

Primary rhabdomyosarcoma of the fallopian tube: A very rare case

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ABSTRACT

Sarcomas of the fallopian tube are extremely rare malignancies, primary rhabdomyosarcoma (RMS) of the fallopian tube being exceedingly rare entity. We present here a case of primary RMS of the fallopian tube in a 72-year-old female who presented with occasional intermittent colicky abdominal pain and watery per vaginal discharge for 1.5 months. Macroscopic examination of the operated specimen of uterus and ovaries showed that the ampullary end of the right fallopian tube had a 9 cm tumor in its greatest axis. Microscopic examination revealed pleomorphic sarcoma of the right fallopian tube. Immunohistochemical examination revealed the tumor cells expressed desmin, myogenin, and smooth muscle actin (SMA); and are immunonegative for cytokeratin, epithelial membrane antigen (EMA), human melanoma black (HMB)-45, S-100 protein, and h-caldesmon; which was in favor of pleomorphic sarcoma, RMS. Considering the age, performance status of the patient and histology (RMS), adjuvant chemotherapy with single agent doxorubicin was considered.

Key words: Fallopian tube, immunohistochemistry, rare, rhabdomyosarcoma

INTRODUCTION

Primary fallopian tube carcinoma is an uncommon tumor accounting for approximately 0.14-1.8% of female genital malignancies.^[1] Sarcomas of the fallopian tube are exceedingly rare malignancies. They have been considered the most lethal of all gynecological malignancies with high metastatic potential, frequent recurrences, and cancer-related deaths. The reported pathological types of the fallopian tube sarcomas are malignant mixed Müllerian (mesodermal) tumors or carcinosarcomas, leiomyosarcomas, rhabdomyosarcomas (RMSs), liposarcomas, and synovial sarcomas. The rarity of these sarcomas and their often aggressive clinical course has resulted in a relatively limited amount of literature.^[2,3]

RMS is a neoplasm of childhood which commonly arises in the genitourinary tract. Reported locations include the

bladder, prostate, paratestis, vagina, uterus, cervix, and ovary. RMSs have been reported to occur in the fallopian tube only as a component of a malignant mixed Müllerian tumor.^[4]

Most RMSs occur in children. In adults RMS is very rare. Soft tissue sarcomas constitute 1% of all adult malignancies. Incidence of overall RMS is 3% of soft tissue sarcomas in adults. Response to chemotherapy is worse than its childhood counterpart.^[5]

CASE REPORT

A 72-year-old female patient presented with occasional intermittent colicky abdominal pain and watery per vaginal discharge for 1.5 months. There were no abnormalities in per abdominal and gynecological examination. Contrast-enhanced computerized tomography (CECT) abdomen revealed an enhancing solid mass measuring 7.5 cm, 6.5 cm seen in the right adnexa. Soft tissue plane between the mass and right psoas was lost. There was a small cyst in right ovary. Total abdominal hysterectomy with bilateral salpingo-oophorectomy was done.

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right fallopian tube had a 9 cm tumor in its greatest axis. The ovary showed a 3 cm cyst in diameter. Microscopic examination revealed pleomorphic sarcoma of the right fallopian tube [Figure 1]. Immunohistochemical examination revealed the tumor cells expressed desmin, myogenin, and smooth muscle actin and are immunonegative for cytokeratin, epithelial membrane antigen, human melanoma black (HMB)-45, S-100 protein, and h-caldesmon. Immunohistochemical examination was in favor of pleomorphic sarcoma, RMS. That most likely represents the sarcomatous component of malignant mixed Müllerian tumor.

Considering the age, performance status of the patient and histology (RMS), adjuvant chemotherapy with single agent doxorubicin was considered and the patient is on treatment currently, she received about three cycles of single agent doxorubicin.

DISCUSSION

Primary fallopian tube cancer is the rarest (only about 1%) of all gynecologic cancers. The annual incidence is about 3.6 per million women per year; whereas sarcoma of the fallopian tube is very very rare.^[6] In 1847, Renaud first described fallopian tube malignancy. Primary malignancies of the broad ligament include those of Müllerian origin (i.e., serous carcinoma, papillary carcinoma, cystadenocarcinoma, endometrioid carcinoma, clear cell carcinoma), urothelium transitional cell carcinoma, mesenchymal sarcoma or histiocytoma, and pheochromocytoma. Some researchers suggest that some primary fallopian tube cancers are misdiagnosed as primary ovarian cancers; however, an experienced pathologist can help to differentiate that. Patients may present with pelvic pain, a pelvic mass, postmenopausal bleeding, serosanguineous vaginal discharge. The classical description of hydrops tubae profluentis, which is characterized by colicky lower

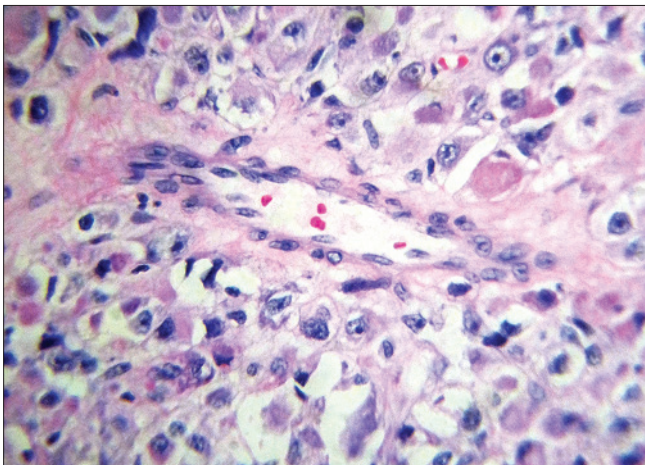


Figure 1: Histopathology of the RMS of fallopian tube

abdominal pain relieved by a profuse, serous, watery, yellow, intermittent, and vaginal discharge; is not found usually.^[7]

Shen *et al.*, reported two cases of malignant mixed Müllerian tumors of the fallopian tube. The clinical features and diagnosis were similar to those of primary carcinoma of the fallopian tube. Histologically, the two patients had homologous and heterologous elements mixed Müllerian tumors. Treatment has focused on surgery with postoperative chemotherapy.^[8]

Buchwalter *et al.*, presented a case of pure embryonal RMS of the fallopian tube in a 17-year-old. The diagnosis was confirmed by immunohistochemical stains. The strongest evidence for the primary location of this pure embryonal RMS was the gross appearance of the tumor at laparotomy. Additionally, RMSs arising from adjacent organs have never been reported to grow into the fallopian tubes.^[4]

In our case, the patient presented with colicky abdominal pain and watery discharge per vaginum. CECT abdomen revealed an enhancing solid mass in the right adnexa. At laparotomy, right fallopian tube had a solid mass. Macroscopic examination of postoperative specimen showed a 9 cm mass in the ampullary end of right fallopian tube. Microscopic examination revealed pleomorphic sarcoma of the right fallopian tube. This is a very rare tumor. Hence, immunohistochemistry was done which also supported the same diagnosis.

CONCLUSION

Primary RMS is best to say an extremely rare entity. In this case report we portrayed the clinical presentation, histopathological report, and immunohistochemistry of our patient presents with the above said rare diagnosis.

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