



## Successful Outcome of a Rare Complication of Vaginal Birth: A Case Report

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### Abstract

Uterine inversion is a condition in which the interior surface of the relaxed uterus protrudes through the vaginal entrance. Its causes are divided into two categories: puerperal and non-puerperal, with puerperal uterine inversion being more common than non-puerperal uterine inversion. The most common variety is acute inversion, which occurs immediately or within 24 hours after delivery. Chronic Uterine Inversions (CUI) that occur more than four weeks after delivery are uncommon. In this study we discuss a case of a 30-year-old woman who came with the complaints of feeling of a mass in the vagina after her last confinement which was gradually coming down through the vagina and remain outside the introitus for 5 years. Based on clinical and sonographic evaluation, she was diagnosed with CUI and developed post partum haemorrhage. We adopted Haultain's method for correction of CUI. Since, CUI as a painless vaginal mass in the delayed post-partum period is uncommon and hence documented.

**Keywords:-** Chronic Uterine Inversions, Haultain's method, Inverted uterus.

## INTRODUCTION

Uterine inversion is a condition in which the uterus turns inside out with prolapse of the fundus through the cervix. It is a rare complication of mismanaged labour. Inversion varies in degree from a mere dimpling of the fundus to involvement of the whole uterus and cervix. It is seen in acute and chronic forms. Uterine inversion is a rare but familiar obstetric complication after parturition and can be life-threatening if not attended to immediately.<sup>[1]</sup> The reported incidence of uterine inversion is roughly 1 in 2000 to 1 in 50,000 births, with maternal mortality reaching up to 15%.<sup>[2]</sup>

Puerperal uterine inversion is classified into 2 categories: complete uterine inversion (it passes through the cervix) and incomplete uterine inversion (it does not pass through the cervix).<sup>[3]</sup> Uterine inversion observed within the first 24 h of delivery is called acute uterine inversion. Uterine inversion observed at between 24 h and 4 weeks is called sub-acute uterine inversion. Chronic uterine inversion is usually observed at least 4 weeks after delivery. Acute inversion is a rare but a serious obstetric emergency. Women can sink into profound shock which can prove fatal. Immediate management of shock and manual repositioning of the uterus both reduce morbidity and mortality.<sup>[4]</sup> Baskett et al



analysed data in a North American unit over 24 years and noted a four-fold decrease in the incidence of acute uterine inversion associated with vaginal birth after the introduction of active management of the third stage, from 1 in 2304 to 1 in 10044.<sup>[5]</sup> The perception amongst many obstetricians is that uterine inversion is very rare: it will occur only once in a decade in most British maternity units (approximately 1:27 902 births).<sup>[6]</sup> Baskett et al, however, reported the incidence as 1:3737, which would suggest occurrence at least once a year in most units.<sup>[5]</sup> It is well established that mismanagement of the third stage of labour (premature traction on umbilical cord and fundal pressure before separation of placenta) is the commonest cause of acute uterine inversion. This can happen when delivery is conducted by an untrained birth attendant, a situation more likely to occur in developing countries, which explains why the incidence in India is treble that of the UK. Many other risk factors have been mentioned, including uterine atony, fundal implantation of a morbidly adherent placenta, manual removal of the placenta, precipitate labour, a short umbilical cord, placenta praevia and connective tissue disorders.<sup>[7,8,9,10,11,12,13,14]</sup> Though, upto 50% of cases, no risk factors are identified and there is no mismanagement of the third stage. This condition can, therefore, be unpredictable.<sup>[15]</sup>

In Bangladesh, over half of women (53% in 2016) give birth at home, generally without the support of a skilled birth attendant.<sup>[16]</sup> However, in a developing country due to cultural and financial reasons, most of the deliveries are still being conducted by untrained birth attendants (“dais”) who have sparse knowledge of oxytocic drugs. Hence,

proper education and training should be imparted to the traditional birth attendants and local village health practitioners about the management of labor, placental delivery, timely diagnosis, and proper management of uterine inversion to avoid this grave complication.

### CASE REPORT

Mrs. Papia, 30 years old, para- 1(VD)+0, a housewife of low income group family, hailing from Uttara, Dhaka, got herself admitted in this hospital on 20.09.2021 with the complaints of feeling of a mass in the vagina after her last confinement which was gradually coming down through the vagina and remain outside the introitus for 5 years. Regarding confinement history, she had a prolonged labour. She gave birth at home but placenta became retained. After repeated attempt it was delivered but post partum haemorrhage was developed. Primary management was given at a local clinic and referred to higher center but refused. She gave history of excessive per-vaginal bleeding and she had a history of low back pain following something coming down per vagina. Gradually the pain subsided and bleeding become irregular. She also complained blood mixed per vaginal discharge which was excessive in amount but odorless. Her conjugal life was severely hampered due to unable to perform coitus. Her husband left her 4 years back. For last 2 months, her per vaginal bleeding become excessive and not responding to any medication. She is a known case of hypothyroidism but non-diabetic and normotensive. On general examination, her BMI-23.3 kg/m<sup>2</sup>, she was moderately anaemic, pulse-88b/min, BP-100/60 mmHg, temperature

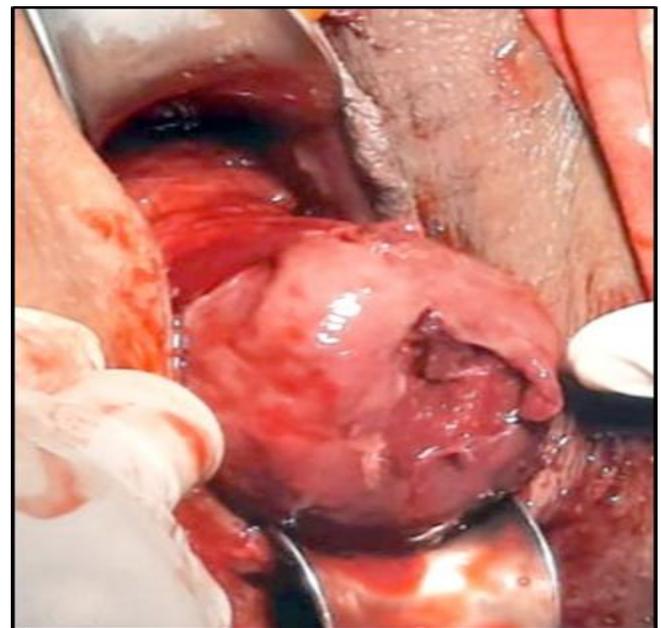
was 980F, respiratory rate 16 breaths/min. on per abdominal examination,

Abdomen was soft and non tender. Per vaginal examination revealed, on inspection, There was a globular shaped mass measuring about (7x8) cm protruding through the introitus with broad end pointing downwards. Mass was shaggy, reddish purple in colour. There was no ulceration or necrotic changes over the mass. Small amount blood mixed discharge was present. On palpation, the mass was soft to firm in consistency, non tender. Anterior and posterior wall of the mass became apposed with each other at the level of the introitus. Just above the mass, cervical rim was felt within the vagina. Sound test was negative. Per speculum and bi manual examination could not be done properly. On per rectal examination, uterus was not felt in position. Other systemic examination revealed no abnormality

With the patient's history and clinical findings, a tentative diagnosis of Chronic inversion of uterus with hypothyroidism was made, keeping other differential diagnosis possibilities (Myomatous polyp, Uterine prolapse) in mind, and ultrasonography (USG) was suggested. USG revealed an inverted uterus with the fundus of the uterus within the vagina. She was diagnosed with long-standing neglected chronic uterine inversion with delayed presentation. Laboratory investigations revealed hemoglobin of 8 g/ dl. Her other hematological and biochemical test results were normal.

With all aseptic precaution after proper painting and drapping, abdomen was opened by Pfannenstiel incision. After opening, there was flower vased appearance with fundal cupping of the uterus, fallopian tubes and ovaries were identified on both side. A cup

shaped depression was seen with the traction of the round ligaments. Incision was given on posterior wall of the uterus at the side of constriction ring. The inverted fundus was pulled up from above, aided by a finger passed through the vagina. Uterus was placed in its normal anatomical position. The incision into the uterus was sutured with interrupted no 1-0 vicryl. After maintaining proper haemostasis and counting all instruments and mops, abdomen was closed by layer. Her postoperative period was uneventful, and she was discharged in satisfactory condition after 3 days on oral antibiotics (tablet linezolid 600 mg twice daily and tablet metronidazole 400 mg twice daily for 5 days). During her follow-up visit at 6 weeks the patient was symptom free. Next visit at 3 months and 6 months patient reported that her normal menstrual cycle had already established and USG revealed Uterus with adnexa in its normal anatomical position.



**Figure 1:** Inverted Uterus on Per vaginal Examination

## DISCUSSION

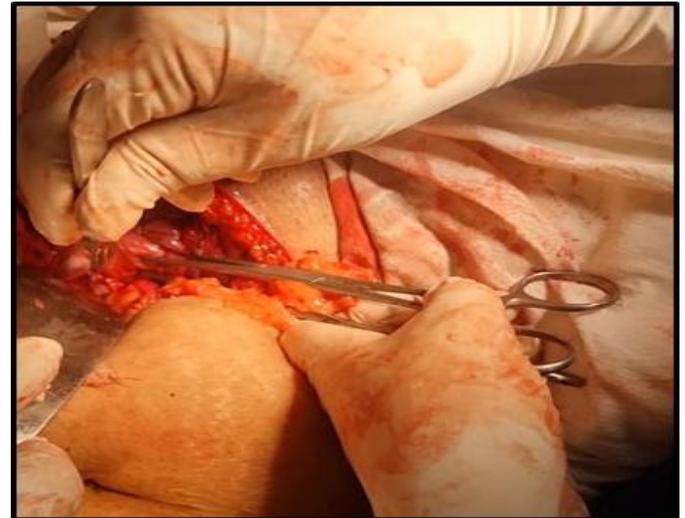
Chronic uterine inversion refers to descent of the uterine fundus to or through the cervix, so that the uterus is turned inside out. Uterine inversion is a medical emergency condition that can occur spontaneously (15–50%), but it most frequently develops in the post-partum period. It is an obstetric emergency and a diagnostic challenge in gynecology.<sup>[17]</sup>



**Figure 2:** Flower vase appearance

Our patient presented with painless vaginal mass after five years of delivery which was found to be CUI. Multiple predisposing factors are known to cause uterine inversion. Puerperal risk factors for uterine inversion include mismanaged and prolonged third stage of labour, precipitate labour, uterine atony, premature cord traction prior to placental separation, placenta previa, adherent placenta, short umbilical cord and fetal macrosomia,<sup>[18]</sup> where as non-puerperal risk factors include connective tissue disorders like Marfan's,

Ehler's-Danlos syndrome, large uterine fibroids and endometrial cancer.<sup>[19]</sup>



**Figure 3:** Vertical incision on the posterior wall of the uterus and construction ring.

Our patient complained of irregular P/V bleeding, vaginal discharge, low backache pain and chronic pelvic pain. Chronic uterine inversion is relatively uncommon and so far very few cases of chronic puerperal uterine inversion have been reported. However, only haemodynamically stable patients can undergo radiographic imaging if clinical examination fails to diagnose CUI. The management of acute uterine inversion includes treatment of hypovolemic shock due to excessive bleeding. After resuscitation manual replacement of the inverted uterus through the vagina is attempted. Surgical intervention is usually necessary in chronic uterine inversions as the uterine walls have very little elasticity to be repositioned manually.<sup>[20]</sup> Haultain's abdominal operation and the two vaginal surgeries: Spinelli's and Kustner's techniques are the available surgeries for CUI. Reduced uterine incision, easy reposition due to traction on

round and broad ligament and easy approximation and accurate suturing of uterine wall makes abdominal route as preferred option over the vaginal route.<sup>[21]</sup> Good pregnancy outcome is also reported with Haultain's method. Since our patient was 30-year-old with only one live issue we adopted Haultain's method for correction of CUI.

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## CONCLUSIONS

Chronic uterine inversion mostly occurs secondary to postpartum pathologies of pelvic organs. It may also be concluded that rapid diagnosis and effective treatment under appropriate conditions could decrease maternal morbidity and mortality.

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