Tumor of the mesosalpinx: case report of a female adnexal tumor of probable Wolffian origin

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Summary

We report a rare case of a 45-year-old woman who underwent laparoscopy for a right mesosalpinx mass. Pathologic examination showed a female adnexal tumor of probable Wolffian origin (FATWO). FATWO represents a rare gynecologic tumor and its clinical and pathological features are often ignored. Immunohistochemistry plays the most part in the diagnosis of FATWO. Through this report, we aimed to call attention to this disease in order to better understand the correct treatment and surgical possibilities, and to evaluate and perform the prognosis properly.

Key words: Tumor of the mesosalpinx; Female adnexal tumors of probable Wolffian origin (FATWO); Immunohistochemistry.

Introduction

Ovarian tumors are a common female tumor; however, a mesosalpinx tumor is relatively rare, and often misdiagnosed as an ovarian tumor. In most cases, it is only diagnosed definitely during surgery. Moreover, its clinical and pathological features, as well as management criteria, are often ignored. By reviewing the diagnosis and therapy process of a case of mesosalpinx tumor as well as the relative literature, the aim of the study was to call attention to this disease and to understand the correct treatment, and surgical possibilities, and to carefully follow-up.

Case Report

A 45-year-old patient with regular menstruation, gravida 1, para 1, had a physical exam five months before coming to our hospital. A pelvic cavity tumor was found and the ultrasonic diagnosis indicated that the size of tumor in the right adnexa area was about 3.0 x 2.5 cm, which was not treated. She had been rechecked in different hospitals several times, and the growth of tumor was not significant. Due to abdominal discomfort, she came to our hospital to be rechecked ten days prior, and the diagnosis indicated that the tumor had grown slightly and was solid. The patient was worried that the tumor might continue to grow. The gynecological examination results were: normal vulva, smooth vagina, soft, wet mucous membrane, a small amount of white secretion and free of any peculiar smell. The cervix was smooth and the anterior uterus was about 5 x 6 x 5 cm and free of tenderness. In the right adnexa, an approximately 5.0 x 3.0 cm solid mass could be touched, with a clear boundary, acceptable movement, and obvious tenderness. In the left adnexa area there was no obvious abnormality by touch. The color Doppler ultrasound reported anterior uterus normal in size, a clear uterine cavity line, inner membrane about 0.6 cm thick, and the uterine wall echo uneven.

In the right adnexa area, there was a 4.7 x 3.5 cm mixed echo and the shape was relatively regular and boundary relatively clear; the echo contained separations. There was no obvious mass in the left adnexa. Color Doppler flow imaging detected no abnormality. Serum tumor markers CA125, CA 19-9, CEA and AFP were all normal. The diagnosis was a right ovarian tumor. Laparoscopy exploration was carried out under anesthesia. During exploration, the uterus, fallopian tubes, and ovaries were macroscopically normal and there was no ascites. A solid mass of 4.0 x 3.0 x 3.0 cm was seen inside the right mesosalpinx; it was smooth, yellow and white, and fragile. After excising the mesosalpinx tumor completely, intraoperative fast-frozen pathological diagnosis was performed. In consideration of the adnexal tumor of Wolffian origin, excision of the right oviduct was also performed after consulting with the patient and her family. After surgery, the paraffin section report showed mesonephric remnants of tumor in the right mesosalpinx (Wolffian adnexal tumor). Results of immunohistochemical staining were: CK (AE1/AE3) (+), α-inhibin(+), vimentin(+), calretinin(+), PR(+), CD10(–), CK7(–), ER(–), (Figure 1 and 2/A-F).

Discussion

In 1973 Kariminejad and Scully described a series of neoplasms found in the uterine adnexa which they considered to be of probable Wolffian (mesonephric) duct origin and named them accordingly as female adnexal tumors of probable Wolffian origin (FATWO) [1]. In 2003, the World Health Organization officially nominated FATWO as a Wolffian adnexal tumor (WAT) [2]. There have been subsequent reports of similar tumors occurring in the ovary [3-5]. FATWO are very rare tumors. Most cases are benign but have the potential to recur and metastasize. There is limited knowledge about the optimal treatment for the neoplasms.

The Wolffian duct is the primordium of the urogenital system. It begins to develop into the primordial urogenital system in the fourth week of the embryo [6]. However, the female mesonephric duct degenerates gradually, and there are degenerated Wolffian remnants from the hilum of the ovary, along the mesosalpinx and uterine side, to the outer one-third of the vagina. The general situation is

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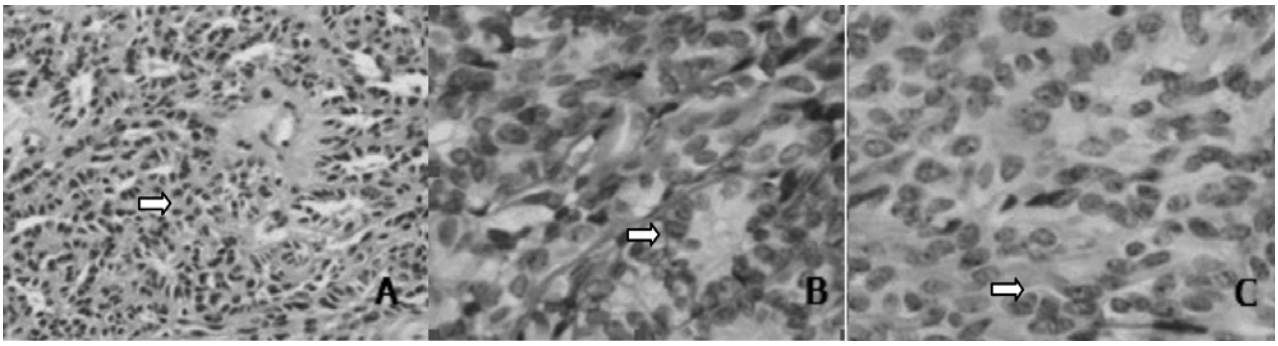

Figure 1. — HE staining of the mesosalpinx tumor. A) Tumor cells are arranged in a tubular structure with interstitial hyalinosis. B) Tumor cells are dense tubular structures arranged in covered cubic or high columnar cells. C) Tumor cells are packed tightly.

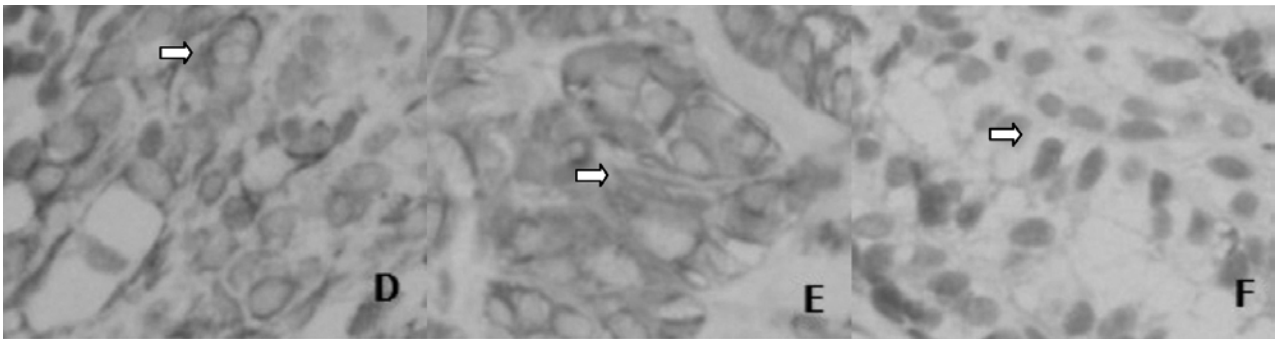

Figure 2. — Immunohistochemistry staining of the mesosalpinx tumor. D) Granulas in cell cytoplasm show positive expression of AE1/AE3. E) Granulas in cell cytoplasm show positive expression of vimentin. F) Granulas in cell cytoplasm show positive expression of calretinin.

that the tumors are mostly single sided and solid, the section is off white, hard feeling, there are occasionally bleeding necrotic areas, local calcification sometimes, and consequently a feeling of grittiness [7]. The ultrastructural features are the same as those of the Wolffian duct. The features under microscope are: cribriform pattern, forming of tubular cavities with different sizes and shapes, and sometimes capsules; gland tubules are arranged densely, forming densely arranged solid images, crooked gland tubules, branches are matched, and gland tubules covered with cubic or columnar epithelial cells. There is a diffused, solid cell mass, and the majority of tumor cells are free of nuclear atypia and karyoplastic phase [8]. Immunohistochemical staining shows CK7, CK19, inhibin, vimentin, calretinin, CD19 positive, and CMA negative [9, 10]. Pathologically, it can be differentiated from the supporting cell tumor, supporting interstitial cell tumor (dependent on pathological change of locations and shows hormone secretion symptoms), well differntiated adenocarcinoma of the endometrium (obvious cell atypia and nuclear mitotic figures, ER and PR positive), granulosa cell tumor (nuclear groove, cytoplasmic cavity, and endocrinal changes), clear cell adenocarcinoma (solid area aggregated with clear cells, mastoid structure, obvious hobnail cells, and lumen mucilage), etc. In our case, under microscope, the tumor tissues closely formed a tubular structure with clear cytoplasm clear basilar membrane-like matter outside of the tubular wall and, the size of tumor cells was alike, regular round or oval nuclei, unobvious nucleolus visible, and rare nuclear mitotic figures. The possible hormone-dependency of FATWO has never been reported and only a single case of an estrogen and progesterone secreting FATWO has been reported [11].

The age of onset of the disease is 15-81 years old, and age 50 on average. The clinical features are: (a) free of obvious clinical symptoms; the majority of patients find pelvic cavity tumors during physical exams, and a minority have abdominal pain, abdominal swelling or abdominal tumor; (b) rare; in 1973, Kariminejad and Scully reported a case for the first time and since then about 50 cases have been reported in total [7]; (c) high rate of misdiagnosis; it is often misdiagnosed as an ovarian tumor; B-mode ultrasound is the regular inspection method, and there is no specific diagnostic method before operation; (d) for the majority of cases the biological behavior is benign with a positive prognosis; however, there is still a malign trend such as relapse, metastasis, etc.; in over 50 cases of WAT reported internationally, eight cases encountered relapse and metastasis, and two among them had metastasized when diagnosed [12, 13]; (e) for the therapy, conservative surgery is usually adopted (excision of oviduct/adnexa on the affected side). In our case, before surgery, the patient was misdiagnosed as having an ovarian tumor. Laparoscopy exploration was carried out and only after performing tumor excision and fast-frozen pathological diagnosis was the mesosalpinx adnexal tumor accurately diagnosed. Currently, postoperation fol-

low-up has been carried out for 15 months, and the patient has recovered well, and remains free of signs of relapse and metastasis.

Acknowledgments

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