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UTERINE CARCINOSARCOMA: A CASE REPORT

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ABSTRACT-

Uterine carcinosarcoma, also known as malignant mixed müllerian tumor, is a rare and highly aggressive endometrial malignancy, accounting for 3–5% of uterine cancers. It is characterized by a biphasic proliferation composed of carcinomatous and sarcomatous components and is associated with poor prognosis.

We report the case of a 67-year-old postmenopausal woman presenting with abnormal uterine bleeding for six months. Clinical examination and imaging revealed a cervico-uterine mass. Total hysterectomy with bilateral salpingo-oophorectomy was performed. Histopathological examination showed a biphasic tumor with deep myometrial invasion, lymphovascular emboli, and extension to the parametrium, left fallopian tube, and right ovary. The diagnosis of uterine carcinosarcoma, FIGO stage IIIA (pT3Nx), was established.

Uterine carcinosarcomas typically occur in postmenopausal women and commonly present with abnormal uterine bleeding. Recent morphological, immunohistochemical, and molecular data support a monoclonal epithelial origin with secondary sarcomatous differentiation. The epithelial high-grade component is the main determinant of prognosis.

Uterine carcinosarcoma is a rare but aggressive tumor, frequently diagnosed at an advanced stage. Pathological examination plays a pivotal role in diagnosis and prognostic assessment, guiding therapeutic management.

Keywords – Uterine carcinosarcoma; malignant mixed müllerian tumor; pathology; endometrial cancer

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Introduction

Carcinosarcoma of uterine corpus, also known as malignant mixed müllerian tumor, is a rare and aggressive gynecological tumor. It accounts for approximately 3 to 5% of endometrial cancers, but contributes disproportionately to mortality from uterine cancers due to its invasive behavior and high metastatic potential [1,2].

Initially considered a biphasic tumor arising from two distinct lineages (epithelial and mesenchymal), carcinosarcoma is now recognized as a high-grade endometrial carcinoma that has undergone monoclonal sarcomatous dedifferentiation [3]. This conceptual change has important implications for diagnosis, prognosis, and treatment.

We report a case of uterine carcinosarcoma diagnosed in a postmenopausal woman, illustrating the clinical, histopathological, and evolutionary features of this lesion, and discuss recent data from the literature.

Patient

This is a 67-year-old postmenopausal woman admitted to the surgery Department for metrorrhagia that had been developing for six months, with a feeling of pelvic heaviness. There was no history of hormone replacement therapy or known oncological history.

Clinical examination revealed abdominal distension. A vaginal examination revealed a friable cervical mass that bled on contact. Speculum examination confirmed the endocervical origin of the bleeding.

Abdominal and pelvic CT scans showed a large, heterogeneous cervical-uterine mass with no evidence of distant metastases. A total hysterectomy with bilateral adnexectomy was performed, and the surgical specimen was sent for pathological examination.

The specimen from the total hysterectomy with bilateral adnexectomy weighed 334 g. The cervix measured 4 × 3 cm, and the uterine corpus measured 10 × 11 cm. On cut, there was a heterogeneous, yellowish-white intracavitary mass with hemorrhagic changes, measuring 9 × 4 cm, approximately half of which protruded through the cervix.

The fallopian tubes measured respectively 5cm and 6 cm and the ovaries 2.5 cm and 3 cm in length.

Histologically, there was a biphasic tumor proliferation combining (figure 1):

-an epithelial component with cells arranged in clusters and glandular structures with moderate cytonuclear atypia;

-a sarcomatous component consisting of pleomorphic, sometimes fusiform, highly atypical cells arranged in bundles within an edematous stroma.

The tumor deeply infiltrated the myometrium and endometrium, with the presence of endovascular tumor emboli. Tumor spread was found in the cervical and uterine parametrium, the left fallopian tube, and the right ovary.

The diagnosis of uterine carcinosarcoma, stage IIIA (pT3Nx according to the FIGO classification) was made.

Discussion

Uterine carcinosarcoma occurs predominantly in postmenopausal women, with a mean age at diagnosis between 65 and 70 years, which is consistent with the reported case [4]. The main risk factors described are advanced age, obesity and exposure to estrogen, previous pelvic radiotherapy, and tamoxifen [5].

Clinically, postmenopausal metrorrhagia is the most common symptom. The tumor mass may be large, polypoid, and sometimes protrude through the cervix, mimicking a cervical tumor, which complicates the initial diagnosis [6].

Uterine carcinosarcoma is a biphasic malignant tumor characterized by the close association of a carcinomatous component and a sarcomatous component, the histological recognition of which determines the diagnosis. According to the 2020 WHO classification, this entity is now classified as a high-grade endometrial carcinoma, reflecting its monoclonal epithelial origin with secondary mesenchymal dedifferentiation [7].

Morphologically, the epithelial component is generally predominant and most often corresponds to a high-grade serous carcinoma or endometrioid carcinoma, although other subtypes have been described more rarely [8]. In our observation, the presence of glandular structures associated with moderate cytonuclear atypia suggests high-grade endometrial carcinoma, constituting the initial tumor base. This component is now considered to be the main determinant of tumor biology and prognosis [9].

The sarcomatous component is composed of highly atypical cells, often spindle-shaped or pleomorphic organized in bundles or diffuse sheets. It can be homogeneous or heterologous, the latter being defined by the presence of mesenchymal elements not native to the uterus, such as cartilage, bone, or striated muscle. Although heterology has

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long been considered a poor prognostic factor, recent studies suggest that its prognostic impact is less than that of tumor stage and depth of myometrial invasion [10].
Deep infiltration of the myometrium, the presence of vascular tumor emboli, and adnexal spread observed in this case are clearly established negative histopathological prognostic factors. Lymphovascular invasion is particularly common in carcinosarcomas and reflects their high metastatic potential, explaining the frequency of early recurrence and distant spread [11].
Immunohistochemistry is an essential tool in difficult cases or when biopsies are limited. The epithelial component usually expresses cytokeratins (AE1/AE3), EMA, and often p53 with a mutated profile, while the sarcomatous component expresses vimentin and may retain focal expression of epithelial markers, reinforcing the hypothesis of a common origin [12]. The Ki-67 proliferation index is generally high in both components, reflecting tumor aggressiveness.
At the molecular level, uterine carcinosarcomas share common genetic alterations with high-grade endometrial carcinomas, including TP53 mutations, alterations in the PI3K/AKT pathway, and chromosomal copy number abnormalities [13].
The pathological differential diagnosis includes primary uterine sarcomas, undifferentiated endometrial carcinomas, and certain sarcomatoid metaplasia of high-grade carcinomas. A morphological analysis combined with immunohistochemistry and, when available, molecular data, is essential to avoid any misdiagnosis that could influence therapeutic decisions [14].
Management is based primarily on radical surgical treatment including total hysterectomy with bilateral adnexectomy, combined with pelvic and lumbosacral lymph node dissection when possible [15]. Adjuvant treatments, combining platinum-based chemotherapy and taxanes with radiotherapy, have been shown to improve locoregional control and overall survival [16].
Despite therapeutic advances, the prognosis remains poor, with an overall five-year survival rate of less than 40% across all stages, highlighting the importance of early diagnosis and multidisciplinary care [2,16].

Conclusion

Uterine carcinosarcoma is a rare but highly aggressive tumor that predominantly affects postmenopausal women. Its diagnosis is based on histopathological analysis revealing biphasic proliferation. The prognosis remains poor, particularly in advanced stages, despite optimal surgical and adjuvant management. A better understanding of the molecular mechanisms could pave the way for new targeted therapeutic strategies.

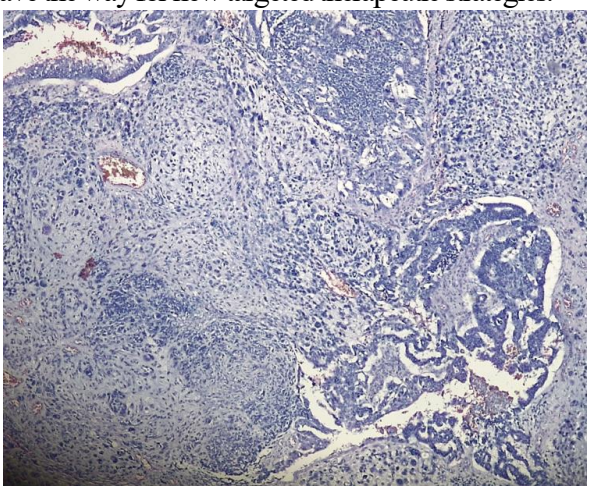

Figure 1: Uterine carcinosarcoma. A biphasic tumor proliferation combining epithelial and sarcomatous components. HEx100.

Source: Department of Pathology, JRA University Hospital, Antananarivo, Madagascar

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