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Case Report

Uterine Leiomyosarcomas Occurring in a Patient After Uterine Artery Embolization: A Case Report

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Abstract

Uterine sarcoma is significantly rarer than leiomyoma and has poor prognosis. Moreover, leiomyosarcoma is difficult to be diagnosed due to its symptoms, including pelvic pain, uterine mass, and/or uterine bleeding, are very similar to those of leiomyoma. There are a few cases of leiomyosarcoma wherein leiomyoma was treated with uterine artery embolization (UAE). We describe a case of a 44-year-old woman diagnosed with leiomyosarcoma 3 months after undergoing UAE for multiple leiomyomas.

Keywords: *Leiomyoma; Uterine Sarcoma; Leiomyosarcoma; Uterine Artery Embolization*

Introduction

Uterine leiomyoma is the most common pelvic tumor in women, and uterine sarcoma is significantly rarer than leiomyomas and has poor prognosis. The clinical features of leiomyomas and uterine sarcomas are often indistinguishable; thus, the diagnosis of uterine sarcoma is challenging [1].

There are a few cases of leiomyosarcoma (LMC) wherein leiomyoma was treated with uterine artery embolization (UAE); these reports revealed that the symptoms of hypermenorrhea or/and pelvic pain persisted even after UAE [2-4]. Here, we describe a case of a 44-year-old woman diagnosed with leiomyosarcoma 3 months after undergoing UAE for multiple leiomyomas.

Case Presentation

A 44-years-old patient K. complained of heavy, prolonged menstrual bleeding, contributing to the development of severe chronic post hemorrhagic anemia with a decrease in hemoglobin level up to 70 g/l. Uterine fibroids had been identified for the first time one year prior to admission to the hospital. During the follow-up of the patient for a year, ultrasound examination (US) revealed rapid growth of fibroids.

US indicated that the uterus was enlarged, it measured 124 mm in length, 102 mm in thickness, 124 mm in breadth, 682.9 ml in volume, with a large number of intramural and intramural - subserosal fibroids 20 to 52 mm in diameter. Differentiation between the uterine cavity and myometrium was severely impaired, visualization of the endometrium was not accessible. Visualization of the ovaries was difficult due to the large size of the uterus; the level of free fluid in the retro uterine space was up to 23 mm.

The patient categorically refused the proposed hysterectomy and was determined to preserve the uterus. UAE had been proposed as an alternative treatment option. Before the UAE, the patient underwent full examination, laboratory and instrumental examination revealed no significant changes. Surgical treatment included arteriography and embolization of the uterine arteries. The patient was discharged from the hospital in a satisfactory condition.

During the two months of the postoperative period, the patient suffered from pain in the lower abdomen and lumbar region. The doctor in the outpatient clinic assessed the complaints as manifestations of post-embolization syndrome. The patient was prescribed non-steroidal anti-inflammatory drugs and a two-month follow-up visit.

At the next appointment with the doctor in the outpatient clinic, the patient complained of intense cramping pain in the lower abdomen and spotting from the genital tract.

The ultrasound 3 months after UAE reported an increase in the size of the uterus compared to the initial data. The uterus measured 170 × 100 × 126 mm, the volume of the uterus was 1114 cm^3, with structural changes in the myometrium like edema (Figure 1); the myometrium was changed due to multiple nodes: in the posterior wall measuring 24 × 26 mm (FIGO type 4) and 48 × 49 mm (FIGO type 4) in the anterior wall on the right 36 × 28 (FIGO type 6), in the left wall 30 × 28 mm (FIGO type 6), and in the anterior wall on the left a mass of increased echogenicity 77 × 55 × 78 mm (volume of 172.8 cm^3) diagnosed. Color Doppler showed moderate vascularization. A mass of increased echogenicity, measuring 56 × 47 × 50 mm was found in the cervix of the uterus. A large amount of free fluid in the abdominal cavity was revealed (Figure 2) with the deepest vertical pouch in the right iliac region measuring 79 mm, in the subhepatic space 30 mm, and in the splenic recess 50 mm.

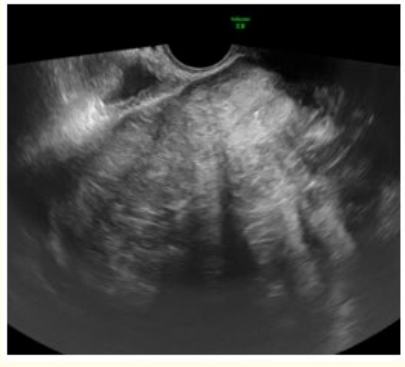

Figure 1: *Ultrasound image: pronounced myometrial edema and unclear contours of the nodes.*

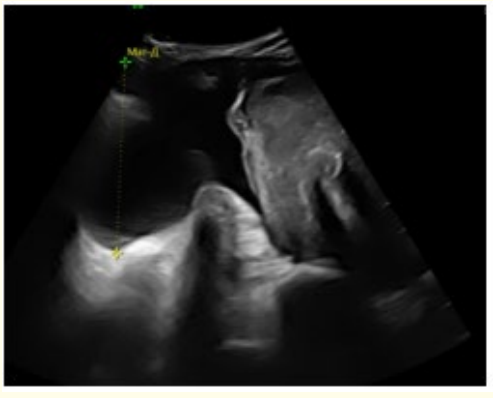

Figure 2: *Ultrasound image: presence of large amounts of fluid in the pelvis and abdominal cavity.*

Taking into account the complaints and ultrasound data, the patient was referred to the Department of Gynecology for surgical treatment. Based on the results of the examination of the patient record and the council of doctors, the diagnosis was made: multiple uterine leiomyomas, necrosis of uterine leiomyomas. Ascites was decided to perform emergency surgical treatment, with total hysterectomy with fallopian tubes by laparotomy.

During the operation, a pronounced adhesive process and a large amount of ascetic fluid were discovered; the uterus was enlarged up to 18 weeks of gestational age, with uneven tuberous contours due to a large number of nodes, pronounced infiltration of the parametrium; the uterosacral ligaments were thickened and infiltrated. No visible changes on ovaries and tubes on both sides. A total hysterectomy with uterine appendages and resection of the greater omentum were performed. The surgery duration accounted 116 minutes. Total blood loss - 700 ml.

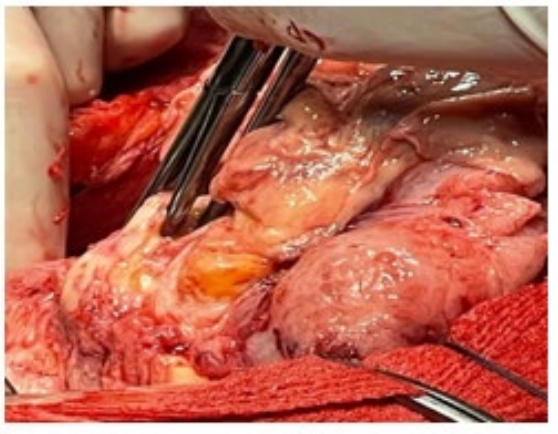

Figure 3: *Intraoperative image: massive adhesions, widespread carcinomatosis*

Results of histological examination of postoperative material indicated morphological findings most characteristic of uterine leiomyosarcoma, with tumor spread into the cervix, tubes and parts of the ovaries, peritoneum and omentum T2bNxMx.

Considering the critical condition of the patient, presence of multiple metastases into the lungs and brain, oncologists made recommendations for further symptomatic treatment of the patient. The patient died 6 months after the UAE.

Discussion and Conclusion

Uterine leiomyomas are the most common benign gynecologic tumors. The prevalence of uterine leiomyoma has been reported as high as 20% to 40% [5,6]. This benign disease tends to increase in size until menopause. Although 50% of patients are asymptomatic, uterine leiomyoma is one of the common causes of hysterectomy in premenopausal women. UAE is a minimally invasive procedure for alleviating symptoms associated with and treating uterine leiomyoma. It is also a very effective uterine-preserving treatment option for uterine leiomyoma patients who wish to preserve their uterus [7]. Patients also generally choose procedures that avoid the risks of surgical complications and general anesthesia. Uterine artery embolization is one of the new minimally-invasive alternatives to hysterectomy [7].

There are a few cases of leiomyosarcoma wherein leiomyoma was treated with UAE [2-4]. The case we presented shows that patients with large uterine fibroids, a large number of nodes and their rapid growth have a high risk of having uterine sarcoma.

Multiple leiomyosarcomas and a leiomyosarcoma showing differentiation of the uterine body were found on pathological examination. The patient had metastatic nodes to the lungs and brain later and died of metastatic disease in 6 months after UAE. This is a rare case of leiomyosarcoma with differentiation and multiple metastases occurring after UAE, suggesting that differentiation could be derived from ordinary leiomyosarcoma. The present case is a warning that careful and detailed evaluation of the uterine tumor is required before performing UEA.

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