

Chronic Total Uterine Inversion in a Young Adult Patient

Authors' Contribution:
Study Design A
Data Collection B
Statistical Analysis C
Data Interpretation D
Manuscript Preparation E
Literature Search F
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Conflict of interest: None declared

Patient: Female, 17
Final Diagnosis: Chronic total uterine inversion
Symptoms: Abdominal pain • vaginal bleeding
Medication: —
Clinical Procedure: After manual vaginal procedure to turn the uterus into normal position had failed, surgery was done
Specialty: Obstetrics and Gynecology

Objective: Rare disease
Background: Chronic uterine inversion is a very rare and life-threatening disease. It requires emergent treatment.
Case Report: We present the case of a 17-year-old patient with chronic uterine inversion. A fragile, bleeding, and soft mass, which filled the entire vagina, was seen during vaginal inspection. There was also a hard and tight cervical ring palpated behind the mass. She was operated on with Haultain technique. She was treated in the first postpartum year. She had normal menstrual bleeding and normal sexual intercourse after 1 month of outpatient control.
Conclusions: Immediate diagnosis and treatment of isolated chronic inversion decreases maternal morbidity and mortality.

MeSH Keywords: Adult • Chronic Pain • Emergency Service, Hospital • Uterine Inversion

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Background

Uterine inversion is the folding of the fundus into the uterine cavity. It is a serious complication, which generally occurs in the third part of the delivery. Incidences have been reported as 1/25 000 and 1/20 000 [1,2] and Watson et al. reported the incidence as 1/200 [3].

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) [4]. 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 very rare and is usually observed at least 4 weeks after delivery.

Symptoms are usually acute and clinically significant in acute uterine inversion. The patients usually feel a downwards move in the vagina. The uterus can be seen from the outside of the vagina or fundus and cannot be palpated through the abdomen. The patients may also have sudden shock in acute uterine inversion. In incomplete uterine inversion, the fundus moves down through the cervix without completely passing it. The seriousness of hypovolemic shock is determined by the amount of bleeding. Any intervention for taking the placenta out before repairing the uterus can lead to heavy bleeding [4,5]. Births guided by midwives in developing countries might also be at especially high risk.

Acute uterine inversion is an emergent obstetric situation [5]. It may cause serious postpartum bleeding. A resuscitation team should be ready when dealing with these patients. The uterus could be folded into the uterine cavity and might be seen through the vagina in chronic uterine inversion. Edematous fragile superficial ulcerations can also be seen from the vagina in chronic uterine inversion. In chronic uterine inversion, columnar epithelium could transform into squamous epithelium. Chronic uterine inversion is very difficult to treat because of the edema and weakness in the tissues. The treatments used for acute uterine inversion are not always the same as with chronic uterine inversion. Maintaining the uterine anatomy is not urgent in chronic uterine inversion; it has to be done with an elective surgery.

Bed resting, antibiotic treatment, raising the legs up, and cleaning the vagina can help to treat the accompanying infections, but patients with uterine inversion might finally need hysterectomy. Lastly, if the cause of the chronic uterine inversion is a fibroid or a placental polyp, the best treatment is to surgically remove the fibroid or the polyp.



Figure 1. The uterus was not clearly observed in transvaginal ultrasonography, but bilateral ovaries and tubes were closely observed.

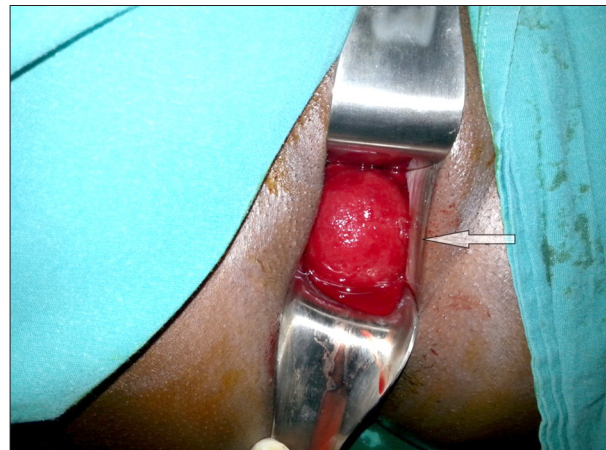


Figure 2. Bleeding uterus under preoperative examination.

Case Report

A 17-year-old female presented with complaints of low abdominal pain and vaginal bleeding that increased, especially after coitus. Her last birth was 1 year ago at home and it was a normal vaginal birth. Physical examination revealed a fragile, bleeding mass. The entrance of the cervix was not seen. Ovaries and uterus could not be observed clearly by ultrasonography (Figure 1).

The patient was diagnosed as having chronic uterine inversion and was operated on under general anesthesia. During the examination under general anesthesia, a fragile, bleeding, and soft mass, which filled the entire vagina, was seen during vaginal inspection. A hard and tight cervical ring was also palpated behind the mass (Figure 2). On the other side, no myomas or polyps were observed.

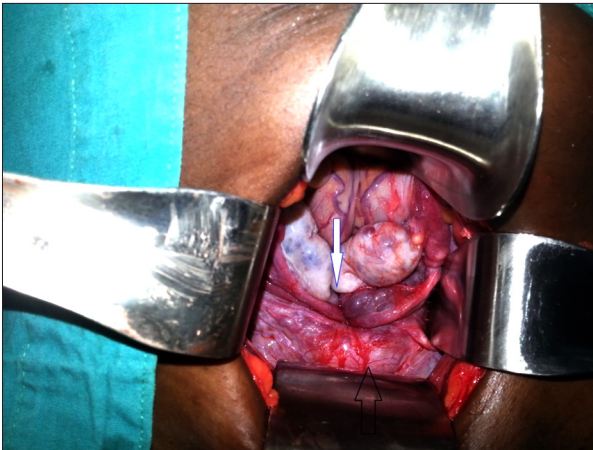


Figure 3. Kissing ovaries and tubes under intraoperative observation (flowerwave appearance).

After a manual vaginal procedure to turn the uterus into normal position had failed, surgery was done. The abdomen was opened by making a Pfannenstiel incision. The uterus was held at the level of the bilateral round ligaments and a vertical incision was made to the posterior wall (Figure 3). Finally, the normal anatomy of the pelvic organs was restored by Haultain technique. General anesthesia was used during the operation, because these procedures would be painful. The uterine anatomy was found to be normal and the patient had no clinical complaints after the first month of outpatient control. Lastly, the patient reported that she had normal menstrual bleeding and normal sexual intercourse after the operation.

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 [6]. Chronic uterine inversion is a very rare condition, with diagnostic and treatment difficulties. Chronic uterine inversion must be kept in mind in cases of periodical vaginal bleeding and/or fragile bleeding tissues in the vagina. Uterine leiomyoma, leiomyosarcoma, rhabdomyosarcoma, endometrial polyps, endometrial carcinoma, cervical carcinoma, and total uterovaginal prolapse has been described as possible preceding factors [7–11]. Placental and endometrial fibroids are also detected, especially in the early postpartum period in patients with chronic uterine inversion [12,13].

There was not a gynecological mass causing uterine inversion in our case. We suspected giving vaginal birth at a young age in poor conditions was a predisposing factor for uterine inversion in our case.

Uterine inversion can be classified into 4 stages. Stage 1: Inverted uterus remains in the uterine cavity. Stage 2: Complete inversion of the fundus through the cervix is seen. Stage 3: Inverted fundus protrudes through vulva. Stage 4: Inversion of the uterus and vaginal wall through the vulva are seen together [14]. Prolapsing out from the vagina was also reported in chronic uterine inversion cases that were caused by large endometrial or cervical masses [15,16].

All cases of nonpuerperal inversions are usually chronic but 8.6% presented in acute fashion [17]. Symptoms that may be associated with non-puerperal uterine inversion are vaginal bleeding, vaginal tumor, lower abdominal pain, foul-smelling vaginal discharge, and urinary disturbance. Our patient was also admitted to an outpatient clinic for progressive pain and bleeding during sexual intercourse, with inguinal pain over the last 6 months.

The clinical diagnosis of chronic inversion mostly depends on the finding of a mass coming through the cervix, accompanying the absence of the uterine body during bimanual or rectal examinations. Ultrasonographic evaluation has a major role in the initial investigation. Indentation of the fundal area with a depressed longitudinal groove extending from the uterus to the center of the inverted uterus are the 2 signs described in relation to chronic uterine inversion [18]. The mass in the vagina firstly seemed like uterine stalked leiomyoma in our case. But further physical evaluation, ultrasonography, and a detailed history revealed the uterine inversion diagnosis.

Early diagnosis and treatment of uterine inversion is very important. Acute uterine inversion may transform into chronic uterine inversion because of diagnostic delays [16,19]. It has been reported that maternal mortality and morbidity increases in patients who are diagnosed late [16,19].

Some surgical methods are available to treat chronic non-puerperal uterine inversion. The efficacy of non-surgical methods is not clear. Huntington and Haultain techniques are commonly-used abdominal operation procedures. Huntington procedure involves grasping the round ligaments and the uterus below the area of inversion and slowly pulling up repeatedly until the uterus is reinverted. Haultain procedure is incising posterior of the vaginal-cervical ring and carrying up the posterior wall of the uterus until it is reinverted to its normal anatomy. The Kustner and Spinelli vaginal approach procedures could also be used. The Kustner procedure is to enter the pouch of Douglas vaginally and to split the posterior aspect of the uterus and the cervix for reinverting the uterus. In Spinelli operation, an incision is made on the anterior aspect of the cervix and then the uterus is reinverted. Robotic and laparoscopic surgeries have been recently used for chronic uterine inversion [20,21]. Abdominal cerclage operations

have also been performed to prevent the nux of uterine inversion [21,22]. In our case we corrected the uterine anatomy by using Haultain technique.

The morbidity and mortality associated with uterine inversion correlate with the degree of hemorrhage, rapidity of diagnosis, and the effectiveness of the treatment. In acute uterine inversion, massive blood loss with hemorrhage could be seen and hypovolemia should be vigorously treated with fluid and blood replacement [22]. Non-puerperal uterine inversion is a very unusual condition that most gynecologists will never encounter, and thus has to be managed based upon little or no previous experience. Our patient had delivered her first baby under poor conditions, and the development of uterine inversion seemed to arise from giving vaginal birth at young age in such poor conditions.

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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.

Statement

We declare that there is no conflict of interest in our study. We received no financial support in this study.