management was explained to the patient and her husband. Intravenous line was established with a wide bore cannula. Blood was collected for urgent packed cell volume, grouping and cross matching of 3 units of whole blood. Intravenous infusion of 0.9% saline was commenced at the rate of 1 liter 4 hourly. Initial attempt by the registrar on call to reduce the uterus in the labour ward failed. The patient was then booked for examination under anaesthesia. The theatre staff, anaesthetist and consultant Obstetrician on call were informed. Her packed cell volume was 30%, blood group was A Rhesus Positive, genotype was AA and urinalysis was normal. She was booked for examination under anaesthesia and manual reduction of the uterine inversion and removal of retained placenta. The findings were: no active vaginal bleeding, normal vulva with clamped umbilical stump dangling, the vaginal capacity was reduced with the upper portion occupied by the fundus of the inverted uterus, intact placenta attached to the fundus of the inverted uterus and estimated blood loss was 1,000ml.

Procedure

Under general anaesthesia and in the lithotomy position, the patient was cleaned and draped. The urinary bladder was drained by catheterization. The uterus was relaxed with 2% halothane.

The uterus was reduced with manual pressure on fundus through the vaginal using the Johnson maneuver [1]. The uterus was repositioned manually and the reducing hand was kept inside the uterus until Oxytocin has produced firm contraction. The placenta separated spontaneously during the above procedure. The uterine cavity and genital tract were then explored and found to be intact. Intravenous Ergometrine 0.5mg was given and 20 i.u. of Oxytocin was added to the infusion to keep the uterus contracted. This was continued for 4 hours after the operation. She had two units of whole blood transfused intra – operatively. The estimated blood loss was 1,000ml.

Postoperative Management

This was essentially uneventful. The oxytocin infusion was discontinued after 4 hours when the uterus was well contracted and there was no vaginal bleeding. She was continued on intravenous Augmentin 1.2g, 12 hourly and intravenous metronidazole 500mg 8 hourly for 48 hours. These were changed to Augmentin tablets 625 mg 12 hourly and Metronidazole tablets 400mg 8 hourly for another 5 days. Analgesia was achieved with paracetamol tablets 1g 8 hourly for 4 days. She remained well and stable. The packed cell volume was 27% on the 3rd postoperative day. She was subsequently discharged home on the 4th postoperative day with the remaining antibiotics and haematinics to be completed at home. She was given an appointment to be seen at the postnatal clinic 6 weeks later with her baby. She was also counselled on the need for permanent form of contraception.

Postnatal Clinic

There were no complaints. The baby weighed 5.2kg and was breast – feeding well and had had BCG and Oral Polio Vaccine Immunizations. The mother's blood pressure was 110/70 mmHg. The systematic and pelvic examinations revealed no abnormality. Her packed cell volume was 32%. She was discharged from the clinic and referred to the Family Planning Clinic for contraceptive advice.

Discussions

An inversion of the uterus is a condition in which the fundus of the uterus descends through the uterine cavity and the cervix into the vagina and sometimes protrudes through the vulva [1,2].

There are three degrees of acute uterine inversion. First degree uterine inversion occurs when the fundus descends through the uterine cavity as far as the level of the internal OS, second degree uterine inversion occurs when the fundus descends through the uterine cavity as far as the vagina and third degree uterine inversion occurs when the uterus is completely turned inside out with the fundus lying outside the vagina [3]. The incidence of inversion of the uterus varies from 1 in 2000 to 1 in 500,000 deliveries. This also depends on the standard of management

of third stage of labour [4]. Mrs. O. S. had a second-degree acute uterine inversion. The probable aetiology in this case was mismanagement of third stage of labour and high parity. Other factors include fundally sited placenta, too rapid withdrawal of the placenta during controlled cord traction, short cord and uterine atony. Mrs. O. S had fundally sited placenta, which is a known risk factor for uterine inversion. Factors contributing to uterine atony include high parity, multiple gestation, polyhydramnios and use of parenteral magnesium sulphate in a woman with pregnancy – induced hypertension [1,2,4], Mrs. O. S was of a high parity and probably had a mismanaged third stage of labour at the maternity home.

Incomplete uterine inversion can be quite deceptive and the dimpling of the fundus may be missed, and may also progress to complete inversion a few days after delivery, but Mrs. O. S presented immediately at ISTH and the diagnosis was made early and hence the prompt intervention.

Inversion is associated with haemorrhage in 90% of cases and shock in 40% of cases, which tend to be disproportionate to the amount of blood loss [1,5]. Mrs. O. S. presented with incomplete inversion with placenta in – situ, hence the risk of haemorrhage was minimal.

The delay in transferring Mrs. O. S. to the hospital and the use of Oxytocin at the maternity home contributed to the formation of the constriction ring and hence initial attempt at replacing the fundus was unsuccessful. Studies have shown that the sooner the diagnosis is made and the earlier attempted correction is carried out the more likely is an ease and successful replacement of the uterus [4].

Mrs. O. S. had manual replacement of the uterus under general anaesthesia using 2% Halothane. However, there are other available management modalities using tocolytic agents to relax the constriction ring to enable manual replacement. The use of hydrostatic method of O' Sullivan may also work if the inversion

is refractory to the above modalities of treatment, which is rare, surgical correction will probably be required at laparotomy.

At laparotomy, the inversion may be reduced by Huntington's technique using the tenaculum to grasp the inverted fundus in sequential fashion until the entire inversion has been corrected. If the constriction ring is too tight to allow this, the Haultain technique of incising the constriction ring posteriorly is required to allow correction of the inversion [4,6,7].

Conclusions

In hospital with trained personnel, anaesthetic facilities and blood bank for transfusion, acute inversion is rarely fatal. However, if it occurs without these facilities the risk of maternal death is great, hence the emphasis on the meticulous management of the third stage of labour and the need for early diagnosis of this condition when immediate replacement without anaesthesia may be feasible.

Mrs. O.S had successful prompt intervention at presentation in the hospital, which helped minimize the complications.

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