Fibrosarcomas are placed among the most infrequent malignant tumors of the uterus. We present a case of a 38 years-old woman, whose benign looking uterine mass was primary diagnosed as a sclerosing leiomyoma. However, the tumor relapsed in two years with multisite metastases in the abdomen. The complex differential diagnosis excluded the most common mesenchymal tumors of the gynecological tract. Finally, we diagnosed the tumor as an epithelioid sclerosing fibrosarcoma arising from the uterine.

Key words: progressive familial intrahepatic cholestasis, partial external biliary diversion, follow-up, children, liver, histopathology.

Introduction

Uterine sarcomas account for 3% of malignant tumors of the uterus. Leiomyosarcomas and endometrial stromal sarcomas comprise 90% of uterine sarcomas [1, 2, 3]. Among the remaining 10% of rare uterine sarcomas, the most common diagnoses encompass embryonal or pleomorphic rhabdomyosarcoma (ERMS/PRMS), malignant peripheral nerve sheath tumor (MPNST) and angiosarcoma (33%, 17% and 14% of rare uterine tumors, respectively) [2]. Other diagnoses, including uterine liposarcoma and fibrosarcoma are found exceptionally [2].

Sclerosing epithelioid fibrosarcoma (SEF) accounts for less than 1% of soft tissue malignancies and arises most commonly in lower extremities of middle-aged adults. SEFs are characterized by low histopathological malignancy, however the clinical course of this neoplasm is aggressive [4, 5].
We present an unusual case of primary uterine sclerosing epithelioid fibrosarcoma.

Material and methods

The patient was a 38 years-old woman suffering from myomatous uterus. In 2013, she underwent a subtotal hysterectomy with a diagnosis of a dissecting leiomyoma. The patient was discharged home and remained in a good condition for the next two years. In 2015, the patient started suffering from weight loss and chronic pelvic and abdominal pain. A computed tomography scan of the abdomen revealed multisite abdominal masses localized mainly in adnexes and a clinical suspicion of a metastatic ovarian tumor was made. In December 2015, the patient underwent a debulking surgery with excision of adnexes, the remaining part of cervix, greater omentum, appendix and visible tumor masses. Because of the unusual appearance of the disease progression, the specimen from the second surgery (2015) was sent for consultation at our Department. A routine histopathological examination followed by a complex panel of immunohistochemical and histochemical stainings were applied (Table I). Immunohistochemical analysis used monoclonal antibodies [FLEX Monoclonal Mouse Anti-Human, Ready-to-Use (Link), Dako, Denmark] and EnVisionTM FLEX+ (Dako, Denmark) for the visualization. The tests were carried out using Autostainer Link 48 (Dako, Denmark).

Results

In the macroscopic examination from the first surgery (2013), the uterine corpus was deformed and partially dissected by a single whitish and solid tumor of 13 cm in diameter. In the macroscopic evaluation from the debulking surgery (2015), multiple well-limited, solid and whitish tumors were present in all surgical specimens with the diameters ranging from 0.4 cm to 6.0 cm. Intraoperatively, the masses were described as mesenchymal tumors without unequivocal features of malignancy.

The histopathological view was consistent among tumors resected during the second surgery from each site involved by the disease (Fig. 1A-D). Microscopically, the neoplasm presented the proliferation of fibrotic tissue with multiple foci of sclerosis and collagen formation. The tumor cells had an epithelioid look with very low rate of atypia and scarce mitoses. The neoplastic areas invaded and dissected the adjacent tissue. A primary suspicion for an unusual presentation of a sex cord stromal tumor was made, but the tumors were consistently negative for CD56, calretinin and inhibin. In the further immunohistochemical analysis, the tumors were negative for SMA, desmin, h-caldesmon, CD117, ER, PR and CD10, which vouched strongly against the diagnosis of leiomyosarcoma or endometrial stromal sarcoma (Fig. 2A-D). The stainings for CD34, S100p, HMB-45 and broad-spectrum cytokeratin were also negative. The tumors were strongly positive for vimentin and MUC4 (Fig. 2E). The Masson-trichrome histochemical stain revealed the bundles of collagenous tissue invading and intersecting the adjacent tissue (Fig. 2F). The Ki67 proliferation index was low reaching 5% in hot-spot areas. For details on the results from the immunohistochemical analysis see Table I. Basing on the uncommon both histologic and immunophenotypic features of the tumor, as well as clinical presentation as a malignant neoplasm, we indicated on a diagnosis of a low-grade mesenchymal malignancy with fibroblastic differentiation. Because of the epithelial look of the cells, low mitotic rate and extensive areas of sclerosing collagen bundles, we suggested a diagnosis of sclerosing epithelioid fibrosarcoma.

To verify our diagnosis, we requested the specimens from the first surgery (2013). The histopathological view of the primary tumor, which dissected the uterine corpus, was indistinguishable from the tumors removed in the second surgery. This not only confirmed our prior diagnosis, but also led to the hypothesis that the uterine corpus was the primary site of the sarcoma.

The second consultation at the Institute of Oncology corroborated our diagnosis. The patient was
referred to the reference Department of Soft Tissue/Bone Sarcoma and Melanoma. In March 2016, the radiologic imaging revealed the relapse of the disease with multisite tumors in the abdomen. The patient was disqualified from surgical treatment and was administered CyADIC chemotherapy regimen [6]. The patient remained in a good condition and the disease was stable according to RECIST until May 2017, when the progression was described in the radiologic evaluation. The patient undergone another debulking surgery in May 2017 and was administered postoperative chemotherapy with Gemcitabine and Docetaxel. As of November 2018, the disease is stable according to RECIST.

Fig. 1. Histopathological presentation of the tumors (HE). Nests of epithelioid cells with low atypia and low mitotic rate, dissected by thick bundles of sclerosing collagen, invade the structures of: greater omentum (A, B, at 100× magnification), ovary (C, at 100× magnification), appendix (D, at 4× magnification) and uterus as primary site of the disease (E, F, at 20× and 200× magnification, respectively)
Benign-looking primary fibrosarcoma of the uterus

Discussion

We present the second case of primary uterine low-grade fibrosarcoma described in the literature [2, 7]. We decided to report on the case, because of the tumor’s unusual presentation and its similarity to a benign sclerosing leiomyoma, which together provided high diagnostic difficulty and delayed the proper therapeutic approach in the patient.

The patient presented firstly with a uterine mass, which was suspected clinically and radiologically as a benign fibroid tumor. Thus, the first surgery en-

Fig. 2. Immunohistochemical stainings of the tumors. Neoplastic tissue is negative for desmin (A, uterus, at 100× magnification), SMA (B, greater omentum, at 100× magnification) and caldesmon (C, uterus, at 100× magnification), CD10 (D, greater omentum, at 100× magnification) invades and dissects the areas of residual smooth muscles (A, C). The tumor is positive for MUC-4 (E, uterus, at 100× magnification). Masson-trichrome stain revealed the thick bundles of collagen produced by neoplastic tissue (F, greater omentum, at 100× magnification)
The presented case is exceptionally rare, however it brings very important conclusions. Firstly, even little deviation from the morphologic image of a uterine fibroid tumor should be carefully examined. Secondly, the case emphasizes that an accurate diagnosis and therapy of soft tissue tumors requires a tight cooperation between medical professionals of various specialties. Lastly, the report shows that fibrosarcomas, including sclerosing epithelioid sarcoma, may arise in uterus as the primary site of the neoplasm.

The authors declare no conflict of interest.

References

Address for correspondence
Marcin Braun
Department of Pathology
Chair of Oncology
Medical University of Lodz
Pomorska 251
92-213, Lodz, Poland
braunmarcin@gmail.com

Quiz
Correct answer to the quiz Pol J Pathol 2019; 70 (1). Check your diagnosis

Anthracosis in an infant of the Spanish royal family from the XVth century.

Pedro L. Fernandez
Department of Pathology, Hospital Germans Trias i Pujol and Universidad Autonoma de Barcelona, Badalona, Spain