Case Report

Mucinous Borderline Tumor with Carcinosarcoma Mural Nodule: A Case Report

Uma Bhatta[1], Nisha Sharma[2], Smritee Mahat[3]

[1]Kanti Children's Hospital, Kathmandu, Nepal
[2]Tribhuvan University Teaching Hospital, Kathmandu, Nepal
[3]National Academy of Medical Sciences, Kathmandu, Nepal

ABSTRACT

Mucinous borderline tumor with carcinosarcoma mural nodule is a very rare neoplasm with only a few cases reported in the literature so far. Diagnosis is based on clinical evaluation, radiological findings, and histopathological features in conjunction with immunostaining with specific markers. A 71-year-old woman was presented with a history of gradual onset of abdominal distension, nausea, and vomiting. A physical examination revealed a hard, palpable mass with mild tenderness in her right lower abdomen. USG and CT demonstrated a large complex mass in the ovary. The patient underwent left salpingo-oophorectomy. A case of mucinous borderline tumor with carcinosarcoma mural nodule was reported and staged as pT1c2Nx/FIGO Ic according to 8th edition AJCC (American Joint Committee on Cancer).

Keywords: Mucinous Borderline tumor; Carcinosarcoma-like Mural nodule; Ovarian tumor

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INTRODUCTION

Mucinous tumors of the ovary account for about 15% of all ovarian tumors; 80% are benign, while only 3-4% are invasive carcinoma; the remainder are borderline tumors.[1,5] Cystic tumors of the ovary may be associated with mural nodules of various types.[2] The mural nodules are divergent neoplasms of two types; benign or malignant. The latter may be in the form of a sarcoma, carcino sarcoma, anaplastic carcinoma, or a variety of other recognized histotypes of carcinoma.[2] Mural nodules of sarcomatous and carcinomatous origin associated with cystic ovarian tumors should be separated from sarcoma-like nodules because of the poor prognosis of the former.[3]

Anaplastic carcinoma is the most common type of mural nodular malignancy; these tumors can infiltrate borders and invade blood vessels; they readily metastasize.[3,4]Here we report a case of mucinous borderline tumor with carcinosarcoma mural nodule in a postmenopausal women. The case is discussed here because of its uncommon occurence and prognostic significance.

CASE REPORT

A 71-year-old postmenopausal female presented with 8 months history of gradual increase in abdominal size, lower back pain and loss of appetite. On physical examination there was a large mass in the abdomen. An abdominal ultrasound and computed tomography demonstrated a large complex cystic abdominopelvic lesion with multiple enhancing nodular and papillary projections in the left ovary. These tests were followed by surgery. The resected left ovarian tumor measured 20 x 20 x 9 cm. Outer

surface had focal dark brown areas representing capsular breech. On cut sections, a multilocular cyst with mucinous tinge was seen. In addition, a large solid area was noted measuring 16 x 8 x 1 cm, soft to firm in consistency with areas of hemorrhage and necrosis. On microscopic examination, the cyst wall was lined with atypical mucinous epithelium (intestinal type). Nuclear stratification, tufting and slender filliform papillae were observed (fig.1). In addition, the solid area of the mural nodule was composed of tumor cells arranged in solid sheets, nests separated by fibrous septa and occasional glandular structures (fig.2).

Stromal invasion was absent. These tumor cells are oval to polygonal with increased mitotic activity (5/HPFs) including atypical mitotic figures. There were also fascicles of spindle shaped tumor cells showing marked nuclear pleomorphism and large areas of hemorrhage and necrosis. The tumor was seen infiltrating the left fallopian tube as well but with intact serosa. Lymphovascular invasion was seen. However, perineural invasion was not seen. There was no involvement of right ovary, fallopian tube and omentum. A case of mucinous borderline tumor with carcinosarcoma mural nodule was reported and staged as pT1c2Nx/FIGO Ic according to 8th edition AJCC.

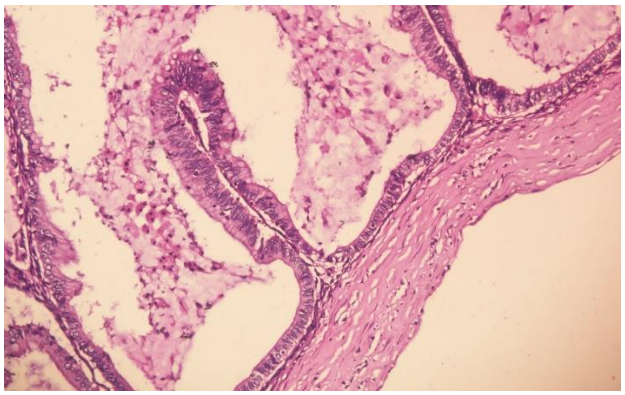

Figure 1: The cyst wall is lined by mucinous epithelium with borderline intestinal differentiation (200×, H&E stain).

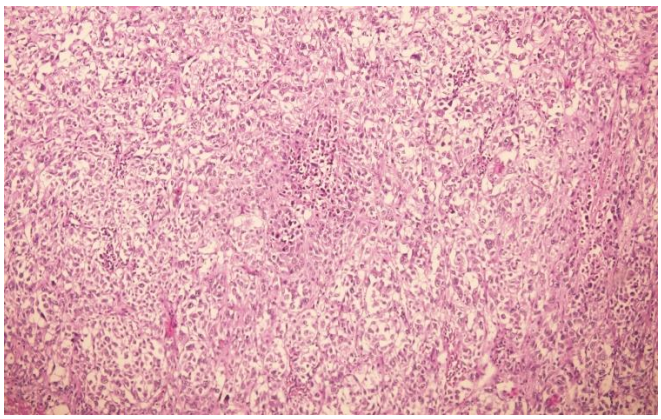

Figure 2: The mural nodule composed of tumor cells arranged in solid sheets, nests with occasional glandular structures (100×, H&E stain).

DISCUSSION

Cystic ovarian epithelial tumors with mural nodules are rare neoplasms and were first described by Prat and Scully in 1979, however several authors have proposed different classification systems based on gross and microscopic findings. [1,4] The WHO Classification divided the mural nodules of ovarian mucinous cystic tumors into reactive sarcoma- like mural nodules, foci of anaplastic carcinoma and sarcomatous nodules.[1] The epithelium of the cyst may be lined by benign, borderline or malignant cells. [1,5] In our case, the intestinal type borderline mucinous tumor areas were classical, showing cystic spaces with papillae lined by focally stratified intestinal-type epithelium and without evidence of stromal invasion. The mural nodules showed characteristic features of carcinosarcoma.

The overall gross appearance and microscopic findings in both the borderline tumor and carcinosarcoma are classic. Thus, careful gross examination and widespread sampling is important to identify the most important component related to prognosis. [1] The prognosis of cystic ovarian epithelial tumors with mural nodule is uncertain. [6] Sarcoma-like nodules are considered to be reactive and do not affect the prognosis. Sarcoma and anaplastic carcinoma are considered to have a poor prognosis. [3, 4]

Sarcomatous nodules are infrequent and can exhibit a variety of patterns, including fibrosarcoma, rhabdomyosarcoma, and undifferentiated sarcoma.[1] Mixed nodules may feature carcinosarcoma or a mixed anaplastic carcinoma and sarcoma-like nodule. [3, 7]

Mucinous cystic ovarian tumor with mural nodules should be distinguished from ovarian carcinosarcoma /malignant mixed mesodermal tumor (MMMT).[1]Ovarian carcinosarcoma is responsible for 1-4% of all ovarian tumors [8] and is usually a solid neoplasm composed of epithelial and stromal elements. These elements usually do not merge with each other. It is also unusual to find mucinous epithelium in an MMMT. [1,4] Thus, careful classification of a mural nodule is important to stratify the patients in need of appropriate adjuvant treatment.

CONCLUSION

In summary, we have reported an extremely rare case of carcinosarcoma mural nodule arising in an ovarian mucinous borderline tumor. Careful gross examination, extensive sampling and microscopic evaluation are crucial for the correct diagnosis. The outcome of cystic ovarian epithelial tumors with mural nodules depends on the histology of nodules (carcinomatous or sarcomatous) and the stage of the disease.

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