CARCINOSARCOMA OF THE UTERUS IN A 30-YEAR OLD PATIENT - A CASE REPORT
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ABSTRACT
Uterine carcinosarcoma is a very rare type of cancer. In most common cases it has poor prognosis, because it is discovered at an advanced stage. There is no specific test for this type of malignant neoplasm. We present an unusual case of uterine carcinosarcoma in a young patient. It was diagnosed accidentally after the pathological result of a cytological smear. The described case points at the usefulness of prophylactic examinations, as different types of malignancies can be detected in asymptomatic stages.
Uterine sarcoma is a very rare type of cancer. Among the uterine sarcomas, mesenchymal sarcomas represent 2-5% of cases [1]. The highest incidence occurs in the 7th and 8th decade of life. Less than 5% of the patients are diagnosed in their reproductive age and the cases in patients younger than 35 years are extremely rare. Uterine malignant mixed mullerian tumor (MMMT) is an aggressive tumor, often diagnosed at an advanced stage. The most common first symptom is abnormal vaginal bleeding, occurring in 80-90% of cases [2]. Because of its rare occurrence, its management is controversial and fixed prognostic factors cannot be defined. The most important prognostic factor is the spread of the disease. Carcinosarcoma often co-occurs with hypertension, obesity and diabetes [2].

Carcinosarcoma is composed of two tissues. Both epithelial and mesodermal elements are present. Epithelial part is usually comprised of glandular tissue. Mesodermal part can resemble endometrium or be built like cartilage, bone or striated muscle [2]. This tumor can be divided into two types by the appearance of the sarcomatous elements: homologous and heterologous. In the homologous type a cancer arises from the uterine tissue, like endometrium or muscle (leiomyosarcoma), or sarcomas of supporting tissues. The heterologous type of MMMT contains elements with non-native differentiation, such as skeletal muscle, cartilage, or bone [2].

CASE REPORT

This is a case report of a 30-year-old female with no obstetric or gynecological history. The patient menstruated irregularly, had never been pregnant nor used any hormonal contraceptive methods. The patient suffered from pathological obesity (BMI=47.6 kg/m²). She had been smoking about 20 cigarettes per day for 10 years. She had no history of chronic diseases, nor took any medicaments regularly. There was no history of neoplastic diseases in her family. In June 2016 the patient had a cytological smear as part of standard preventive program. It showed abnormal epithelial cells and unusual cells of glandular tissue, probably cancer cells. It was described as stage 4 according to Papanicolaou scale. She was then qualified for an extended diagnostic procedure in the community hospital. In July 2016 cervical biopsy and diagnostic cervical and uterine curettage were performed. The histopathology revealed a malignant neoplasm, probably non-epithelial. The immunohistochemical profile was performed: CKPAN (-/+), positive in about 60% of forms, CD10 (-/+), focal positive 10%, Vimentin (+/−), positive (>90%), Caldesmon (−/−), positive in about 20% form, p53 (−), Ki-67 ~ 80%, PR (−/+). The above test indicated a malignant epithelial – mesenchymal neoplasm, most probably carcinosarcoma of the uterus. Various additional diagnostic scans were performed: transvaginal and abdominal ultrasound (US), chest X-ray, abdominal and pelvic tomography (CT). US revealed an extension of the uterine cavity up to 22 mm, the uterine cervix 40 mm thick, cervical canal 20 mm thick and hypoechoic. Thick and irregular endometrium of 16 mm was described on CT scan, with no abnormalities elsewhere. However, because of the incompatibility between the diagnosis and the age of the patient, she was referred to the tertiary facility for consultation. In September 2016 the patient was admitted to the 1st Department of Obstetrics and Gynecology, Medical University of Warsaw, and qualified for surgery. A modified radical hysterectomy was performed. During the operation the uterus was of normal size (6x4cm), with smooth surface and macroscopically intact adnexa. Due to the histopathological result of the diagnostic procedure the right pelvic ilio-obturator lymph nodes were removed. The lymph nodes on the left were macroscopically intact, therefore the decision of resection was abandoned (pathological obesity was also an obstacle). The final histopathological examination confirmed the diagnosis of a mixed mesodermal tumor, infiltrating the uterine cervix and the parametrium: tumor mixtus mesodermalis malignus (MMMT: carcinosarcoma) typus heterologicus corporis uteri. pT3a (FIGO IIIA), Nx, R1. The epithelial elements were highly differentiated adenosarcoma type of endometrium. The mesodermal part was of stromal, leiomyomatous and striated differentiation. The foci of cancer were also visible in the serous membrane of the uterus. No vascular or nerve invasion was observed. The ovaries resembled polycystic ovary syndrome. The postoperative period was uneventful and she recovered quickly. After the case conference of the senior multidisciplinary staff, the patient was qualified for complementary treatment – chemotherapy. She has undergone six courses of chemotherapy- paclitaxel 350 mg and p-carboplatin 1200 mg. Currently the patient is undergoing radiotherapy treatment.

DISCUSSION

Carcinosarcoma of the uterus is a very rare neoplasm, therefore the risk factors have not been widely studied. Nevertheless, the discovered factors include chronic estrogen and tamoxifen exposure, obesity, hypertension and diabetes [3]. Prior pelvic irradiation was mentioned in 7-37% cases [2]. The morbidity is also higher in Afro-American women [3, 4]. The described patient was morbidly obese and menstruated irregularly, therefore she had chronic hyperestrogenism. Tabacco smoking and combined contraceptive pills are mentioned as protective agents [3]. The presented patient smoked 20 cigarettes per day, but had not taken any combined contraceptive pills.

Carcinosarcoma occurs mainly in women after menopause. The first symptoms include abnormal genital bleeding, sensation of pelvic mass, pelvic discomfort or pain, constipation and urinary urgency [3]. The above patient was only 30-years old, which makes her case unique and interesting. She was completely asymptomatic prior to the diagnosis. The bleeding was observed 2 months after the diagnosis, just before the operative treatment.

In a few studies cytology smear was described as a first line of diagnosis of carcinosarcoma [5,6]. Snyder et al. examined the clinical importance of an abnormal Pap smear and its effectiveness in carcinosarcoma screening.
According to the results, the conventional smear is insensitive (60%) for detecting carcinosarcoma, however the abnormal Pap is an important stage-independent adverse prognostic factor [5]. Costa et al. also described cervicovaginal cytology in carcinosarcoma. In their examination sensitivity of cervicovaginal cytology findings was 61% [6]. The cytological smear is not a sensitive screening test for endometrial cancer and its negative result does not exclude malignancy. The abnormal Pap smears are significantly associated with high grade of tumor and stage II-IV endometrial carcinoma [7]. However, cytological smears positive for cancer showed no association with the depth of myometrial invasion, size, grade, or histologic type of carcinosarcoma [6]. Uterine neoplasms are difficult to diagnose and categorize by cytological examinations, as the diagnostic criteria are based on mitotic activity, coagulative necrosis and nuclear pleomorphism, which are difficult to assess cytologically [8]. In the presented case the tumor was in stage pT3a and the resection margins were surrounded by cancer cells. According to FIGO classification it was stage IIIA- the cancer infiltrated uterine serous membrane. Hysterectomy is the best management of carcinosarcoma, as was performed in this case. Chemotherapy is also very important, as it reduces the chance for remote metastases [2] and is associated with incised survival [9]. Additionally, adjuvant radiotherapy provides better local control [10]. Staging is the most important prognostic factor, followed by lymph node metastases, deep myometrial infiltration, involvement of the cervix, the size of the tumor and free resection margins [11]. The 5-year survival rate for stage I was 53%, but for stage II and III it was only 8.5% [2]. The recurrence of carcinosarcoma appears in more than half of the cases, even if the disease seemed to be limited at the time of treatment [2]. The pattern of metastasis in carcinosarcoma depends on dominancy of the type of elements. Carcinoma typically spread through the lymphatic channels to nearby lymph nodes, while sarcoma frequently metastasize to the peritoneal cavity or hematogenously to the lungs [12]. The described patient is currently 10 months after the diagnosis. She is alive and has no evidence of tumor recurrence or disease progression. She had a combination of all the above described therapies.

CONCLUSIONS

The described case points at the usefulness of prophylactic examinations. Although the cytological smear is dedicated to find cervical abnormalities, in some cases it can lead to the diagnosis of other pathological changes of the female reproductive organs. In the presented case a very rare and dangerous carcinosarcoma of the uterus was diagnosed in an asymptomatic phase.

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ABBREVIATIONS

BMI – Body Mass Index

CT – computed tomography

FIGO – The International Federation of Gynecology and Obstetrics

H&E – haematoxylin and eosin stain

MMMT – malignant mixed müllarian tumor

US – ultrasound

REFERENCES


LIST OF FIGURES

Fig. 1. Immunohistochemical analysis of the uterine carcinosarcoma. Mesodermal elements are positive for CD10.

Fig. 2. Immunohistochemical analysis of the uterine
carcinosarcoma. Epithelial elements are positive for cytokeratines.

Fig. 3. Immunohistochemical analysis of the uterine carcinosarcoma. Positive Ki67 is a specific nuclear marker for cell proliferation. Overexpression is frequently seen in a variety of malignant tissues and is associated with worse survival.

Fig. 4. Immunohistochemical analysis of the uterine carcinosarcoma. Positive progesterone receptors proves hormonal activity of tumor.

Fig. 5. Histological examination of the uterine carcinosarcoma. H&E. It is composed of two tissues: epithelial and mesodermal elements.

Fig. 6. Histological examination of the uterine carcinosarcoma. H&E. It is composed of two tissues: epithelial and mesodermal elements.
FIG. 5. HISTOLOGICAL EXAMINATION OF THE UTERINE CARCINOSARCOMA. H&E. IT IS COMPOSED OF TWO TISSUES: EPITHELIAL AND MESODERMAL ELEMENTS.

FIG. 6. HISTOLOGICAL EXAMINATION OF THE UTERINE CARCINOSARCOMA. H&E. IT IS COMPOSED OF TWO TISSUES: EPITHELIAL AND MESODERMAL ELEMENTS.