Case report
UDC: 616.24-006:616-02

Malignant mixed Müllerian ovarian tumor

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Malignant mixed Müllerian tumor (called carcinosarcoma) of the ovary is very rare neoplastic disease which could be found in postmenopausal period. Histomorphologycal caracteristics of this neoplasm are neoplastic stroma and polimorphic carcinomal component that could be serosal, endometrioid, squamous or clear cell type. The 53 year old female patient was treated surgicaly at the Institute of Oncology, Department of Gynecology. The patient had total hysterectomy with bilateral adnexectomy. Operative material was histochemically (PAS, PAS-d, Reticulin, Malory) and imunohistochemically (CEA, Ceratin, EMA, Vimentin and Alpha-1 antythrypsine) treated. According to the histomorphologic results carcinosarcoma was confirmed. Maligant teratoma was differential diagnostic problem. The patient was treated with chemotherapy after surgical treatment. Despite of all therapeutical procedures patient died two months after operation. Local pelvic recidive was revealed on the autopsy.

KEY WORDS: *Mixed Tumor, Mullerian; Ovarian Neoplasms*

Archive of Oncology 2001,9(1):43-45©2001, Institute of Oncology Sremska Kamenica, Yugoslavia

INTRODUCTION

Mixed Müllerian tumors are very rare neoplasms of genital system that occur in postmenopausal women with the incidence peak in the sixth decade. They are most often localized within the body of the uterus, although they can also be found on the cervix uteri, the tube and the ovary.

They develop from indifferent, mesenchymal (Müllerian) cells that can be differentiated into epithelial and stromal elements. Depending on morphological characteristics of the cell population, there are different variants (benign and malignant) of these tumors: adenofibroma, adenosarcoma, and carcinosarcoma.

CASE REPORT

A 53-year-old female patient was hospitalized in a serious general health condition with the signs of dehydration and ascites. Few months ago, she started to loose her weight with the growth of her stomach. A detailed clinical research verified a tumorous process in the pelvis minor, and the indication for laparotomy was established. A tumorous mass, which covered both ovaries and was in a close contact with the uterus, bladder, omentum and peritoneum of pelvis minor, was evidenced intraoperatively. The atypical hysterectomy with both-sided adnexectomy and omentectomy was done. The operative material was sent to pH analysis.

MATERIALS AND METHODS

Both ovaries, omentum and uterus were taken to pH analysis. The total mass of ovaries was 2500 gr. (many cuttings) of gray-whitish color, with largely lobular and tiny granular surface. The place of a cut was of a softer palpation and wide areas of bleeding and necrosis, as well as with individual cystic formations of 20 mm in diameter, filled with the yellowish mucus.

In the omentum fat tissue (with the mass of 116 gr.), a several nod-like formations were evidenced. They were of 30 mm in diameter and with the same macroscopic characteristics found in the changed tissue of ovaries. The uterus had normal dimensions and macroscopic characteristics.

A number of selected, targeted sections from different sites of accepted material were taken for the light microscopy. First, they were fixed in 6% buffered formalin, molded in paraffin and then cut at the width of 5-7μ by the microtome. The sections obtained in that way, besides being HE stained in a standard manner, were histochemically (PAS, PAS-d, PAS-AB, Mallory, Van Gieson and Retikulin) and immunohistochemically processed (CEA, EMA, Vimentin and Dezmin).

RESULTS

According to light microscopy, the tumor had the biphasic appearance and consisted of two components: poorly carcinomatoid and dominantly sarcomatoid. Carcinomatoid component consisted mostly of polymorphous glandular formations of the

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The manuscript was received: 15. 12. 2000.
Provisionally accepted: 16. 01. 2001.
Accepted for publication: 18. 01. 2001.

large cells with the light cytoplasm and polygonal hyperchromatic nuclei and sporadic a squamous differentiation (Figure 1). Cystic formation and papilla wrapped up in the one-layer cubical epithelium were also observed.

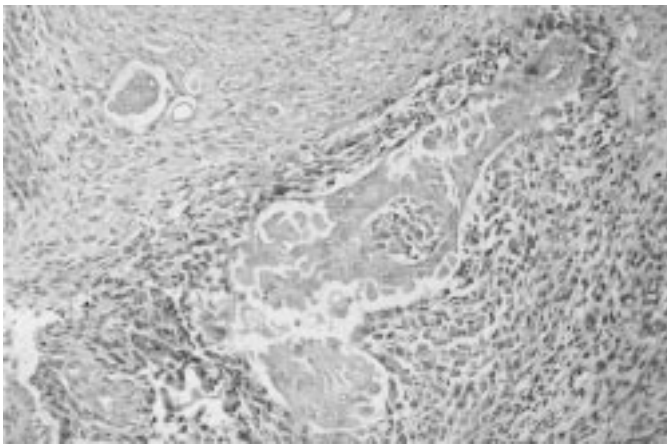

Figure 1. HE, 16x10. Carcinoma area with squamous differentiation of tumor cells

In the tumor areas with the dominance of the sarcomatoid component, individual and smallish groups of trapped carcinoma cells were found, as well as very rare multi-nuclei (bizarre) cells next to the areas of tumor necrosis. The sarcomatoid component of tumor (fibrosarcoma type) was made of the fibroblasts of a high mitotic index (over 20 mitoses per 10 visible fields of a great magnification), organized reciprocally into anastomosed fibrose bands (Figure 2), where the islands of cartilage-like tissue were found.

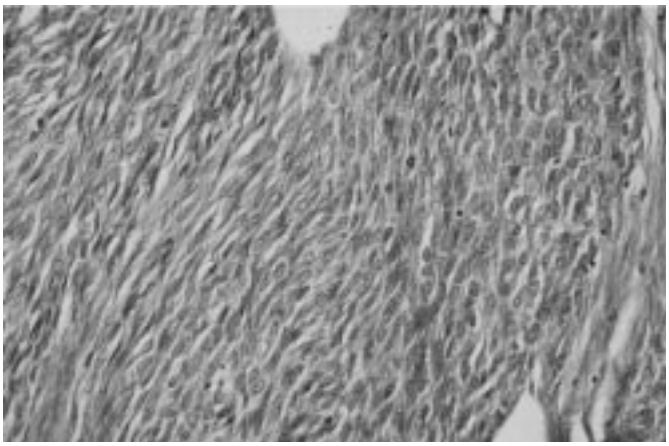

Figure 2. HE, 16x10. The appearance of fibrosarcomatoid tumor component

The histochemical differentiation of the carcinomatoid component, in some areas, also developed into mucinogenic adenocarcinoma. In sarcomatoid stroma, besides the storiform cell arrangement, the mixomatotic degeneration was also observed. The reticular net was dense and rough in the greatest part of tumor. It was gentle and concentrated only around the carcinoma areas. Immunohistochemical CEA was clearly positive in the carcinoma part of tumor, as well as Vimentin in the sarcoma part.
Vimentin, which is the mesenchymal marker, showed the positive reaction in the epithelial cells as well (Figure 3).

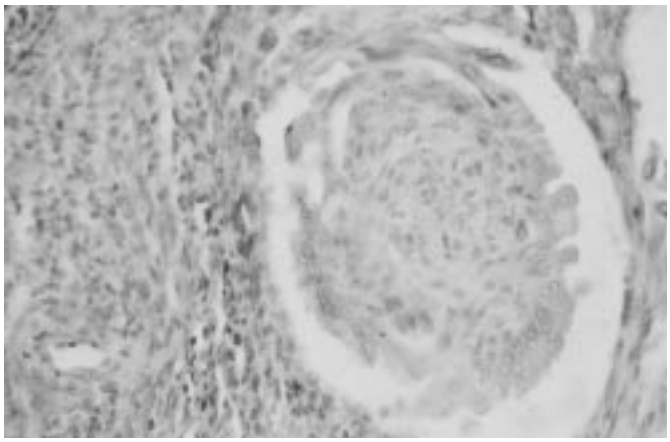

Figure 3. Vimentin, 25x10. Significant positivism of epithelial cells

The reaction with EMA was similar: besides the positivism in the epithelial it was also positive in the mesenchymal cells (Figure 4).

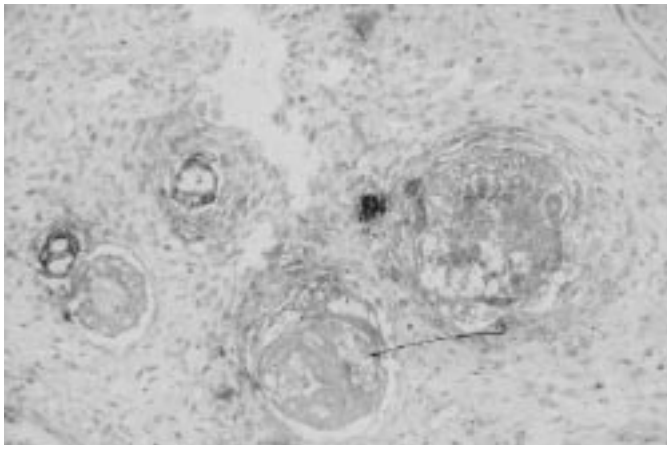

Figure 4. EMA, 25x10. Simultaneous positivism of epithelial and some mesenchymal (sarcoma) cells

The immunohistochemical reaction with Dezmin was negative.
Based on the evidenced morphological data, as well as on the detected histochemical and visualized immunohistochemical characteristics of the tumor cells with the co-expression of the epithelial and mesenchymal antigens, the malignant mixed Müllerian ovarian tumor was diagnosed (carcinosarcoma).

DISCUSSION

Malignant mixed Müllerian tumor (MMMT) is a rare and very aggressive tumor entity. It belongs to the group of extraendometrial variants of a large group of two-component tumors, which most probably, descend from the mesenchymal Müllerian cells (1,2). By the analysis of the karyotype in these cases, the triple partition of nuclei, with the multiple abnormalities of the fifth chromosome pair is discovered (3). The tumor mass, which causes the enlargement of the ovaries, is soft and flashy, often with the areas of bleeding and necrosis, and it can fill in the pelvis minor, as well as the in whole abdomen (4). Differentially and diagnosti-

cally, it is often substituted for the malignant teratoma.

The tumor consists of homologous or heterogeneous epithelial (carcinomatoid) and homologous or heterogeneous mesenchymal (sarcomatoid) component of cells in different mutual relationships. The carcinomatoid component can consist of one or more types of carcinomas, and the most common are adenocarcinoma (serous, mucous, papillary, endometrial or the light-cell type), planocellular or anaplastic carcinoma. On the other hand, within the group of malignant mesenchymal component, the most common are the homologous sarcomas (fibrosarcoma, angiosarcoma and leiomyosarcoma), although some cases of heterologous sarcoma were described as well (5, 6).

In our case, the polymorphous homologous carcinomatoid component was combined only with the fibrosarcoma (homologous type of carcinosarcoma of ovaries).

The histogenesis of tumor has not been cleared up yet. Some authors (7) support the opinion of the transformation of the epithelial cells into sarcomatoid ones (metaplastic theory), while the others (3,8,9), by the usage of the immunohistochemical analysis and the cell culture, point out the “epithelial like” characteristics of both kinds of tumor cells. They proved the cellular heterogeneity of tumor, which was presented (as it was the case in our study), by the co-expression of some of the epithelial (Cytokeratin, CEA, EMA) and mesenchymal antigens (Vimentin, Dezmin). Such co-expression of the antigens supports the hypothesis (and it is our goal as well) that the epithelial and mesenchymal elements, which create the MMMT of the ovaries, descend from a common cellular precursor - the stem cell.

CONCLUSION

The finding of HHV-8 DNA sequences in cutaneous and extracutaneous lesions of classic KS is one more confirmation to the hypothesis of possible etiopathogenetic role of HHV-8 in Kaposi’s sarcoma development, independent from the HIV infection.

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