Case Report

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Acute Uterine Inversion with 2nd Degree Perineal Tear

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Abstract

Introduction: The acute peurperal uterine inversion is a rare obstetric emergency and a severe complication occurring in the third stage of labour. The diagnosis of uterine inversion is made on the basis of clinical symptoms which include haemorrhage, shock and a strong pelvic pain. *Case Report:* A 24 year old, para 2 , living 2 , delivered vaginally at a primary health care centre three hours prior to admission was referred in view of mass per vagina and shock. On per abdominal examination there was suprapubic tenderness and the uterine fundus could not be palpated. The local examination revealed a 2nd degree perineal tear with profuse vaginal bleeding, a uterine mass was visualised in the vagina and the diagnosis of acute uterine inversion was made. Under general anaesthesia, manual correction was attempted but failed. A laprotomy was done; another attempt to correct inversion by applying traction on the round ligaments was made but was unsuccessful. An incision was taken on the posterior surface of the ring formed by the cervix and via vaginal manipulation the fundus was pulled up and uterine reposition was achieved. As persistent uterine atonicity was noted B –Lynch & square stitches were put on the uterine fundus and bilateral uterine artery ligation was done. The 2nd degree perineal tear was sutured in layers. Three units of blood were transfused intra operatively and postoperative use of uterotonic agents, antibiotics, analgesics lead to an uneventful recovery of the patient. *Conclusion*: Acute uterine inversion is accompanied by high risk of postpartum haemorrhage and the best prognosis occurs where the diagnosis and manoeuvres are made at an early stage.

Keywords: Uterine; Perineal; Peurperal uterine.

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Introduction

Uterine inversion is a rare, life threatening obstetric emergency. The incidence varies from 1 in 2000 to 1 in every 50,000 [1]. The diagnosis is based on clinical symptoms which includes haemorrhage, shock and a strong pelvic pain [2]. Often massive blood loss can lead to hypovolemic shock and requires immediate intervention [3].

The most common cause of acute uterine inversion is mismanagement of the third stage of labour. The other risk factors are utrine atony, fundal implantation of a morbidly adherent placenta, manual removal of the placenta, short umbilical cord, and connective tissue disorders. In 50% of the cases no identifiable risk factors have been found [3].

Two classifications of uterine inversions are in use. The first is based on the severity. In the first degree the inversion, the inverted wall extends to but not outside the cervix. In the second degree inversion, though the inverted wall protrudes outside the cervix but remains in the vagina. The third degree inversion has the inverted fundus outside the vagina. In the fourth degree there is total inversion of the vagina and the uterus. The second classification is the time interval between the delivery and the diagnosis. The acute inversion occurs immediately or within

24 hours of delivery. The subacute inversion presents after 24 hours of delivery and within four weeks. Chronic inversion is one which appears after four weeks. The prevalence of each class of inversion is 83.4%, 2.62%, 13.9% respectively [4].

Case Report

A 24 year old, para 2, living 2, delivered vaginally a live healthy 2.5 kg male baby at a primary health care centre three hours prior to admission. She was referred in view of mass per vagina and shock.

On examination, the patient was pale with a pulse rate of 120bpm, thready, low in volume, and the BP was 90/60 mmHg the abdominal examination revealed a suprapubic fullness with tenderness. The suprapubic mass was due to bladder fullness and the uterus was not palpable. The local examination revealed a 2nd degree perineal tear with profuse vaginal bleeding , a uterine mass was visualised in the vagina and the diagnosis of acute uterine inversion was made.

Under aspectic precautions, in the labour room foley's urethreal catheter was inserted along with fluid resuscitation and the patient was put on six litres of oxygen.

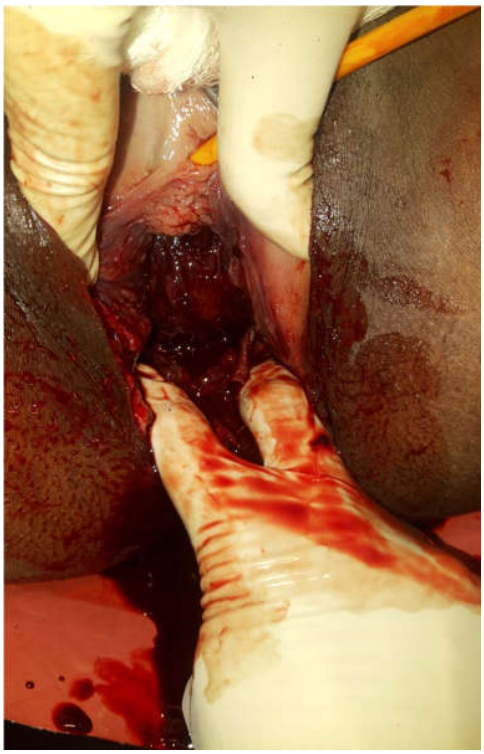

Fig. 1: Acute uterine inversion witha 2nd degree perineal tear

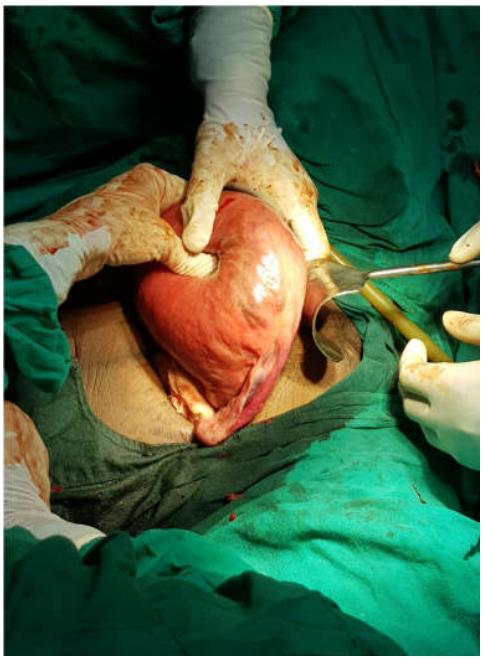

Fig. 2: Intraoperative dimpling of the uterine fundus

Under general anaesthesia, manual correction was attempted but failed. A laprotomy was done. Intraoperatively, dimpling of the uterine fundus with the fallopian tubes and round ligaments buried inside was observed. Another attempt to correct inversion by applying traction on the round ligaments was made but was unsuccessful. An incision was taken on the posterior surface of the ring formed by the cervix and via vaginal manipulation the fundus was pulled up and uterine reposition was achieved. As persistent uterine atonicity was noted B –Lynch & square stitches were put on the uterine fundus and bilateral uterine artery ligation was done. The 2nd degree perineal tear was sutured in layers. Three units of blood were transfused intra operatively and postoperative use of uterotonic agents, antibiotics, analgesics lead to an uneventful recovery of the patient.

Discussion

The incidence of acute uterine inversion is higher in the remote areas of developing countries where unskilled management of the third stage of labour is common [4]. About 94% of the cases present with haemorrhage with or without shock and eventually postpartum haemorrhage ensues [5]. The diagnosis is clinical but can be confirmed by ultrasound, which detects a vaginal mass with specific characteristics such as the echogenecity of the uterus is in the shape of H letter and endometrial echogenecity is the shape

of C letter [6].

Optimal treatment for acute inversion requires parenteral toloclytics to permit prompt replacement and use of uterotonic agents to maintain normal uterine positioning. Our patient had presented with shock and post partum haemorrhage thus volume replacement was essential in the management along with repositioning.

In 1949, Johnson described a procedure for the manual repositioning of the uterus known as the Johnson's manoeuvre. The principle behind this procedure is "uterus has to be lifted into the uterine cavity above the level of the umbilicus before repositioning can occur. The passive action of the uterine ligaments will rectify the uterine inversion "[1]. The whole hand plus two thirds of the arm is placed in the vagina and holding the fundus in the palm and fingertips at the uterocervical junction, the fundus is raised above the level of the umbilicus. It may be essential to apply digital pressure for several minutes so that the uterine ligaments are under constant tension. This tension relaxes the cervical ring and widens it and passage of the fundus through the ring occurs. Thus, the inversion is corrected. The success of immediate reduction is 43% to 88% [7]. Several doses of uterotonics are administered to avoid reinversion and stabilise the myometrium.

The first report of hydrostatic replacement of the uterus was published by O'Sullivan [8]. If manual replacement does not succeed then as per the WHO 's recommendation hydrostatic method shuld be attempted [9]. A uterine rupture is excluded before the initiating this method. The procedure is performed in an operating theatre with the woman in a lithotomy position. Warm sterile water or isotonic sodium chloride solution is rapidly instilled into the vagina via a rubber tube or intravenous giving set while the accoucheur's hand blocks the introitus. The fluid distends the vagina and pushes the fundus upwards into its natural position by hydrostatic pressure. The bag of fluid should be elevated approximately 100-150 cm above the level of the vagina to ensure sufficient insufflation. The main hurdle in this procedure is maintaining a tight seal at the introitus. This can be overcome by using a silastic ventuose cup although a hand may still be necessary to ensure a tight seal. Infections and failure rates are high with this procedure. The recommended volume of infusion has been as much as five litres. Saline embolus has also been theoretically cited as a complication but there have been no cases of saline embolus or pulmonary edema [10].

In the presence of a constriction ring reduction of uterine inversion is difficult. Tocolysis has a role in relaxing the uterus before manual replacement or the use of hydrostatic method but is associated with postpartum haemorrhage especially in the presence of shock. The common drugs used are magnesium sulphate (4 to 6 IV over 20 minutes), nitroglycerin (100 micrograms IV slowly, achieving uterine relaxation in 90 seconds when given sublingually) and terbutaline (0.25mg IV slowly). Terbutaline and magnesium sulphate take 2 to 10 minutes to be effective [13].

If manual replacement fails, general anaesthesia is required as it promotes maternal pain relief and uterine relaxation. Intrauterine Rusch ballon catheter (modified hydrostatic method) has been been reported [14].

When all the above measures fail surgical reduction become necessary. There are two main surgical techniques: Huntington and Haultaim. In the Huntington's procedure ,via an abdominal incision the inversion site is exposed. A crater will be noticed in the region of the cervix along with the indrawn tube and the round ligaments. Two Allis forceps are applied into the crater on each side and upward gentle traction is extered on the forceps , with a futher placement of forceps on the advancing fundus. The uterus is pulled out of the constriction ring and restoration is achieved [15] .

In Haultain's procedure, an incision is taken on the posterior portion of the ring formed by the cervix. This increases the size of the ring and reposition of the uterus is achieved and the incision is closed by interrupted sutures [16]. It is usually done in cases where Huntington's procedure fails .

A vaginal route has been described by Spinelli where the surgeon dissects the vesicouthereal space and makes an incision on the cervix to return the uterus to its original position [17].

Vijayraghaavan et al. [11] reported a case of acute inversion which was managed under laproscopic guidance, citing the advantages of laproscopic surgery as the reason for the procedure. However, the woman's heamodynamical stability has to be considered to avoid pneumoperitoneum .

After the reversal of the condition, administration of the uterotonics is essential to prevent recurrence and prevention of endometritis or sepsis is achieved by large spectrum antibiotics [18].

Conculsion

Acute Uterine inversion is an obstetric complication and prompt action is required in the

form of rapid diagnosis and clinical intervention. The incidence can be reduced by avalibility of skilled attendants during labor thus reducing the morbidity and mortality associated with the condition. There are no predictive factors and with a varied etiology of risk factors of this rare emergency immediate medical and surgical intervention forms the cornerstone of management.

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