CASE REPORT

The uterine carcinosarcoma – a case report

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Abstract

The carcinosarcoma is a malignant mixed müllerian tumor with a highly malignant, biphasic tumor consisting of both epithelial and mesenchymal components. The presented case refers to a patient in climax with a vaginal bleeding. The Doppler echography highlights a polypoid mass, which prolapses in the cervical channel. The histopathological and immunohistochemical analysis of the surgically resected piece allowed the carcinosarcoma diagnosis. The uterine carcinosarcoma's incidence is rare, that is why this case is interesting taking in consideration the biphasic pattern of the tumor.

***Keywords*:** carcinosarcoma, uterus, malignant mixed mesodermal tumor.

Introduction

The uterine carcinosarcoma, also referred to as malignant mixed mesodermal tumor or malignant mixed müllerian tumor represents from some authors' point of view 1.5% of malignant uterine tumors [1]. On the other hand, some authors consider this tumor represents 2–3% [2].

The term carcinosarcoma is probably the one that reflects the origin of these mixed tumors characterized by a combination of carcinoma and sarcoma elements, traditionally divided in homologous and heterologous subtypes each of them addicted to the constituent cellular characteristics.

Immunohistochemical studies and citogenetics analysis established that both tumoral elements derive from a common stem cell [3, 4].

It is a tumor predominantly identified at the postmenopausal woman, but it can be also found at young women or children [5].

The clinical manifestations are non-specific common to other neoplasias with the same localization. Clinically, uterine bleeding, an enlarged uterus, pain and abdominal distension characterize them. They are frequently localized at the level of the posterior wall of the uterine body in the fundus region. Macroscopically, it has a polypoid aspect of soft consistency, variable color with areas of necrosis and hemorrhage [6].

Due to the fact the carcinosarcoma is rarely identified, we consider the presentation of our case useful taking in consideration the problems of positive and especially differential diagnosis that are determined by the presence of this kind of tumor.

Patient and methods

The material of study proceeded from a 78-years-old woman, who presented a climax hemorrhage that was unsuited for a biopsy. This is the reason why a Doppler 3D ecography was recommended. An ovoid formation was identified with approximately 10 cm dimensions, which suggest a polypoid mass, next to a patognomic image of uterine fibrom. A surgical intervention was made: total hysterectomy with bilateral anexectomy.

The examination of the resection chirurgical piece outlined a polyploidy mass, with a large basis of implantation, soft, friable which fill up the endometrial cavity. On the sections surface variable aspects could be identified from white-grey to white-yellow, with areas of necrosis and hemorrhage. Serial sections were made at the level of the uterine cervix, the uterine body and especially the tumoral mass, which were initially processed through the usual histopathological technique. Later, for the biphasic neoplasic proliferation were made sections immunohistochemically processed through the LSB/HRP method in the Laboratory of the Center for Microscopic Morphology and Immunology study. The tumor was investigated for Ki67, (monoclonal anti-human Ki67 antigen, clone MIB-1, code 724001, DAKO Cytomation), EMA (epithelial membrane antigen), ER (monoclonal anti-human estrogen receptor, clone PPG5/10 code M7292, DAKO Cytomation), PR (monoclonal anti-human progesterone receptor, clone 1A4, code A0098, DAKO Cytomation), actin (clone 1A4, DAKO Cytomation), vimentin (clone V9; DAKO Cytomation). For Ki67 was calculated the number of positive cells reported to 100 cells (positive or negative) to he objective 40×.

Results

The tumor belonged to a 78-years-old patient with vaginal bleeding to whom a total hysterectomy and a bilateral anexectomy was applied. The histopathological study made on serial sections at different levels of the polypoid mass outlined a biphasic neoplasic proliferation with a predominance of the epithelial one. The epithelial component was of a well and moderately differentiated endometroid adenocarcinoma type with large areas of squamous chance (Figure 1).

The homologous sarcoma component of high range was made of spindle cells, lengthen and in some areas gigantic. Their cytoplasm is quantitatively reduced with imprecise limits in the endometrial stroma with nuclear atypia (Figure 2).

A panel of immunohistochemical stains outlined different immunomarking for the epithelial and mesenchimal component. That is why, the immunoreaction for the hormonal receptors ER and PR were positive for the carcinomatous epithelial component and also in the areas with squamous metaplasia (Figures 3 and 4).

The epithelial component shows intense reactivity for EMA (Figure 5). The sarcomatous spindle cell component may stain focally with EMA, but this staining is limited and less intense than the reactivity of the carcinomatous component. The actin immunostains was positive and light positive to vimentine for the sarcomatous component (Figures 6 and 7).

The investigation of the cellular proliferation made by calculation of the index of positivity for Ki67 indicated reduced value, less than 1% (Figure 8).

Discussions

The uterine carcinosarcoma is a rare variety of a mixed müllerian tumor and it accounts for 2–3% of all malign uterine tumors [7]. This tumor was most frequently described at women with a median age of 65 [8]. The most common symptom is the vaginal bleeding as identified at our patient [9]. The MMT is often polypoid and can produce abundant tissue, which allows the previous biopsy curettage, but this could not be applied to our patient [10].

The presence of the two neoplasic proliferations, epithelial and mesenchymal highlighted through the histopathological analysis suggested the carcinosarcoma diagnosis. The immunohistochemical stains for cytokeratin and EMA can be helpful for proving the biphasic pattern from the MMT [11, 12].

The immunohistochemical studies show that both carcinomatous and sarcomatous elements are reactive for cytokeratin and the epithelial membrane antigen (EMA) [13, 14].

In our case, the reactivity for EMA is more intense for the epithelial component. The term carcinosarcoma is probably a better reflection of the origin as these tumors usually have mixed sarcomatous and carcinomatous components and traditionally they are divided into homologous and heterologous sub-types depending upon the constituent characteristic cells [15–17].

The literature emphasizes shows that at about 50 % of the cases the sarcomatous mesenchymal component can have heterologous elements of osteosarcoma, leiomyosarcoma, chondrosarcoma or rhabdomyosarcoma type [18].

Recently, investigators have suggested that uterine MMTs are actually dedifferentiated epithelial tumors and should be treated as such [19].

Other authors like McCluggage WG consider that the uterine carcinosarcomas are metaplastics carcinomas; the sarcomatous component is derived from the carcinomatous elements [20].

The presence of this kind of tumor arises the problem of the differential diagnosis especially on the carcinoma component. That is why the adenosarcoma is present and also the slightly differentiated endometrial carcinoma in which groups of epithelial malign cells trickle in the adjacent stroma with a pseudosarcoma aspect. In addition to this, the differential diagnosis must be made with a stromal sarcoma with a high degree and also with the botrioid rhabdosarcoma (appears at children and teenagers, microscopically it has not a carcinomatous component) [21].

The carcinosarcomas evolution is unfavorable, even if it was identified and treated in the initial phases. The age, the histological type: homologous or heterologous, the adjuvant treatment was not associated with recurrence or survival [22].

Wang and contributors show that despite the use of the multimodal treatment, including chirurgical treatment, chemotherapy and radiotherapy, the prognosis is still grave in most cases [23, 24].

Conclusions

The presented case highlights different clinical-histopathological aspects and problems of differential diagnostic occurred in a case of malignant mixed müllerian tumor.

The presence of proliferation of the two components – epithelial and mesenchymal – arises the problem of a biphasic tumor, an aspect confirmed also by the immunohistochemical study.

We consider that carcinoma diagnosis is useful for establishing the treatment and the surviving chances of the patient.

Acknowledgements

Written consent was obtained from the patient for publication of study.

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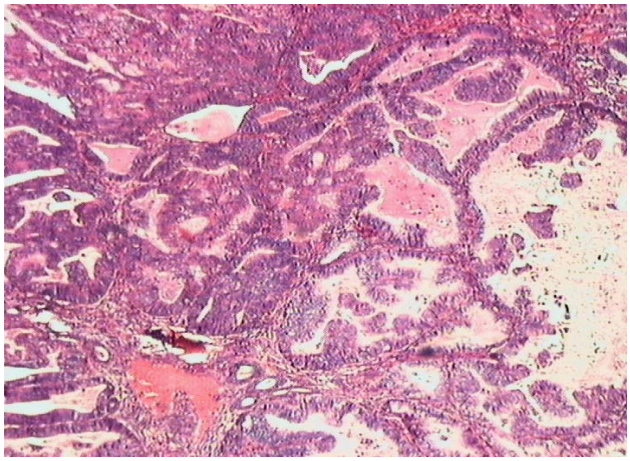

Figure 1 – ***Uterine carcinosarcoma (HE stain, ob. ×10)***

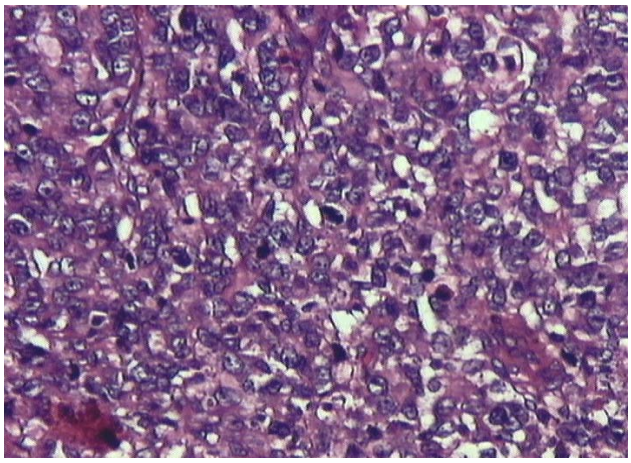

Figure 2 – ***Uterine carcinosarcoma (HE stain, ob. ×20)***

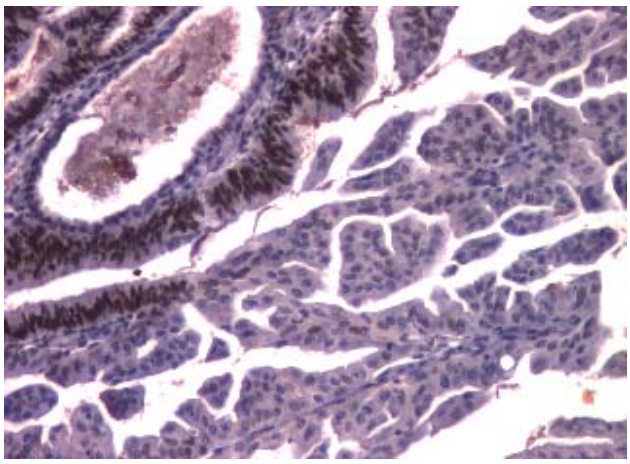

Figure 3 – ***Uterine carcinosarcoma (ER stain, ob. ×10)***

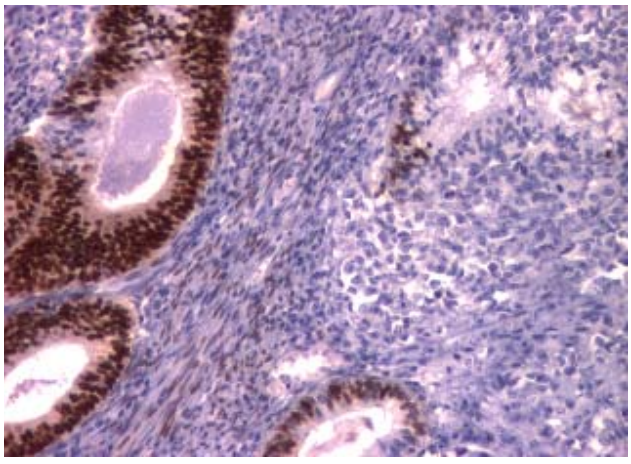

Figure 4 – ***Uterine carcinosarcoma (PR stain, ob. ×10)***

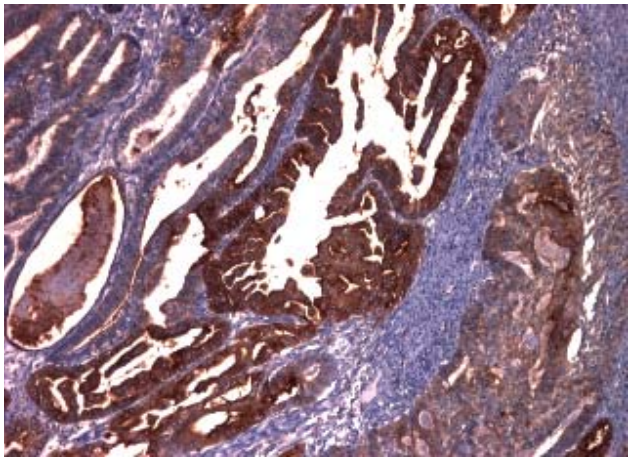

Figure 5 – ***Uterine carcinosarcoma (EMA stain, ob. ×4)***

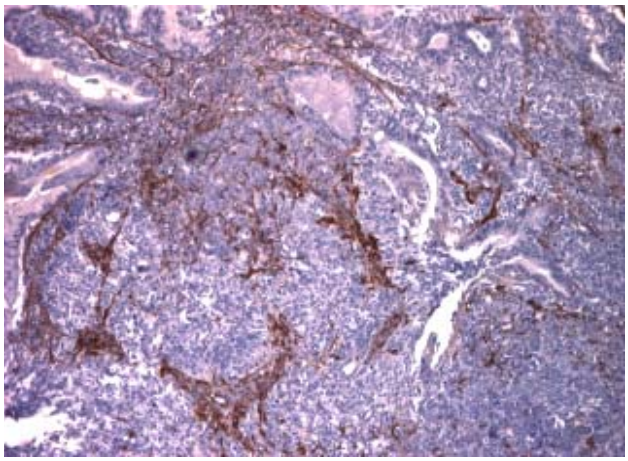

Figure 6 – ***Uterine carcinosarcoma (ACT stain, ob. ×4)***

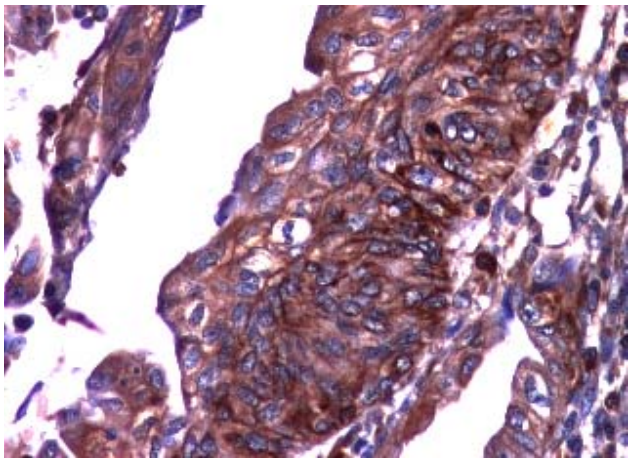

Figure 7 – ***Uterine carcinosarcoma (VIM stain, ob. ×10)***

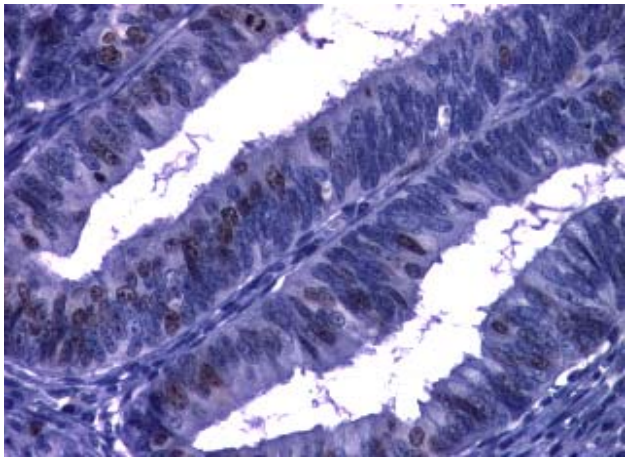

Figure 8 – ***Uterine carcinosarcoma (Ki67 stain, ob. ×20)***

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