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Brenner Tumor: A Rare Ovarian Neoplasm – Case Report

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Abstract | **Case Report**

Background: Brenner tumors of the ovary are rare fibro-epithelial neoplasms, representing approximately 1–2% of all ovarian tumors. They include benign, borderline, and malignant forms and are characterized by nests of transitional epithelial cells within a fibrous ovarian stroma. ***Case Presentation:*** We report a case of a 62-year-old postmenopausal woman who presented with a progressively enlarging abdominopelvic mass. Imaging revealed bilateral solid-cystic ovarian masses without evidence of peritoneal or lymphatic involvement. Serum tumor markers, including CA-125 and HE4, were within normal limits, with a low ROMA score. The patient underwent total hysterectomy with bilateral salpingo-oophorectomy, infracolic omentectomy, and multiple peritoneal biopsies. Histopathology confirmed a benign bilateral Brenner tumor. ***Discussion:*** Brenner tumors are usually asymptomatic or present with nonspecific pelvic symptoms. Imaging typically shows solid or solid-cystic masses, sometimes with calcifications. While benign forms have an excellent prognosis and are managed conservatively, malignant and borderline forms are rare and pose diagnostic and therapeutic challenges. Surgical management is guided by the risk of malignancy, with radical surgery reserved for suspected malignant cases. ***Conclusion:*** Despite their rarity, Brenner tumors should be considered in the differential diagnosis of ovarian masses. Histopathological examination remains the gold standard for diagnosis. Benign forms have favorable outcomes, whereas malignant variants carry a poorer prognosis. Careful sampling and pathological assessment are essential to guide appropriate management.

Keywords: Ovarian Neoplasm, Brenner Tumor, diagnosis, Management.

INTRODUCTION

Brenner tumors of the ovary are rare neoplasms, accounting for approximately 1–2% of all ovarian tumors. They are fibro-epithelial tumors characterized by a cortical ovarian stroma containing nests of epithelial cells with transitional or urothelial differentiation [1]. This category includes benign, borderline, and malignant Brenner tumors.

CASE REPORT

A 62-year-old woman, mother of four, postmenopausal for 15 years without hormone replacement therapy, with a 15-year history of type 2 diabetes treated with oral hypoglycemic agents, and a 20-year history of combined oral contraceptive use, presented with a progressively enlarging abdominopelvic mass. She had no prior surgeries and no family history of cancer.

Abdominopelvic ultrasound revealed two solid-cystic ovarian masses with Doppler uptake: the larger on the right, measuring 26 × 15 × 10 cm, and the left, measuring 10 × 6 × 6 cm, associated with a small amount of pelvic fluid. MRI confirmed these findings without peritoneal lesions or pelvic/abdominal lymphadenopathy. CA-125 was 25 IU/mL, HE4 was 60 pmol/L, and the ROMA score was 18.5%, indicating a low risk of malignancy.

The patient underwent a midline laparotomy. Intraoperative findings included a normal-sized uterus, a large right solid-cystic ovarian mass (24 × 14 cm) without exophytic growth, and a left solid-cystic ovarian mass (8 × 6 cm) also without exophytic growth (Figure 1). No peritoneal, omental, or hepatic lesions were noted. She underwent total hysterectomy with bilateral salpingo-oophorectomy, infracolic omentectomy, peritoneal fluid sampling, and multiple peritoneal biopsies.

Histopathological examination revealed a benign Brenner tumor:

- **A:** Nests of transitional epithelial cells in fibromatous stroma (HE ×40)
- **B:** Transitional cells with uniform oval nuclei (HE ×100) (Figure 2)

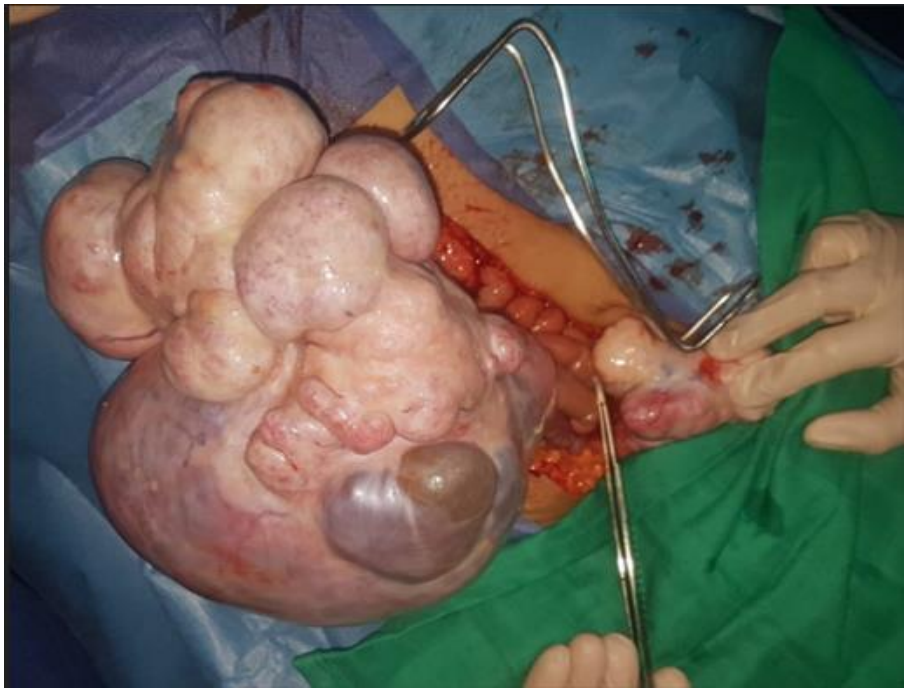

Figure 1: large right solid-cystic ovarian mass (24 × 14 cm) without exophytic growth, and a left solid-cystic ovarian mass (8 × 6 cm)

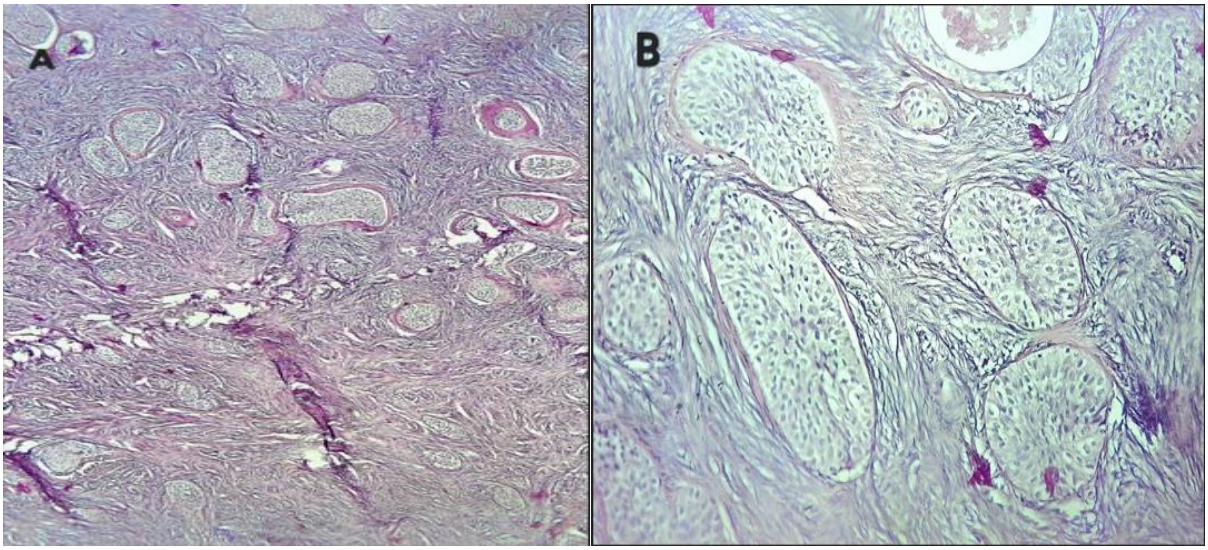

Figure 2 : Benign Brenner tumor
A: Nests of transitional epithelial cells in fibromatous stroma (HE ×40)
B: Transitional cells with uniform oval nuclei (HE ×100).

DISCUSSION

Brenner tumors belong to the fibro-epithelial ovarian tumor group, including benign, borderline, and malignant forms. Although they constitute only 1–2% of all ovarian tumors, the majority are benign, with well-established diagnostic, prognostic, and management pathways. Proliferative and malignant forms are much rarer (3–5% of Brenner tumors) and present diagnostic and therapeutic challenges due to their low incidence and limited literature [1].

These tumors most commonly occur in women aged 40–60 years. Most originate from the coelomic epithelium, while a smaller proportion arise from the rete ovarii, and isolated cases may have germ cell origins.

Clinically, Brenner tumors resemble ovarian cysts. Most remain asymptomatic or present with mild, non-specific signs such as abnormal uterine bleeding, pelvic pain, menstrual irregularities, or a sensation of pelvic heaviness. Occasionally, they may be discovered during an acute complication, such as torsion or intra-cystic hemorrhage, requiring urgent surgical management [2].

Brenner tumors typically grow slowly, with clinical manifestations appearing after an average of four months [3]. Some tumors exhibit endocrine activity, most often estrogenic, leading to abnormal uterine bleeding or endometrial hyperplasia. Rarely, androgenic activity has been reported, causing virilization [4].

Ultrasound typically shows a solid mass with echogenicity similar to the myometrium, sometimes containing cystic areas. Large calcifications may mimic a subserous fibroid, especially when Doppler vascularization is low. Hemorrhagic and necrotic changes are often observed in malignant forms [5]. MRI is not routinely indicated but is useful in evaluating complex solid-cystic masses, aiding preoperative assessment of malignancy and enabling locoregional staging if malignancy is confirmed [2].

CT usually demonstrates a solid-cystic mass. Angio-CT rarely shows arterial-phase vessels or parenchymal enhancement, although delayed contrast uptake may be observed.

Pathologically, benign Brenner tumors are often small (<2 cm) and incidentally discovered, unlike our patient, who presented with a large, bilateral tumor. They are firm, well-circumscribed, and may appear smooth or slightly lobulated. On section, they are solid, fibrous, and gray-white in color.

Management of ovarian cysts is primarily conservative (cystectomy or oophorectomy), particularly in young patients. In cases of suspected malignancy, radical surgery with hysterectomy and bilateral salpingo-oophorectomy is indicated. In this case, the patient underwent total hysterectomy with bilateral salpingo-oophorectomy, infracolic omentectomy, and multiple biopsies. Laparoscopy remains the preferred technique for presumed benign ovarian cysts due to faster recovery and lower morbidity compared with laparotomy.

Benign Brenner tumors have an excellent prognosis, whereas malignant forms carry a poor prognosis despite available therapeutic interventions [6].

CONCLUSION

Brenner tumors account for only 1–2% of all ovarian tumors and present with non-specific clinical, biological, and radiological features. Histological diagnosis of benign forms is relatively straightforward. In contrast, the pathological characteristics of borderline and malignant Brenner tumors are less clearly defined, as indicated by the few cases reported in the literature. Pathologists should therefore examine these tumors carefully, using appropriate sampling and techniques, to guide optimal therapeutic decisions. Treatment for Brenner tumors is generally less aggressive than for ovarian carcinomas.

REFERENCES

1. Duvillard P. Tumeurs ovariennes a` la limite de la malignite´. Ann Pathol 1996 ;16(5):396–405.
2. Raiga J, Djafer R, Benoit B, Treisser A. Prise en charge des kystes ovariens. J Chir 2006;143(5).
3. Roth LM, et al. Ovarian Brenner tumors: metaplatic, prolierating and of lowmalignantpotential. Cancer 1985; 56:582–91
4. De Lima GR, De Lima OA, Baracat EC, Vasserman J, Burnier Jr M. Virilizing Brenner tumour of the ovary: case report. ObstetGynecol 1989; 73:895–8.
5. Seidman JD, Russell P, Kurman RJ. Surface epithelium tumors of the ovary. In: Kurman RJ, ed. Blausteins's Pathology of the female genital tract. 5th ed. New-York: Springer Verlag; 2001. p. 781-904.
6. N. Kourda; H. Elloumi; K. Chérif ; S. Ben Jilani; R. Zermani (2008). Tumeur de Brenner proliférante : à propos d'un cas. 36(3), 0–295. doi: 10.1016/j.gyobfe.2007.11.021.