CASE REPORTS

Endometrial stromal sarcoma: clinico-pathological report of four cases and review of the literature

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Abstract

Endometrial stromal sarcoma (ESS) represents a very rare pathological entity occurring as a malignant disease in women genital sphere. Our clinical report is based on a group of four women aged 37, 48, 50 and 70-year-old, that have been histologically diagnosed with endometrial stromal sarcoma. The most common symptom sending the patient to the physician has been the vaginal bleeding, occurring in all patients. Other associated symptoms were the abdominal enlargement and the presence of the pelviabdominal mass generated by the tumor, low to medium abdominal pain or polakiuria. Two patients were diagnosed with ESS after accomplishing a biopsic curettage of the uterus. Total abdominal hysterectomy and salpingo-oophorectomy have been successfully performed for all of the patients. Adjuvant therapy – radiotherapy has been administered to three patients. At this time, none of the patients died of the disease. Our paper also includes a concise review of the literature in order to have an up-to-date conception regarding diagnosis, therapy and outcome for ESS.

***Keywords*:** sarcoma, pathology, therapy, outcome.

Introduction

Uterine sarcomas are relatively rare tumors, of mesodermal origin, representing 2–6% from the uterine malignancies. The most common histological types of uterine sarcoma are endometrial stromal sarcoma, leiomyosarcoma and malignant müllerian mixed tumors [1].

Depending on mitotic activity, vascular invasion or prognosis, there are three categories of endometrial stromal tumors: endometrial stromal nodule, low-grade endometrial stromal sarcoma, high-grade endometrial stromal sarcoma [1–3].

Endometrial stromal sarcomas (ESS) are representing a very rare class of malignant tumors that is comprising approximately 10% of all uterine sarcomas but only around 0.2% of all uterine cancers [2].

The prevalence is approximately two cases per million women. As a comparison, the prevalence of endometrial cancer is 700 cases per million women [4].

ESS can be misdiagnosed as leiomyoma or multilocular ovarian cyst. Clinical management may be difficult, and the diagnosis is often made postoperatively after histological examination of the tumor [1, 5, 6].

The typical *gross* appearances of ESS are a single nodule, multiple solid-cystic masses, and a poorly demarcated lesion with occasional cystic degeneration or rarely cystic multilocular lesion [7]. Pathology of the tumor has been described as soft, fleshy, smooth polypoidal mass, which may protrude in the uterine cavity. ESS occurs in patients on the average range in age from 45–50 years on one hand, but on the other hand, young women or girls maybe affected [1].

The aim of our paper is to spotlight the latest conception regarding diagnosis, therapy and outcome of ESS and to establish correlations with our experience in the four cases study group.

Patients and methods

Our study included four women aged 37, 48, 50 and 70-year-old, that have been histologically diagnosed with low-grade endometrial stromal sarcoma (LGESS).

Case no. 1

Thirty-seven year-old woman presenting for menometrorhagia occurring approximately two months before, disparheunia for 3–4 months, progressively increasing, low abdominal pain and discomfort, polakiuria.

Case no. 2

Forty-eight year-old woman presenting to the physician for menometrorhagia and low abdominal pain, and discomfort occurring and increasing for approximately four months.

Case no. 3

Fifty year-old woman presenting to the physician for severe vaginal bleeding occurring in perimenopause, and low-medium abdominal pain and discomfort.

Case no. 4

Seventy year-old woman presenting to the physician for vaginal bleeding occurring in late climax, medium abdominal pain and discomfort, significant abdominal enlargement and polakiuria. Intermittent icterus has been also diagnosed, generated by the tumoral volume, compressing the biliary tract.

Paraclinical investigations

Usual biologic investigations and ultrasonography have been accomplished for all of the patients. CT-scan has been performed for two of the cases. For cases no. 1 and no. 3, a double-targeted, biopsic and hemostatic curettage of the uterus has been made. In both cases, the histological examination of the samples collected by uterine curettage diagnosed low-grade endometrial stromal sarcoma.

Results

All the four cases have been operable patients, none of them having metastatic disease. Paraclinical investigations disclosed the following aspects: low, medium and severe (cases no. 2 and no. 3) grades of anemic syndromes, generated especially by the vaginal bleeding, erythrocyte sedimentation rate (ESR) increased for all of the patients. Ultrasonographic investigation revealed global uterine enlargement, irregular uterine tumoral mass, intense inhomogeneous, with cystic and solid components, and intra-tumoral septa. The ultrasonographic differential diagnosis included uterine myoma and necrobiosis or ovarian tumoral pathology. Axial contrast-enhanced CT-scan shows heterogeneous enhancement of solid components of myometrial nodules, septations and cystic lesions. A total abdominal hysterectomy and bilateral salpingo-oophorectomy have been successfully accomplished for all of the cases. The individual outcome for each of the cases has been the following:

Case no. 1

Diagnosed with LGESS (Figure 1) and surgically treated approximately seven months ago. Biopsic and haemostatic curettage of the uterus has been provided samples that have been histologically examined.

Preoperatory paraclinical investigations revealed: hemoglobin 9.8 g/dL, hematocrit 41.3%, RBC 3.1 mil./mm^3, WBC 12 500/mm^3, platelets 239 000/mm^3, serum glucose 89 mg/dL, creatinine 0.72 mg/dL, urea 0.23 g/L, ESR 58 mm/1 h.

Ultrasonographic investigation: moderate uterine enlargement, approximately 14/8/7.5 cm, virtual irregular uterine cavity, inhomogeneous endometrial structure, normal adnexial regions. Axial contrast-enhanced CT-scan shows relatively small myometrial nodules, limited to the uterine wall, without invasion for the neighbor structures.

Surgical management: intraoperative aspects – moderately enlarged uterus 12/7.5/7 cm, freely mobile in relation with the neighbor organs, macroscopically normal adnexa. Total abdominal hysterectomy and bilateral salpingo-oophorectomy have been successfully accomplished (Figure 2). The postoperative period was uneventful, the patient being discharged after eight days. The follow-up at six weeks after surgery has been favorable. Pelvic radiotherapy followed the surgical treatment. Now, our patient is clinically without disease.

Case no. 2

The patient has been diagnosed with LGESS after the morphopathologic examination of the uterus and adnexa (Figure 3), surgically removed by total abdominal hysterectomy and bilateral adnexectomy (Figure 4).

Preoperatory paraclinical investigations revealed: hemoglobin 10.2 g/dL, hematocrit 42.1%, RBC 3.8 mil./mm^3, WBC 11 200/mm^3, platelets 225 000/mm^3, serum glucose 78 mg/dL, creatinine 0.87 mg/dL, urea 0.39 g/L, ESR 37 mm/1 h.

Ultrasonographic investigation: severe uterine enlargement, approximately 24/12/8.5 cm, irregular uterine tumoral mass, intense inhomogeneous, with cystic and solid components, intra-tumoral septa, normal adnexial regions.

Surgical management, accomplished approximately two months ago. Intraoperative aspects: severely enlarged uterus 23/10.5/8.5 cm, freely mobile in relation with the neighbor organs, macroscopically normal adnexa. Total abdominal hysterectomy and bilateral adnexectomy have been successfully effectuated. The postoperative period was uneventful and the patient has been discharged after nine days. The follow-up at six weeks after surgery has been favorable. Pelvic radiotherapy in process.

Case no. 3

Patient presenting to the physician for severe vaginal bleeding occurring in perimenopause. A double-targeted, biopsic and haemostatic curettage of the uterus has been effectuated, diagnosing LGEES (Figure 5).

Preoperatory paraclinical investigations disclosed: hemoglobin 6.9 g/dL, hematocrit 29.7%, RBC 2.8 mil./mm^3, WBC 12 800/mm^3, platelets 178 000/mm^3, serum glucose 84 mg/dL, creatinine 1.13 mg/dL, urea 0.42 g/l, ESR 18 mm/1 h.

Ultrasonographic investigation: moderate uterine enlargement, approximately 16/10/7.5 cm, inhomogeneous endometrial structure, irregular uterine tumoral mass, intense inhomogeneous, with cystic and solid components, intra-tumoral septa, and normal adnexial regions.

Preoperatory management included plasma and blood transfusions. Surgical management accomplished approximately three years ago. Intraoperative aspects: moderately enlarged uterus 16/9.5/7 cm, irregular uterine surface, freely mobile in relation with the neighbor organs, macroscopically normal adnexa. Total abdominal hysterectomy and bilateral adnexectomy have been successfully effectuated (Figure 6).

The postoperative period was uneventful and the patient has been discharged after ten days. The follow-up at six weeks after surgery has been favorable. Pelvic radiotherapy followed the surgical treatment. Now, our patient is clinically without disease.

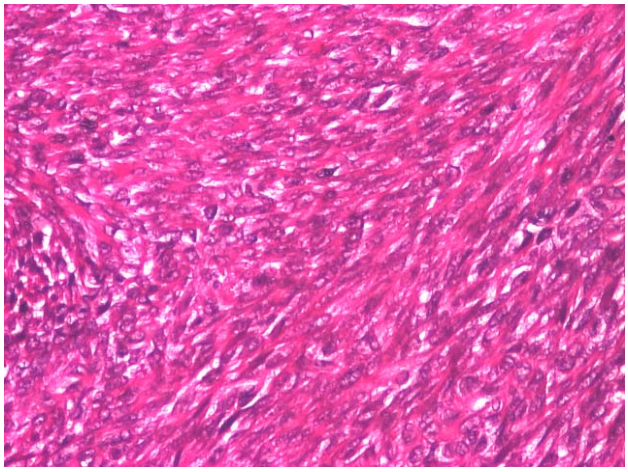

Figure 1 – ***Low-grade endometrial stromal sarcoma (HE, ×200)***

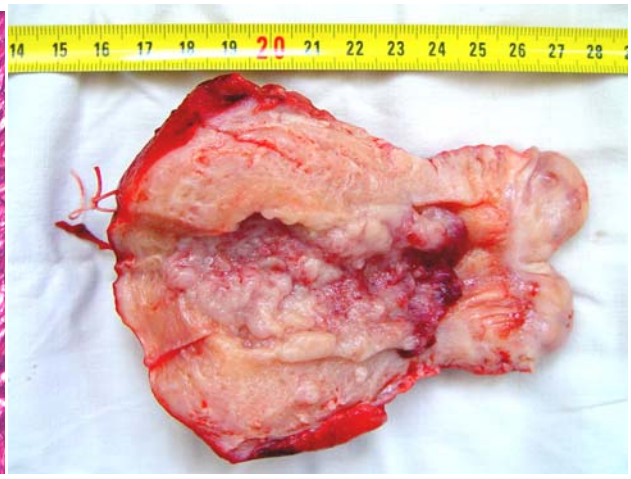

Figure 2 – ***Macroscopic image of the sectioned uterus***

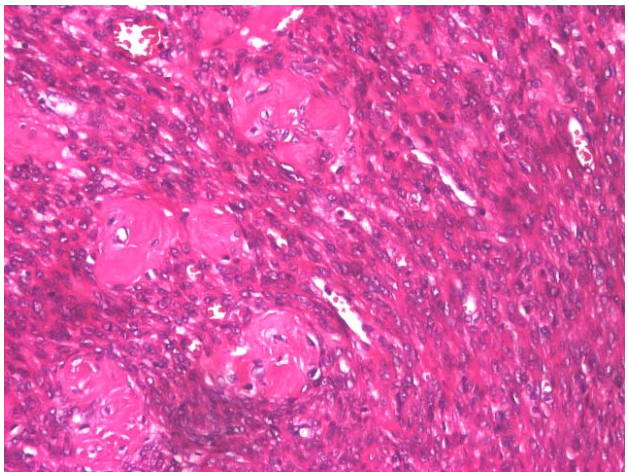

Figure 3 – ***Low-grade endometrial stromal sarcoma, hyaline degeneration (HE, ×200)***

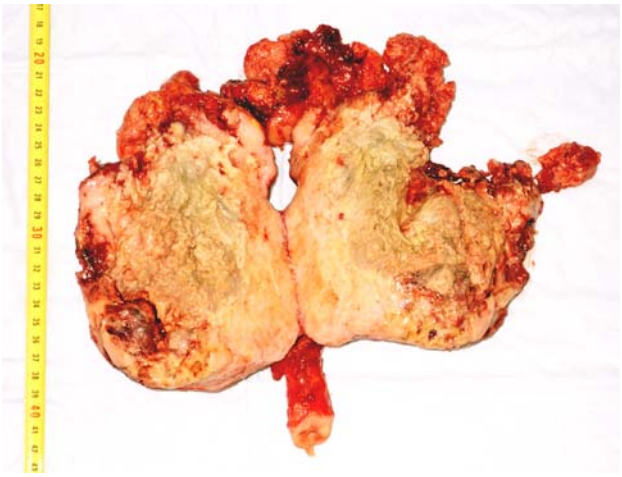

Figure 4 – ***Macroscopic image of the sectioned uterus***

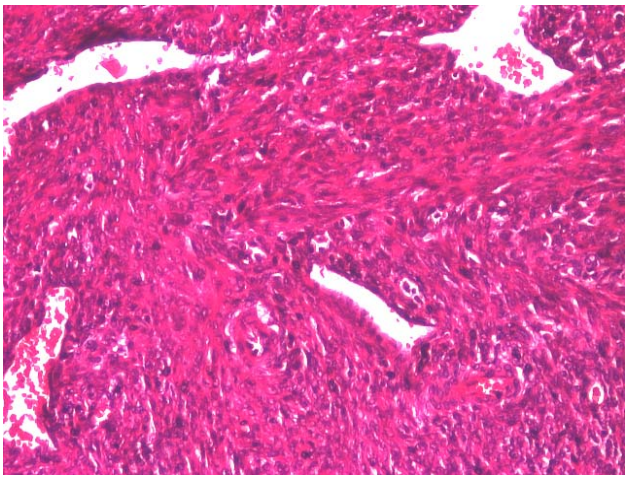

Figure 5 – ***Low grade endometrial stromal sarcoma, multiple ramified vessels (HE, ×100)***

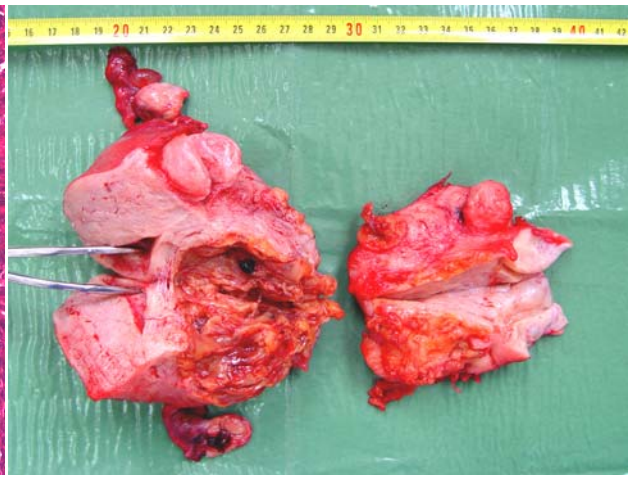

Figure 6 – ***Macroscopic image of the sectioned uterus and adnexa. Small uterine cavity. Multiple intramural fibromyomas***

Case no. 4

The patient was diagnosed with LGESS (Figure 7) and surgically treated approximately 12 years ago. Preoperative diagnosis was of giant uterine leiomyoma.

Preoperatory paraclinical investigations revealed: hemoglobin 9.4 g/dL, hematocrit 39.3%, RBC 4.1 mil./mm^3, WBC 13 500/mm^3, platelets 312 000/mm^3, serum glucose 95 mg/dL, creatinine 0.68 mg/dL, urea 0.32 g/L, ESR 73 mm/1 h.

Ultrasonographic investigation: very important

uterine enlargement, approximately 29/14/12.5 cm, virtual irregular uterine cavity, inhomogeneous endometrial structure, normal adnexial regions. Axial contrast-enhanced CT-scan shows small and moderate myometrial nodules, limited to the uterine wall, without invasion for the neighbor structures.

Surgical management: intraoperative aspects – severely enlarged uterus 29/12.5/11.5 cm, freely mobile in relation with the neighbor organs, macroscopically normal adnexa. Total abdominal hysterectomy and bilateral salpingo-oophorectomy have been successfully accomplished (Figure 8).

Postoperative management included blood transfusion. The postoperative period was uneventful, the patient being discharged after ten days. The follow-up at six weeks after surgery has been favorable. Pelvic radiotherapy followed the surgical treatment. Now, the patient is living clinically without disease.

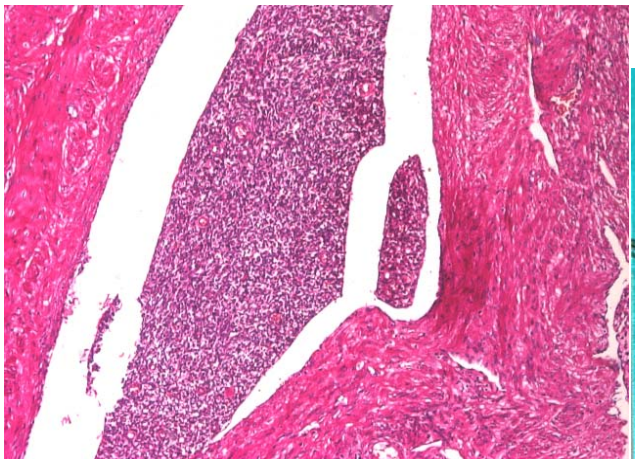

Figure 7 – ***Low-grade endometrial stromal sarcoma, myometrial invasion by tumoral cordons (HE, ×40)***

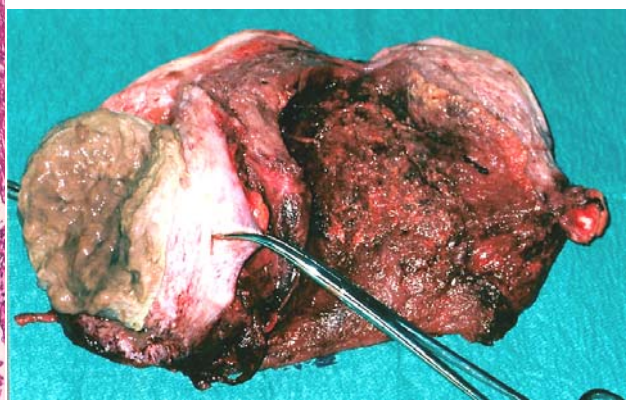

Figure 8 – ***Macroscopic image of the sectioned uterus. Large co-existing fibromyoma with necrobiosis***

Discussions

The pathogenesis of ESS remains unknown, but exposure to tamoxifen and unopposed estrogens has been implicated in some cases [2, 8, 9]. Low-grade endometrial stromal sarcoma has an infiltrating margin and typically shows extensive worm-like vessel invasion [10, 11]. Our paper includes two cases out of the age range of maximum incidence of the disease (45–50 years), case no. 1 – 37-years-old woman, and case no. 4 – 70-years-old woman.

The initial clinical impression was of uterine fibromyoma. There have been some clinical and biologic aspects (high and very high ESR, ponderal loss) leading to the idea of a malignant disease.

As a macroscopic aspect, the bulk of the tumor is usually intramyometrial [2, 12], most endometrial stromal sarcomas involve the endometrium, and uterine curettage usually leads to diagnosis [2, 12, 13]. In our paper, two of the cases have been diagnosed with LGESS after the double-targeted, biopsic and haemostatic curettage of the uterus, and the other two of the patients by hysterectomy. Surgery has always been described as the most effective treatment in LGESS as other uterine sarcomas [2]. The efficacy of adjuvant therapy in patients with ESS is still not proven [14–16]. In our research radiotherapy as adjuvant has been administered to all of the patients.

For LGESS late recurrence and distant metastases may occur [12–15]. We have not encountered any recurrence in the study at this time. The risk of recurrence is thought to be as high as 50%, although these tumors are usually slow growing and recurrences occur late [12, 13]. In one large series, the interval before recurrence varied from three months to 23 years, with a median interval of three years [12–15]. In the largest clinico-pathologic study to date on ESS, the median time between hysterectomy and relapse was 5.4 years and nine months for stages 1 and 3–4, respectively [17–22]. Prolonged survival and even cure are common after surgical resection of recurrent or metastatic lesions [23, 24]. Prognostic factors in patients with ESS are still discussed controversially [14, 25]. The negative prognostic influence of a high mitotic count was revealed in previous studies [25].

Conclusions

In this paper, we present a very rare pathological entity occurring as a malignant disease in female genitalia. For two cases out of for we have been diagnosing ESS after the surgical therapy, as the total abdominal hysterectomy and bilateral salpingo-oophorectomy were anyhow indicated for the initial diagnosis. For two cases, histological examination of the samples collected by uterine curettage diagnosed low-grade endometrial stromal sarcoma. Axial contrast-enhanced CT-scan and ultrasonographic investigation were also found useful as diagnostic support. Symptomatology for ESS is commonplace, vaginal bleeding and abdominal pain representing the most important manifestations, sending the patient to the physician. Survival outcome is encouraging, taking into account that none of the patients were not having recurrent or metastatic lesions. All of the patients are clinically without disease at this time. Even if the adjuvant therapy for ESS is still under evaluation, in our study all of the cases received radiotherapy.

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