

## Acute Uterine Inversion Secondary to an Intracavitary Leiomyoma: A Rare Gynecologic Emergency

O. Baroud<sup>1\*</sup>, S. Mahdaoui<sup>2</sup>, K. Ikouch<sup>1</sup>, H. Boufettal<sup>2</sup>, N. Samouh<sup>3</sup>

<sup>1</sup>Résident, <sup>2</sup>Professor, <sup>3</sup>Professor, Department chief, Gynecology Department, University hospital Ibn Rochd Casablanca, Morocco

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\*Corresponding author: O. Baroud

### Abstract

### Case Report

The uterine inversion of gynecological origin is a rare entity and the uterine leiomyoma represents its main cause followed by the sarcomas of the uterus. The clinical diagnosis is not always easy and the imaging stays of a big contribution contrary to the puerperal uterine inversions. We report the case of a patient of 48 years which consulted for a pelvic pain and a vaginal bleeding having caused a hemorrhagic shock. The clinical examination had found an intravaginal mass reminding a uterine myoma in necrobiosis and the uterine bottom was not tangible. A laparotomy was done and showed a uterine inversion taking the Fallopian tube. In front of the failure of taxis, a hysterectomy was realized. The last diagnosis was a uterine inversion on intracavitary uterine leiomyoma.

**Keywords:** leiomyoma, uterine inversion.

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## INTRODUCTION

Uterine inversion is the inversion of the uterus into its own cavity [1]. It is classified as puerperal and not puerperal. The incidence of puerperal reversals is between 1 / 2,000 and 1 / 30,000 births; It is an infrequent delivery complication that occurs immediately after delivery of the placenta. In addition, gynecological uterine inversion is an extremely rare entity[2]. Its clinical picture can range from simple pelvic pain to shock. It is most often secondary to a benign or malignant tumor of the uterine body, however cases of idiopathic non-puerperal inversion have been reported in the literature [3].

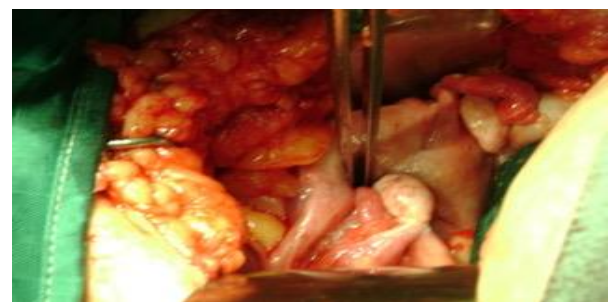
We report the case of uterine inversion secondary to intracavitary leiomyoma requiring hysterectomy, discussing diagnostic and management difficulties.

## CLINICAL CASE

Mrs. K.B, 48 years old, still having her period, mother of five living children, with no particular pathological history, consults the gynecological emergency department for pelvic pain and severe bleeding.

At admission, the patient presented with generalized pallor, profuse sweating, a racing pulse and a blood pressure of 70/40 mmHg, associated with

paroxysmal pelvic pain. Gynecological examination found a prolapsed mass in the vagina, soft, bleeding, non-reducible, giving the appearance of an intracavitary leiomyoma in necrobiosis; the uterine body is difficult to appreciate. Uterine inversion secondary to intracavitary leiomyoma has been suspected. The patient was immediately conditioned. His biological assessment showed acute anemia at 6g / dl requiring a transfusion of 3 red blood cells. An exploratory laparotomy performed urgently revealed a depression of the uterine fundus measuring 6 cm including the right Fallopian tube (figure 1). An inversion reduction trial was not possible, resulting in a total hysterectomy without adnexal preservation (Figure 2). The diagnosis made after resection is uterine inversion secondary to a 6/5 cm uterine leiomyoma. The postoperative consequences were simple and the patient was declared discharged under iron treatment.



**Figure 1:** General view at laparotomy. (Fallopian tube that participates in the inversion)



**Figure 2:** surgical image of the inverted uterus with an intracavitary leiomyoma outside the uterine cavity.

## DISCUSSION

Gynecologic uterine inversion is a rare complication. It most often occurs in women over the age of 30. It can be primary or secondary to uterine tumors. Leiomyomas are the main cause (87%), followed by sarcomas (7.4%) and uterine adenocarcinomas (5.6%) [4]. Its classification is based on anatomical severity, it has four stages [5]:

- stage 1: the uterine fundus is in the uterine cavity and has not crossed the cervix;
- stage 2: the uterine fundus has crossed the cervix and is in the vagina;
- stage 3: the uterine fundus is exteriorized to the vulva;
- stage 4: participation of the vaginal walls in the inversion.

The mechanism is not clear and the hypothesis are controversial. Sudden emptiness of an overdistended uterus secondary to uterine contractions and tumor weight associated with weak uterine walls may predispose to inversion [6].

Its clinical picture is variable depending on whether it is an acute or chronic, total or partial reversal [5]. The diagnosis of uterine inversions is above all clinical. The three main signs are hemorrhage, shock, and pelvic pain of varying intensity depending on whether it is acute or chronic, primary or secondary reversal. Acute inversions are often accompanied by pain, profuse bleeding and shock states. Shock results from hypovolemia secondary to bleeding and vagal reaction to stretching of the nerve threads contained in the uterine ligaments [5]. It should be suspected when the pelvic exam detects a protruding mass in the vagina and the vaginal examination combined with abdominal palpation does not perceive the fundus. Lascaraides *et al.* proposed two diagnostic criteria: 1) impossibility of palpating the uterine body on bimanual examination, and 2) non-visualization of the cervix after excision of the vaginal mass [7].

Our patient had a clinically suspected secondary stage 4 acute uterine inversion due to uncontrollable bleeding, pain, shock, externalized mass and lack of fundus palpation.

Imaging is of paramount importance for both positive diagnosis and aetiological diagnosis. Ultrasound shows in case of incomplete inversion a depression of the uterine fundus with a bull's-eye appearance of the middle portion of the uterus, on transverse sections and the Y-shaped emptiness line on longitudinal sections [5]. However, this aspect is not always present, but the non visualization of the uterus or an edematous aspect of the endometrium and myometrium in the center of the pelvis should lead to suspect this diagnosis.

Magnetic resonance or MRI is a useful diagnostic tool; the uterine cavity takes a U shape on a sagittal section and a "Bull's Eye" appearance on an axial section [5].

The management of uterine inversions must be immediate, it is based on medical resuscitation, to correct the hemodynamic shock. The surgical treatment of uterine inversion depends on the preoperative diagnosis: thus, the etiologic diagnosis is extremely important for the choice of the surgical approach. If a malignant cause is suspected, histological confirmation is important, especially since most secondary uterine reversals are not accompanied by shock requiring immediate surgical treatment [5].

In uterine inversion, four reduction techniques have been described: two vaginally: the Kustner procedure and the Spinelli procedure [8]; the latter consists of an anterior median colpohysterotomy via the vagina, and makes it possible to lift the cervical stricture and therefore to disinvaginate the uterus, and two via the upper route: the Haultain technique and the Huntington technique [8]. Huntington's operation consists of a posterior median hysterotomy, to avoid the bladder, extended 5–6 cm and reaching the cervical ring, it allows easy disinvagination. The aetiological treatment is based on a vaginal or abdominal hysterectomy when the inversion is secondary to benign tumors. When uterine inversion is associated with a malignant etiology, the abdominal approach is preferable.

Idiopathic reversal can be treated with simple reduction. However, a hysterectomy is recommended except for nulligestates and patients wishing to have subsequent pregnancies. The authors report pregnancies carried to term without complications after reduction of inversions [5].

## CONCLUSION

Gynecological uterine inversion remains a rare condition, often difficult to recognize straight away. Ultrasound and MRI are useful tools for positive and etiologic diagnosis. The prognosis depends precisely on the speed of the treatment which must be preceded by a correct preoperative diagnosis for the choice of the surgical approach.

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