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Brenner Tumor Case Report

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Öz

Brenner tümörleri overin nadir görülen transizyonel hücreli tümörleridir. Genellikle benign tümörlerdir ancak daha ender olarak borderline ve malign tipleri de vardır. Benign Brenner tümörlerinin çoğu küçüktür ve rastlantısal olarak bulunur.Olgumuz 65 yaşındaki kadın hastaya nefroüreterektomi yapılırken, sol overdeki kitlesi için Kadın Hastalıkları ve Doğum bölümü ameliyata çağrılarak konsülte edilmiştir. Sol overdeki kitle malignite olabileceğinden salpingo-ooferektomi uygulanmıştır. Histopatolojik incelemede; nefrektomi materyalinde bulunan kitle invaziv, düşük dereceli papiller ürotelyal karsinoma, sol overdeki kitle incelemesinde de benign Brenner tümörü tanısı konuldu. Yazımızda bu nadir olgunun histolojik bulguları sunularak literatür gözden geçirilmektedir.

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Abstract

Brenner tumors are rare transitional cell tumors of the ovary. They are usually benign tumors, but there are rarer borderline and malignant types. Most benign Brenner tumors are small and found incidentally. In our case, a 65-year-old female patient who underwent nephroureterectomy by the urology coincidentally had a mass in the left ovary during the operation. The obstetrics and gynecology department was called for consultation, and salpingo-oophorectomy was performed as malignancy might occur. In histopathological examination; The mass found in the nephrectomy material was diagnosed as invasive, low-grade papillary urothelial carcinoma, and the mass in the left ovary was diagnosed as benign Brenner tumor. In our article, the histological findings of this rare case are presented and the literature is reviewed.

1. INTRODUCTION

Brenner tumors, also known as transitional cell ovarian tumors, are rare tumors that make up 1-2 % of ovarian tumors. It is classified under tumors arising from the surface epithelium of ovarian tumors (Zheng et al., 2019). The World Health Organization (WHO) has classified Brenner tumors into 3 classes as benign, borderline and malignant (Zheng et al.,

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2019; Moon et al., 2000). Most of these tumors (95%) are seen as benign, while 5% are borderline and less than 1% are malignant.2 They are usually smaller than 2 cm and are unilateral and are found incidentally (Tsikouras et al., 2016).

2. CASE REPORT

In our case, a 65-year-old female patient who underwent nephroureterectomy by the urology coincidentally had a mass in the left ovary during the operation. The obstetrics and gynecology department was called for consultation, and salpingo-oophorectomy was performed as malignancy might occur. Macroscopically, the section surface, measuring 4x4x4 cm, with intact capsule, was white in color and had a swirl-solid appearance. The epithelial cells of the tumor, consisting of transitional solid islands within the fibrous stroma, were uniform, with small nucleoli, some with nuclear nicks, and clear or pale eosinophilic cytoplasm. There were microcysts lined with columnar epithelium in the center of some of the solid islands (Figure 1). Atypia and mitosis were not observed in the epithelium. Also, stromal invasion and papillary proliferation were not observed. While strong expression was observed in the tumor with CK7 stained immunohistochemically (Figure 2). No expression was seen with CK20. S100 was positive, ER (Figure-3) was focally positive. In addition, no expression was observed in Calretinin, WT-1, Inhibin, PR, Vimentin stainings. Based on these histopathological and immunohistochemical staining features, the case was diagnosed as benign Brenner tumor of the ovary. Based on these histopathological and immunohistochemical staining features, the case was diagnosed as benign Brenner tumor of the ovary.

3. DISCUSSION

Brenner tumors are usually small, asymptomatic and found incidentally. Large tumors show clinical signs of pelvic masses such as palpable mass or pain1. The majority (95%) of these tumors occur between the 4th and 6th decade. Proliferating or borderline Brenner tumors are very rare compared to benign tumors, they are seen in older patients (mean 60 years) and they are larger. Malignant tumors with transitional cells, which are seen more rarely, are seen in the mean age of 55 years (Tsikouras et al., 2016). Benign Brenner tumor is usually unilateral and small. Large tumors are often expected to be associated with other tumors of the ovary, such as malignancy or mucinous cystadenoma. Giant benign Brenner

tumors of 30 cm and 39 cm in diameter have been reported in the literatüre (Seidman et al., 2008). Borderline tumors are also unilateral, but they are usually larger (10-25 cm) and form cystic (unilocular or multilocular) masses with solid and papillary projections. Macroscopy of malignant Brenner tumors is similar to borderline tumors, but hemorrhage, necrosis and calcifications can also be seen in malignant tumors(50%) (Sassi et al., 2007).

Although the extraovarian localization of Brenner tumors is extremely rare, there are cases reported in the literature. In 6 of 10 cases with extraovarian localization, the tumor is in the broad ligament, and in others, the vagina, endometrial cavity, and uterine subserosa (Horiuchi et al., 2003).In addition, 25-36% of these tumors are associated with other tumors such as mucinous cystic tumor, serous cystadenoma or cystic dermoid teratoma (Sassi et al., 2007). Although Brenner tumors are generally not hormonally active, Brenner tumors producing .steroid hormones have been reported in the literatüre (Resta et al., 1993). The presence of tumoral and non-tumor lesions in the female genital tract of patients with Brenner tumors may be due to Brenner tumors, which contain secretory-function cells that produce the hormones that cause these conditions (Seidman et al., 2008).

It has been reported that 4-14% of women with Brenner tumor are accompanied by endometrial hyperplasia (Seidman et al., 2008). Benign Brenner tumor histologically consists of round or oval epithelial islands composed of transitional epithelial cells within the fibrous stroma. Microcysts lined with mucinous columnar epithelium may be seen in the center of transitional cell islands (Chapman et al., 2001). The fibrous component is further reduced in borderline and malignant tumors (Karseladze et al., 2001). Mitosis is absent or rarely seen in benign tumors. Mitosis can be seen in borderline tumors, especially at the base of the papillary structures. Stromal luteinization and dystrophic calcification can be seen in 50% of benign tumors. There are stromal invasion, nuclear hyperchromasia, pleomorphism and multiple mitoses in malignant tumors. Malignant transitional cell tumors containing benign and borderline areas are defined as malignant Brenner tumors, while malignant transitional cell tumors without these areas are defined as malignant transitional cell carcinomas (Karseladze et al., 2001).

The vast majority of Brenner tumors are candidates for surgical treatment (Chapman et al., 2001). Unilateraloophorectomy is the preferred treatment for patients with benign Brenner tumors who want their ovaries to be preserved. Treatment for malignant Brenner tumors is mainly surgery. As with other surface epithelial tumors of the ovary, the surgical

procedure should be extended by omentectomy and removal of retroperitoneal lymph nodes (Resta et al., 1993). Malignant Brenner tumors can affect surrounding tissues and may also metastasize. This condition is so rare that a standard treatment method has not yet been developed (Karseladze et al., 2001).

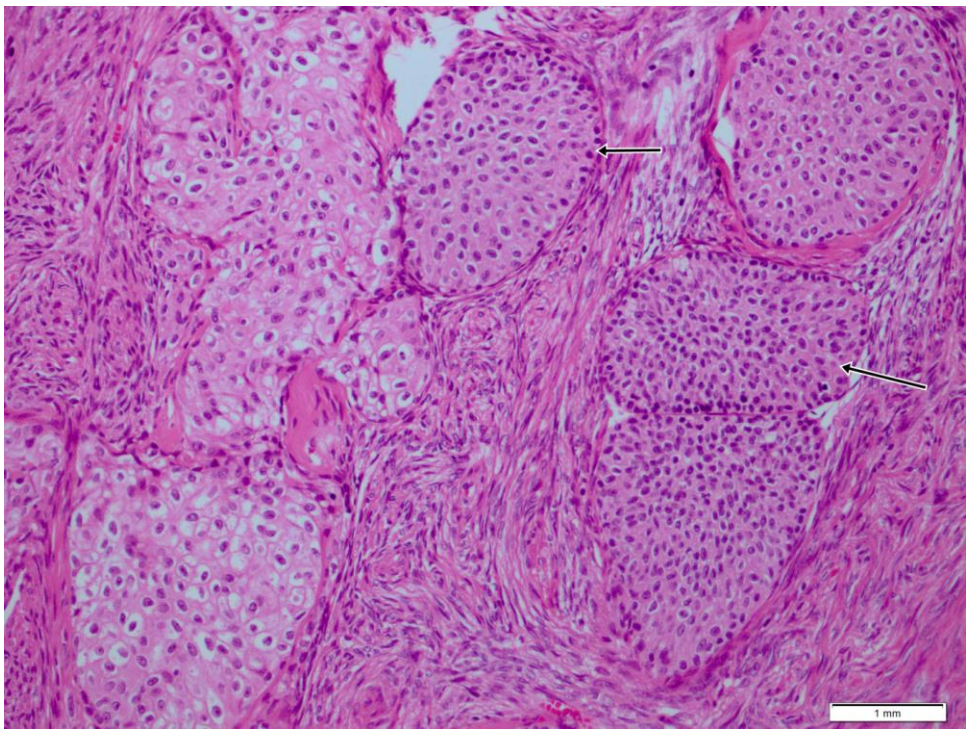

Figure 1. Tumor epithelial cells consisting of transitional solid islands in the fibrous stroma are uniform, tumor islets with small nucleoli, some with nuclear nicks, clear or pale eosinophilic cytoplasm (HE, X400).

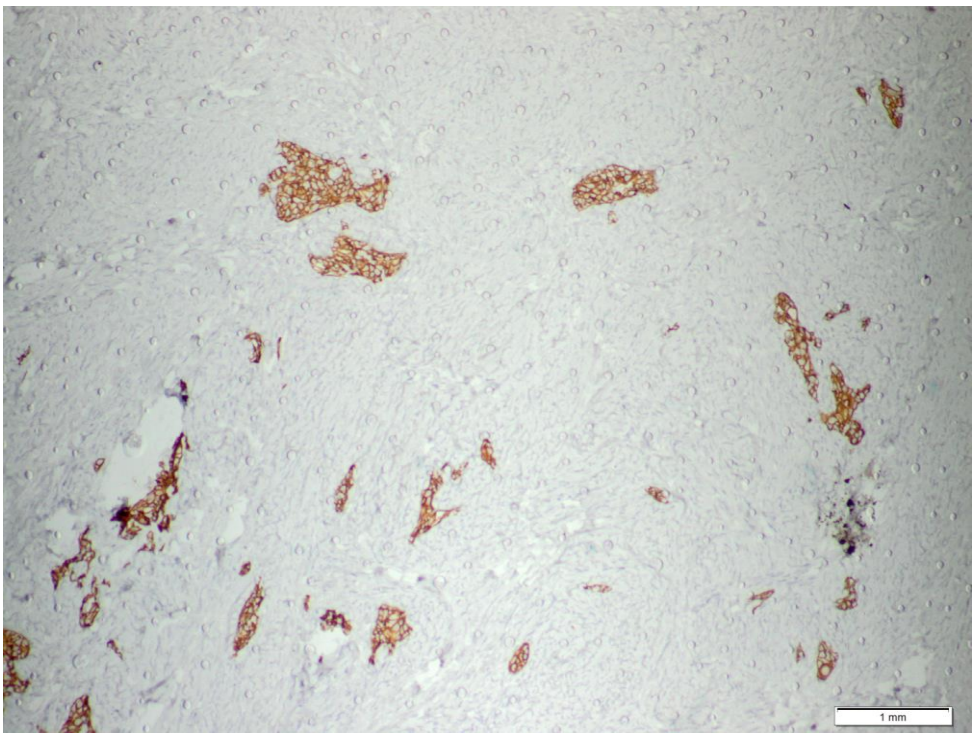

Figure 2. CK-7 positive areas in tumor islets (IHC,X200).

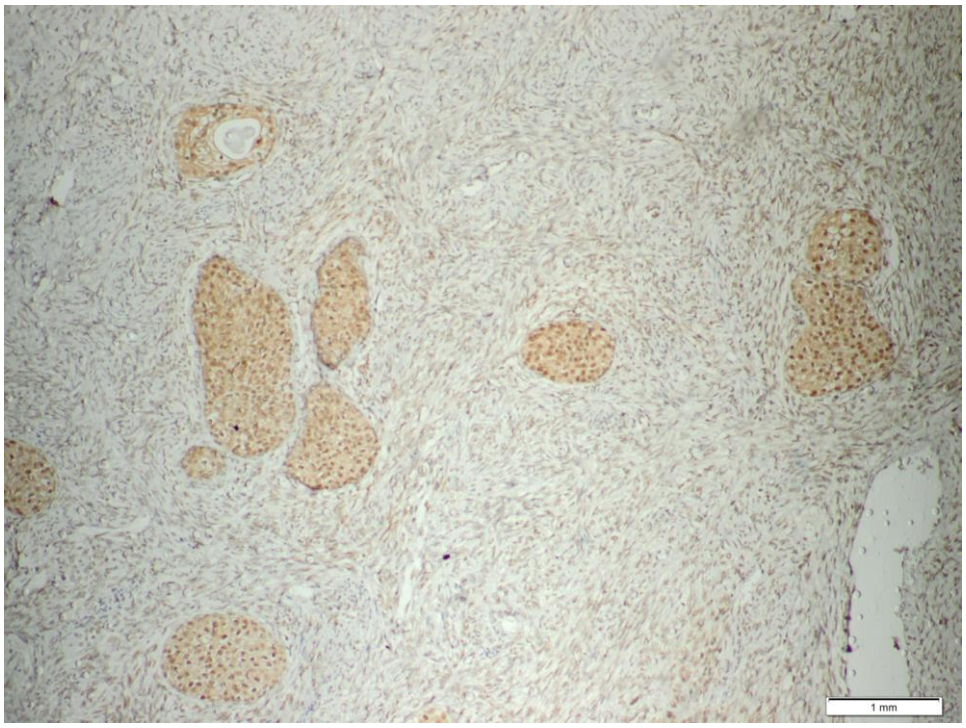

Figure 3. ER positive areas in tumor islets (IHC,X200).

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