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## Case Report

# Non-puerperal uterine inversion caused by a leiomyoma

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### ABSTRACT

Uterine inversion is characterized by the invagination of the fundus of the uterus through the vagina. It's a rare postpartum complication leading to massive bleeding and it's extremely rare in non-puerperal cases. Non-puerperal uterine inversion is caused by tumors exerting force on the fundus of the uterus, turning the uterus inside out. It is most frequently associated with benign tumors such as submucosal leiomyomas however, malignant tumors can also be associated. We reported the case of 43-year-old women, G1P1, who was admitted at the emergency department for a bleeding vaginal prolapsed mass. A pelvic MRI performed revealing a complete uterine inversion probably due to a submucous myoma or a malignant process. She underwent a total abdominal hysterectomy with bilateral salpingectomy by both natural and abdominal way. Pathological study revealed a degenerating leiomyoma. The patient recovered well from the operation with no complications.

**Keywords:** Non-puerperal uterine inversion, Maternal morbidity, Vaginal bleeding, Hysterectomy

### INTRODUCTION

Uterine inversion is a rare condition. Usually, it's a postpartum complication leading to a massive bleeding.<sup>1</sup> In non-puerperal cases, it's an even rarer condition and can either be acute or chronic.

In acute cases, the patient presents with acute pain associated with vaginal bleeding and a vaginal prolapsed mass. On the other side, chronic condition is characterized with chronic pelvic pain and progressive protrusion of the uterus out of the vagina. In general, it is associated with a pathological endo-uterine process.<sup>2</sup> It's commonly due to a submucous myoma but the possibility of malignancy should not be neglected in non-puerperal uterine inversion patients.

MRI is more efficient than Pelvic ultrasound for diagnosis, however pelvic ultrasound is more accessible at the emergency rooms.<sup>3</sup> Therefore, pelvic MRI is preferred and

allows rapid diagnosis and should be performed. Surgical management is mandatory.

### CASE REPORT

A 43-year-old women, G1P1, with no pathological history, presented to the emergency department with a bleeding mass that had acutely prolapsed out of the vagina two days earlier. The prolapsus was associated with pain, vaginal bleeding, and was malodorous. The clinical examination found a tachycardiac patient (112 pulse/min), with severe pallor. Gynecological examination revealed a huge unhealthy foul smell mass prolapsed through the vagina (Figure 1).

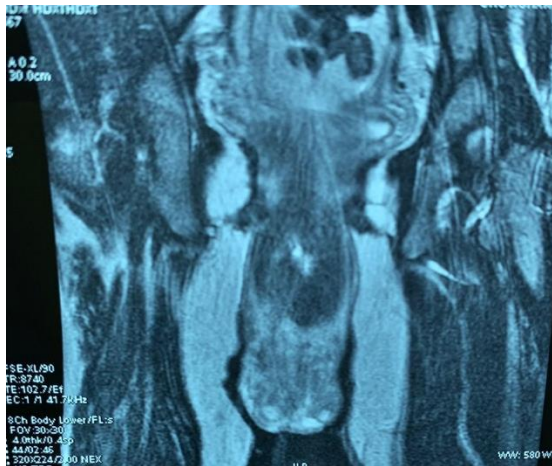
The mass was firm on palpation and was occupying all the vaginal conduct. Uterine sound could not be introduced. A pelvic MRI was performed and revealed a complete uterine inversion probably due to a submucous myoma or a malignant process (Figure 2).

She underwent a total abdominal hysterectomy with bilateral salpingectomy by both vaginal and abdominal way. The first stage consisted of dividing the uterus into two pieces at the isthmus level via the natural way (Figure 3 and 4).

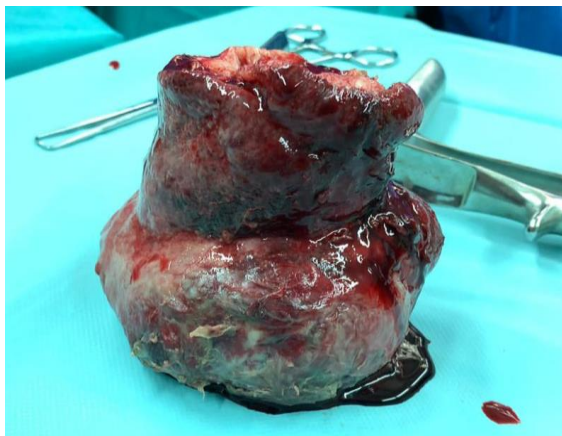
The uterine inversion was reduced, and hysterectomy was performed through the abdominal route in normal conditions. Pathological evaluation revealed a degenerating leiomyoma. The patient recovered well from the operation with no complications.



**Figure 1: Prolapsed mass through the vagina.**



**Figure 2: MRI of the uterine inversion.**



**Figure 3: Inverted hysterectomy piece.**



**Figure 4: The divided hysterectomy piece.**

## DISCUSSION

Uterine inversion is a very dangerous and fortunately relatively rare child-delivery complication but can also occur in non-puerperal patients. This is a condition with high maternal morbidity and mortality rates, due to life-threatening hemorrhage, disseminated intravascular coagulation and hemorrhagic shock.

In the literature the general occurrence is uneven, ranging from 1:27,000 in the UK to 1:1739 in the US, with a large geographic variation.<sup>4</sup>

In 119 years (from 1887-2006), only one hundred and fifty cases of non-puerperal uterine inversions were recorded.<sup>5</sup> It is most frequent in African American women, and in women older than 45 years old.<sup>6</sup> There are only 4 cases of young women aged less than 45 years described in the literature.

The uterine inversion can be classified by its relation to pregnancy or by anatomical degree of the prolapsus.

The real etiology of this inversion is not clearly identified. It could possibly be due to the rapid growth of a fundic tumor (benign or malignant) leading to its expulsion with the uterus out of the vagina.<sup>7,8</sup> 85% of uterine inversion was caused by benign pathology, only 15% was associated with cancer.<sup>9</sup>

The main symptoms of acute uterine inversion are a prolapsed mass in the vagina, pelvic pain, and abnormal vaginal bleeding.

The diagnosis is suspected on examination but is often hard to confirm. Vaginal ultrasound is frequently impossible to use due to the prolapsed uterus. Pelvic ultrasound isn't as benefic as pelvic MRI.

Treatment consists of repositioning the uterus, with hysterectomy in most of the cases. Conservative approach can be pursued if the inversion is not complete.<sup>10</sup>

Unfortunately, because of the rare nature of the disorder, the surgical procedure is not defined.

## CONCLUSION

Acute non-puerperal uterine inversion is a very serious and fortunately relatively exceptional complication. It's a condition that most gynecologists will rarely encounter in their career. Good examination and pelvic MRI will contribute to the diagnosis. The suspicion is raised upon surgical exploration, in which conservative treatment or hysterectomy is indicated.

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