

Chronic Non-Puerperal Uterine Inversion Made Worse by Caregiver in a Nulliparous Patient: A Case Report

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Case Report

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Article Information

Received: 27-06-2022;
 Accepted: 27-09-2022;
 Published: 28-09-2022.

Abstract

Background: A chronic inversion of the uterus is rare condition mostly encountered when associated with benign or malignant tumors of the uterus.

Case: A young nulliparous patient with an undiagnosed chronic non-*puerperal* uterine inversion, secondary to a prolapsed fundal myoma, which was confused to an abortus, hence pulled by caregivers in a rural remote setting, in an attempt to deliver it, resulting in a complete uterine inversion. After vaginal myomectomy, a successful surgical trans-*abdominal* reduction was done.

Conclusion: This case shows that chronic uterine inversion on prolapsed myoma can be confused to fetus. Unlike *puerperal* inversion, surgical reduction is required. Continuous Medical Education of staff is necessary to detects this possibility.

Keywords: Iatrogenic Uterine Inversion; Chronic Uterine Inversion; Prolapsed Myoma; Trans-*Abdominal* Reduction; Non-*Puerperal* Uterine Inversion.

Background

This report is about an unusual case of chronic non-*puerperal* inversion of the uterus made worse by caregivers.

Uterine inversion is usually a life-threatening complication in third stage of Labour, in which the uterus is turned inside out partially or completely. It is rare, occurring in about 1 in 20,000 deliveries [1–4].

Uterine inversion can occur in the acute (less than 24 hours) or chronic (greater than 1 month) phases. The Subacute type is the one occurring more than 24 hours but less than four weeks postpartum [5]. In addition, the clinician's clue to chronic uterine inversion may be persistent vaginal bleeding [5].

However, non-obstetrical or **non-*puerperal* inversion** is uncommon, rare, mostly spontaneous and usually precipitated by polypoid uterine tumours, like prolapsed myoma, teratoma, sarcoma, etc. These exert traction force on the fundus of the uterus, turning the uterus partially or completely inside out [6–10]. They account for about 5% of all uterine inversion [11]. In the process of the inversion, it starts by a partial inversion, to later become total inversion. It can be acute or chronic inversion. The chronic type of inversion is characterized by a pelvic discomfort, vaginal discharge, minimal menorrhagia, severe anaemia and urinary disturbance.

In this report, we present and discuss a clinical case of a chronic inversion case, made worse by caregivers, after they misdiagnosed a prolapsed myoma with abortion, then their attempt to deliver the abortus by pulling made the inversion complete.

Case Presentation

A 30 years old nulliparous, married woman for 9 years was admitted on 17/04/2020 as a referral from a 40km-away health center, with recurrent vaginal bleeding and protruding mass in her vagina for the last two months.

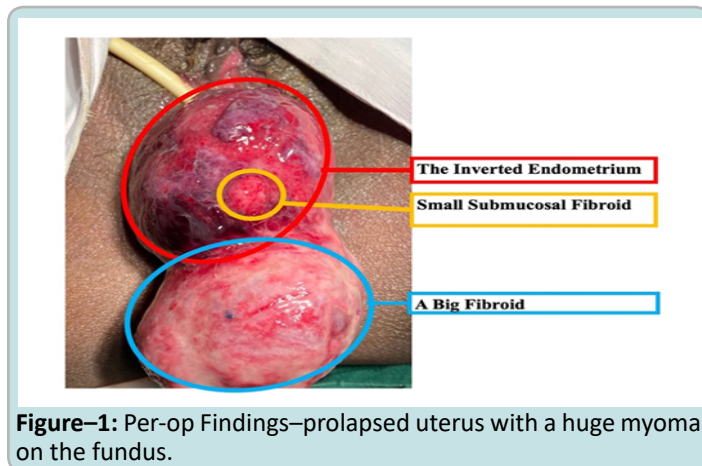
As she developed generalized body weakness, dizziness, fatigue, palpitations, and vomiting she decided to go to her nearest Health Center, where, upon seeing the protruding mass from her vagina, the health personnel mistakenly thought she was having an inevitable abortion. They then attempted evacuate the uterus by pulling on the mistakenly thought foetus. When they were unsuccessful, they referred her to thereferral hospital with the diagnosis of uterine prolapse.

On arrival, she was anaemic, tachycardic (120bpm) but not decompensated, polypnoeic (28 breathing per minute), but normal temperature and blood pressure. The other systems were normal. On Vaginal Examination, there was no active bleeding but a firm 5–6 cm mass attached to the fundal area of the completely inverted uterus.

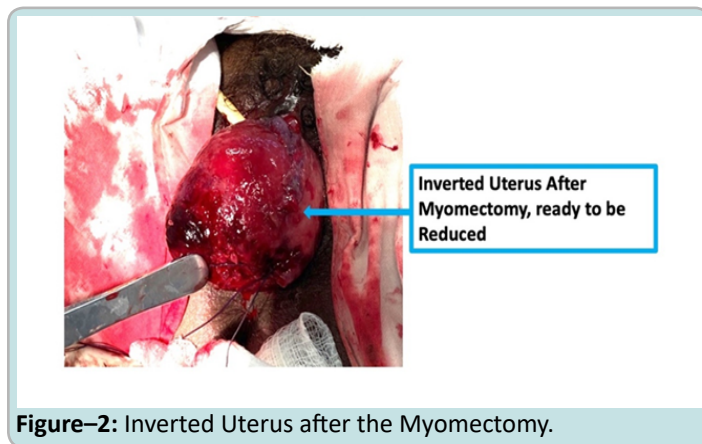
The paraclinical investigations showed a very low Haemoglobin (Hb) of 3g/dl.

With all the above, the working diagnosis was that of a **Chronic Non-Puerperal Uterine inversion** on a **prolapsed myoma**, with **Severe Anemia**. The initial Management consisted of Transfusion of two units of blood (packed RBCs), Fefol 1 tab daily, and antibiotic cover with Amoxicillin 500 mg PO TID, Metronidazole 500 mg PO TID. She was booked for Vaginal Myomectomy with Uterine Reduction once she becomes stable.

The Anesthetist reviewed the patient, and she was taken to theatre for reduction. The control Hb of 8.77g/dl and more blood booked per-op. Under Spinal Anesthesia, the prolapsed submucous myoma attached to the fundus with a large base, and a small submucous myoma, about 2 cm largewere excised. (See Figure–1 below before the myomectomy; and Figure–2 after myomectomy). After the myomectomy, attempt to replace the prolapsed uterus intravaginally failed. The procedure was then switched to transabdominal reduction through a laparotomy. The inversion Ring was noted with both adnexa (ovaries and tubes) still viable, non–necrotic.



Figure–1: Per-op Findings–prolapsed uterus with a huge myoma on the fundus.



Figure–2: Inverted Uterus after the Myomectomy.

Haultain procedure was used to reduce the inverted uterus. An incision 3 cm was made in the posterior surface of the uterus to transect the constriction ring and thus increase the size of the previously constricted area, to allow manual reduction of the inverted uterus. Due to the tightness and thickness of the ring, combined effort to reposition the uterus by simultaneously pushing upward from the vagina below by an assistant and pulling

upward from above with clamps helped to reduce the inversion. Restoration to the normal position was achieved and the incised part repaired with Vicryl 1 (See Figure–3, the reduced uterus).



Figure–3: Uterus after Inversion Repair.

The postoperative period was uneventful, and the patient was discharged home on a Day 5 postoperative. She was advised to return for postoperative review after four weeks, which she respected. On the day of review, she was clinically fully recovered. Pelvic organs were normal, and she had also resumed her normal periods which were normal unlike before. She was then advised to come for follow up for her Infertility [12-16].

Discussion

The Objective of this paper wasto present an unusual clinical case of a chronic non–puerperal uterine inversion made worse by caregivers.

Uterine inversion is characterized by the invagination of the uterine fundus through the uterine cavity, reaching the cervix or beyond the cervix [17]. Uterine inversion can be puerperal or non–puerperal. The puerperal type is a life–threatening emergency with possible mortality if not managed in time due to hypovolemic shock secondary to heavy bleeding.

This case was non–puerperal, and chronic looking at the two months–history and clinical features on admission. The literature agrees that this type is mostly associated with benign tumours like myomas [6–10,18]. However, some women of reproductive age might present with malignancy [17,19,20]. Our case had a pedunculated myoma on the fundus. The histology was not done due to unavailability in the country.

The mechanism of how non–puerperal inversion happens is not well understood, though possible mechanisms have been proposed [21]. The mechanisms include among others: thinning and weakening of the uterine wall at the tumour’s implantation along with concurrent contractions of the uterine musculature expelling the tumour through the cervix into the vagina. In addition, it is also suggested that weight and size of the tumour, coughing and sneezing put further traction on the thinned uterine wall, thus aggravating the inversion [22]. Another mechanism raised is a rapid growth of the tumour, the size of tumour, the location of the tumour at the fundus, and pedunculated tumour [23].

For our case, the big fibroid that was on the fundus might have soften the fundus, forcing the fundus to invert into the uterine cavity by gravity effect, as the heavy tumour pulls downs on the fundus. Moreover, the pulling down by the caregiver at the remote health centre aggravated the inversion.

Clinically, the diagnosis of uterine inversion can be difficult unless the fundal depression is palpated on bimanual examination. On Ultrasound scan, a Y-shaped uterine cavity in the longitudinal plane and a “bull-eye” appearance of the transverse view of the corpus are noted [19]. Magnetic resonance imaging (MRI) is also useful [18,20]. No scan was done for our case for unknown reasons.

Treatment of non-*puerperal* uterine inversion depends on the preoperative diagnosis, whether acute or chronic, reproductive wish of patient and cause of the inversion (benign or malignant condition), and is usually surgical. Usually, the Huntington operation is the first choice for *puerperal* acute inversion [8,21,22]. It involves grasping the round ligaments and uterus below the area of inversion and slowly pulling upward repeatedly to revert the uterus. This technique was not attempted but we used the Haultin procedure, using a posterior vertical incision on the tight ring and the reduction was aided by intravaginal upward push until complete reduction. For malignant lesions, hysterectomy is usually performed [15,23]. Conservative management recommended for our patient as she was a nulliparous woman with history of infertility for over 8 years.

Conclusion

This case shows that chronic uterine inversion on prolapsed myoma can be confused to fetus. Unlike *puerperal* inversion, surgical reduction is usually required. Continuous Medical Education of staff is necessary to detect this possibility.

Acknowledgements

The acknowledge the contribution of medical staff, anaesthetist and nurses at Ghindae Hospital, Eritrea, who were involved in the patient care.

Author Contributions

Mathe was the main surgeon and wrote the first draft. Olivier contributed to manuscript drafting and revision.

Competing interests

The authors declare that they have no competing interests.

Availability of supporting data

Not applicable.

Funding

No fund was given for this study case report

Ethics Approval and consent to participate

Not applicable.

Consent for Publication

Written informed and oral consent was obtained from the patient for publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

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