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Uterine Smooth Muscle Tumors of Uncertain Malignant Potential (STUMP) Mistaken with Ovarian Tumor in a Female with Polio: A Case Report

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Abstract

Introduction: Uterine smooth muscle tumors are the most common human neoplasms. These tumors are clinically classified into two groups of benign and malignant. However, uterine smooth muscle tumors of uncertain malignant potential (STUMP) are another group between these two groups that cause many diagnostic problems. The present report aimed at introducing a case of STUMP mistaken with ovarian tumor in a female with polio.

Case Presentation: A 43-year-old female with the complaint of abdominal pain and distention, which had started 3 years ago, referred to our center, Kashan, Iran. Abdominal examination showed firm and irregular distention greater than term pregnancy. Ultrasonography, CT scan, and MRI of the abdomen and the pelvis revealed multiple intramural and subserosal fibroids in the uterus, and a large complex cyst in the abdomen and pelvis that probably originated from the ovary. Laparotomy results showed 2 tumors arising from the anterior surface of the uterus sized 15 × 25 cm, which were extended under the liver, and attached to the omentum and posterior peritoneum of the abdominal cavity wall with moderate ascites. The tumors, which weighted 10 kg along with the uterus, were removed and the patient was discharged after two days in good general health. The pathology report was as follows: uterine adenomyosis and smooth muscle tumors of uncertain malignant potential (STUMP).

Conclusions: STUMP has unpredictable various clinical presentations. Even imaging may mislead the clinicians. Therefore, in patients with pelvic tumors and even with a strong suspicion of ovarian and retroperitoneal tumors, this type of uterine tumors should also be considered, moreover, appropriate treatment should be considered to preserve or not to preserve fertility.

Keywords: Uterine Smooth Muscle Tumor of Uncertain Malignant Potential, Ovarian Tumor

1. Introduction

Uterine smooth muscle tumors are the most common human neoplasms (1). These tumors are clinically classified into two groups of benign and malignant. However, there is another group of lesions called uterine smooth muscle tumors of uncertain malignant potential (STUMP) that are difficult to be placed in these two groups. The benign type of uterine smooth muscle tumors is the most common tumor of females' genital system, which is observed in 75% of women of reproductive age (1); its malignant type is a rare neoplasm, which usually affects women after menopause (2, 3). The third group between these 2 categories is uterine STUMP which causes many diagnostic problems and includes a few number of tumors with the possibility of local recurrence and expansion to distant organs. Clinical treatment for this group is similar to that of the benign uterine smooth muscle tumors. However, due to the possibility of local recurrence and metastasis, follow-up of patients is very crucial. This clarifies the importance of accurate diagnosis and differentiation of these lesions from each other (1). Because it is very difficult to diagnose this type of tumor, the present report aimed at introducing a case of uterine smooth muscle tumors of uncertain malignant potential (STUMP) mistaken with ovarian tumor in a female with polio.

2. Case Presentation

A 43-year-old single female with complaint of abdominal pain and distention, which had started 3 years ago, referred to our center, Kashan, Iran. The regularity and volume of menstruations was normal. Abdominal examination revealed firm and irregular distention greater than term pregnancy that extended from the pelvis to the xyphoid. The patient was a known case of polio with 3 surgeries of the hip and lower extremities. The results of the ultrasonography of the abdomen and the pelvis showed that the uterus size was larger than normal, moreover, there

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were a uterine fibroid sized 150 × 50 mm, and a very large tumor sized 280 × 350 × 430 mm originated from the uterus or ovary with a solid component and a free fluid in the Morison pouch. The result of abdomen and pelvic CT scan in the same day confirmed ultrasonography findings, but showed that the tumor may have originated from the ovary, uterus, or the retroperitoneal organs. Then, MRI with and without contrast was requested. The results showed the existence of bilateral congenital hip dislocation, multiple intramural, and subserosal fibroids in the uterus, and a large cyst in the abdomen and pelvis. The solid contents of the cyst suggested ovarian cystic tumor or hydatid cyst in the differential diagnosis. Serological test of hydatid cyst was ordered for the patient. After the result of IgG and IgM of hydatid was declared negative, tumor markers were requested and the patient underwent laparotomy. All tumor markers were normal with the exception of CA125 that was 45 iu/mL.

During laparotomy (with a midline incision to xyphoid), it was observed that the uterus size was larger than normal with 2 tumors. A cauliflower tumor originated from the anterior part of the uterus sized 15 cm and another tumor in the upper part of the uterus behind the previous tumor, which was extended to the area under the liver, causing pressure to the lower surface of the liver, and attached to the omentum and posterior peritoneum of abdominal wall with moderate intra-abdominal ascites. After releasing adhesions, due to injury to the omentum, partial omentectomy was done and tumors, which weighted 10 kg along with the uterus, were excised. After hemostasis was established, a drain was placed in the abdomen. The patient was discharged after 2 days in good general health.

The pathology report was as follows: neoplasm composed of smooth muscle cell proliferation that showed mild to moderate atypia in some areas. The mitotic figure is less than 10 in hpf and showed small foci of necrosis. Uterine adenomyosis and smooth muscle tumors of uncertain malignant potential (STUMP).

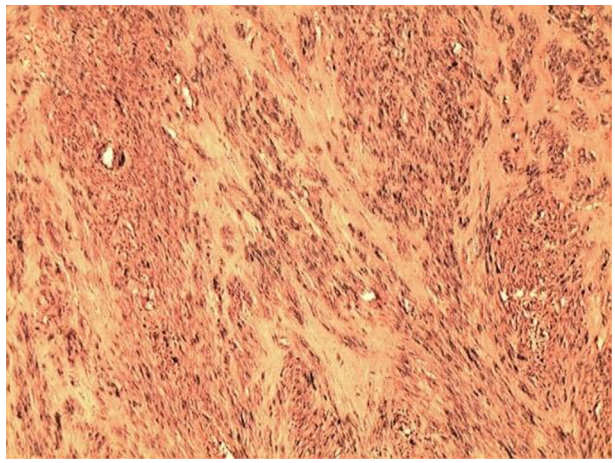


Figure 1. The Microscopic View of the Tumor (Smooth Muscle Cell Proliferation, Mild to Moderate Atypia, Mitotic Feature is Less Than 10 in hpf, Small Foci of Necrosis.) (× 40)



Figure 2. The View of the Uterine Tumor CT Scan; Upper View of the Abdomen

3. Discussion

STUMP is a diagnostic challenge for clinical physicians and pathologists. Clinically, patients with STUMP have symptoms similar to those of benign uterine leiomyoma, leiomyosarcoma, and ovarian tumors such as pelvic pain and pressure, abnormal uterine bleeding, and a pelvic mass (4). Broadly speaking, STUMP is not diagnosable from leiomyoma and leiomyosarcoma in imaging and can be diagnosed only after hysterectomy and myomectomy or using the Standford 3 of histological criteria in atypicality, mitotic index, and type of necrosis. These tumors can be diagnosed when they show the unusual combination of these 3 mentioned features, and yet lack of leiomyosarcoma criteria (5). STUMP was reported in subserosal, intramural, and one case in submucosa after hysteroscopic myomectomy (6). Lack of enough knowledge about these types of tumors and their unpredictable behavior after pathology classification are challenges for the physicians.

Although type of necrosis has been considered the most important factor for predicting malignant behavior in the Standford 3 classification, it seems that the number of mitosis in the tumor is more effective in prediction of the tumor behavior and prognosis of patients (7). Clinical protests and basic imaging suggested that the tumor was



Figure 3. Macroscopic View of the Tumors

originated from the ovary, uterus, or the retroperitoneal organs. However, more accurate imaging showed the existence of multiple intramural and subserosal fibroids in the uterus. In addition, epithelioid differentiation was observed in the studied case in pathological studies. A tumor with epithelioid differentiation usually requires less cellular atypia and lower mitotic number, which is diagnosed as leiomyosarcoma (7). These lesions are rare and not fully known. There are no standard criteria for diagnosis of STUMP with epithelioid differentiation. However, 2 or more than 2 of some features such as sizes more than 6 cm, 2 - 4 mitoses (10 high power field) , moderate to severe atypia, and cellular necrosis could be indicative of STUMP (4, 8).

Another important issue for the physicians is the treatment of STUMP. Generally, STUMP is diagnosed quite accidentally in a hysterectomy sample and the patient should be followed up for leiomyosarcoma according to the protocol. This includes basic evaluation, regular follow-up every 6 months for the first 5 years, and annual monitoring for the next 5 years. Follow-up reports should include information such as record, general and pelvic examinations, and annual imaging studies including chest radiography, pelvic ultrasonography, and CT scan or MRI for diagnosis of recurrence (9).

Another issue raised for the physicians in dealing with STUMP diagnosed in myomectomy sample, is the limited experience based on standard guidelines for treatment and follow-up of patients. If fertility preservation is not an important issue to the patient, as it was not to our patient, hysterectomy is recommended as a standard treatment to minimize the risk of recurrence. By contrast, myomectomy is used when fertility preservation is important. However, various factors such as patient's age, the number, size, and location of any remaining myomas, and histological features of the tumor should be assessed. Profit (fertility and pregnancy preservation) and loss (risk of tumor recurrence and metastasis) estimation should be explained to the patient. However, successful pregnancy has been reported in patients with STUMP after myomectomy (9-12).

3.1. Conclusions

Based on the evidence from this study and other studies, STUMP has unpredictable clinical protests and appears in various forms. Even the early imaging may confuse the clinician. Therefore, in patients with pelvic tumors, and even with a strong suspicion of ovarian and retroperitoneal tumors, this type of uterine tumors should also be considered and appropriate treatment should be done.

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