

Chronic Uterine Inversion Secondary to Uterine Sarcoma: A Case Report

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Abstract

Chronic non-puerperal uterine inversion is a rare condition that usually presents with vaginal bleeding and vaginal mass. Frequently, it is caused by benign and malignant tumors. A mass in the vagina, particularly if it is a malignant tumor, can be confused with a uterine malignancy without inversion. Clinical diagnosis of chronic uterine inversion is difficult and may be diagnosed during surgery. In this report, we present a case of chronic uterine inversion diagnosed as a uterine sarcoma by punch biopsy.

Keywords: Chronic uterine inversion, Sarcoma

Introduction

Uterine inversion is defined as protrusion of the uterine fundus into the endometrial cavity. It can be classified by the severity of the inversion and time of occurrence.^{1,2} The incidence of puerperal uterine inversion varies from 1 in 2000 to 1 in 50000 births.³ Chronic uterine inversion is a very uncommon condition generally associated with uterine pathology. Uterine inversion, uterovaginal prolapse, submucosal myoma, and cervical polyp are differential diagnoses of the patient who presents with a non-puerperal vaginal mass.^{4,5} Mwinyoglee et al. have reported that 20% of uterine inversions are associated with

malignant tumors.⁶ We present a case of uterine inversion secondary to uterine sarcoma.

Case report

The patient is a 64-year-old, multiparous, menopausal Iranian woman with hypothyroidism. She came to the gynecological outpatient clinic with complaints of vaginal bleeding since one year prior and protruding vaginal mass from two weeks prior, which was accompanied by lower abdominal pain. There was no history of nausea, vomiting, chills, fever, weight loss, anorexia, or bowel and bladder complaints. She appeared well and her vital signs were within normal limits. On pelvic examination,

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we detected an unreducible mass in the vagina and the cervix was not palpated. On rectal examination, the uterus could not be felt.

There was no palpable mass on abdominal examination. Punch biopsy, MRI, and tumor markers were performed. Laboratory investigations revealed no significant abnormalities. The punch biopsy of the protruded vaginal mass reported endometrial stromal sarcoma. The uterus and ovaries were absent in the pelvic MRI. The patient was admitted to Shahid Faghihi Hospital affiliated with Shiraz University of Medical Sciences for surgery. Written informed consent was taken from the patient. Laparotomy findings showed that the pelvic anatomy was distorted, a dimple is seen in the position of the uterus, posterior to the bladder (Figure 1). The adnexa protruded through the ring. Intraoperative diagnosis was chronic uterine inversion secondary to sarcoma. The bilateral round ligament was grasped, cut, and tied with vicryl 1-0. After the ureters were visualized and palpated, the infundibulopelvic ligaments were grasped, cut, and tied twice. The bladder was dissected and pushed to the lower side of the cervix. Uterine arteries were exposed, grasped, and tied. Next, the cardinal ligaments were grasped, cut, and tied in three steps. The vaginal cuff was cut transversally and we removed the uterus with a mass and incarcerated adnexa. The vaginal cuff was sutured separately (Figure 2). The patient was discharged



Figure 1. Absence of the uterus in the pelvic cavity.

after 3 days with full recovery.

Discussion

Uterine inversion may be classified according to the extent of inversion as either incomplete, complete, uterine prolapse, or total. In the incomplete form, the fundus indents towards the endometrial cavity. In complete inversion, the uterine fundus extends through the external os but remains within the vagina. In uterine prolapse, the inverted fundus extends outside the vagina, with total inversion of both the vagina and uterus.¹ There are 3 degrees of inversion defined based on the time of occurrence. A uterine inversion detected within 24 h of delivery is an acute uterine inversion. Subacute inversions occur 24 h to 30 days postpartum, whereas a chronic uterine inversion is usually observed at least 4 weeks postpartum.² The prevalence of acute uterine inversion is 83.4%, subacute is 2.62%, and chronic uterine inversion is 13.9%.⁷

According to different theories, the mechanism of uterine inversion depends on predisposing factors. Submucosal myoma contributes to uterine inversion by uterine cavity distention, uterine wall weakening, expulsive contractions, and tumor weight.^{8,9} Studies show that sarcomas cause more inversions than carcinomas.¹⁰

A sarcoma normally induces softening of the uterine wall, often creating tumors that project into the uterine cavity. However, carcinomas are

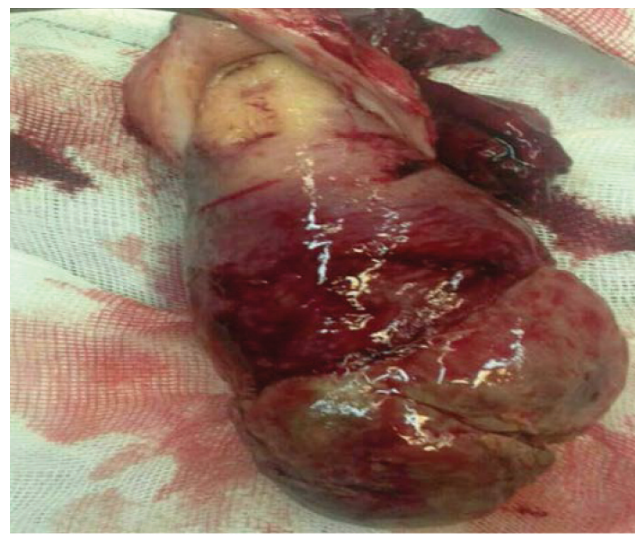


Figure 2. Inverted uterus with sarcoma.

usually infiltrative, which leads to less favorable conditions for inversion.¹¹ Most patients with chronic uterine inversion present with symptoms of vaginal bleeding, a vaginal mass, lower abdominal and inguinal pain, foul-smelling vaginal discharge, and urinary disturbances.¹⁰ Diagnostic imaging findings vary according to the degree and cause of inversion. Ultrasound imaging analysis of a partial uterine inversion has shown a Y configuration in the longitudinal view and bulls-eye appearance in the transverse plane.¹²

A U-shaped endometrial cavity can be identified on MRI when uterine inversion is accompanied by a pedunculated tumor.¹³ Diagnostic imaging may not be applicable when the endometrium is infiltrated with malignant disease. However, it remains useful when the indrawing of uterine ligaments and adnexal structures into the inverted fundus are observed.

Treatment of uterine inversion depends on the preoperative diagnosis and reproductive desire.¹¹ Repositioning of the uterus may not be possible in all cases and hysterectomy may be the only option. Abdominal hysterectomy with staging biopsies is suggested when a uterine inversion is caused by uterine malignancy.¹¹ Some authors propose excision of the tumor mass by the vaginal route prior to an abdominal hysterectomy.¹¹ Ligation of the infundibulopelvic ligaments is suggested as a first step in order to prevent embolus due to pelvic congestion.^{14, 15}

Some surgical techniques are available to treat chronic uterine inversion. Huntington and Haultain techniques are commonly used for abdominal operation procedures; also, the Kustner and Spinelli techniques could be used for vaginal approach procedures.^{3,16} The current study patient underwent a hysterectomy via the abdominal approach without vaginal restoration.

Conclusion

Although chronic uterine inversion associated with uterine sarcoma is rare, it must be kept in mind if the patient presents with a vaginal mass. Abdominal hysterectomy after vaginal restoration may be difficult; thus, the abdominal approach is

the appropriate treatment for uterine inversion due to uterine sarcoma.

Conflict of Interest

None declared.

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