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Benign Brenner Tumor: A Case Report from the Sourô Sanou University Hospital Center in Bobo-Dioulasso, Burkina Faso

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Abstract

Introduction: Brenner tumor is a rare tumor, unique in its origin. Its diagnosis is based on histology and immunomarking. **Method:** This was a clinical case study conducted at the maternity ward of the Sourô Sanou University Hospital in Bobo-Dioulasso. **Case:** An 80-year-old female patient presented with abdominal pain associated with a chronic increase in abdominal volume. Laparotomy revealed a bilateral ovarian tumor. A total hysterectomy with bilateral adnexectomy was performed with uncomplicated postoperative outcomes. **Conclusion:** Rare pathology, discovered incidentally and treated surgically. The diagnosis was made by histology.

Keywords

Brenner Tumor, Histology, Ovary, Bobo-Dioulasso

1. Introduction

Brenner tumor is a rare ovarian lesion accounting for 1 to 2% of all ovarian tumors. It was first described by Mac Naughton-Jones in 1898 [1] [2]. It is a fibroepithelial tumor composed of transitional cell epithelial nests, similar to the bladder epithelium. It does not originate from the superficial ovarian epithelium. The tumor cells originate from congenital epithelial islands that have reached the ovarian stroma in an unknown manner, but it is also assumed that they originate from the ovarian rete. The firmness of the tumor depends on the amount of connective tissue. These tumors are usually small, solid, firm, grayish nodules up to 2 cm in

size, but they can also be quite large, in which case they usually have cystic components resulting from cystic degeneration and necrosis. In 95% of cases, they are unilateral. The tumors are usually asymptomatic and occur in elderly people. Malignant cases are extremely rare (approximately 2% of all cases), as are proliferative Brenner tumors [3].

We report the case of a bilateral benign Brenner tumor diagnosed in an 80-year-old female patient, with a review of the literature on the various clinical, histological, and therapeutic aspects of this very rare ovarian lesion.

2. History of the Disease

80-year-old female patient, Geste 7, 7th parity, with 7 living children, no known medical history. She noticed a painless increase in abdominal volume in 2017 but did not require treatment. The condition progressed with a persistent increase in abdominal volume associated with moderate abdominal pain. There was no fever or vomiting.

Due to the persistent abdominal pain, she consulted in 2025 at the maternity ward at the Sourô Sanou University Hospital Center in Bobo-Dioulasso for better care.

3. Examination

3.1. General Examination

On admission, she was in satisfactory general condition, with normal consciousness and normally colored conjunctivae. Blood pressure was 135/89 mmHg, pulse rate was 90 bpm, and temperature was 37˚C.

3.2. Physical Examination

Her abdomen was enlarged, soft, depressible, and not very sensitive to deep palpation. A firm, irregular mass was noted, extending from one iliac fossa to the other and reaching the umbilicus. The vulva was clean and, on speculum examination, the cervix and vaginal walls appeared normal, with no bleeding or endometrial discharge. Vaginal examination combined with abdominal palpation revealed a firm, closed cervix, deviated to the left, and the uterus was difficult to palpate. The lateral cul-de-sacs were filled. The glove came out clean.

3.3. Additional Tests

Biological assessment: The complete blood count showed a hemoglobin level of 11g/dl, normal blood sugar levels, and normal creatinine levels. Tumor markers, namely CA 125, AFP, and HCG, were not tested.

Imaging: An abdominal and pelvic ultrasound scan was performed, but was inconclusive; the requested CT scan was not performed.

4. Treatment

An exploratory laparotomy was indicated and performed on the patient under general anesthesia. During the laparotomy, we discovered a small amount of se-

rous peritoneal effusion and a gynecologically sized uterus with a normal appearance. Two whitish tumor masses were present on the lateral side of the uterus, with a bumpy, smooth surface, no capsular breach, firm consistency, affecting both ovaries, measuring 16 × 12 × 6 cm on the right and 9 × 7 × 3 cm on the left (Figure 1).

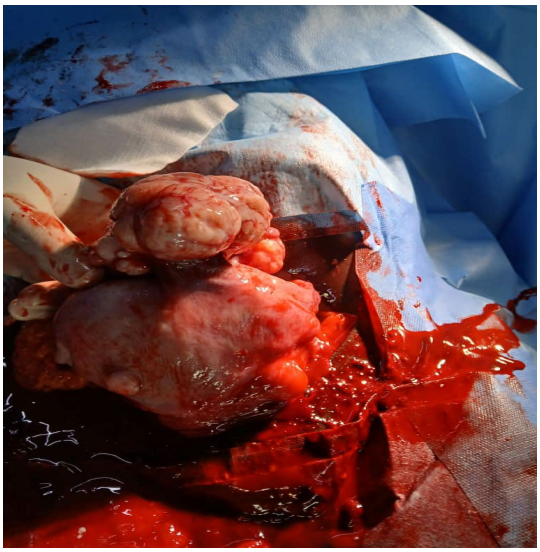

Figure 1. Gynecological-sized uterus.

We decided to perform a total hysterectomy with bilateral adnexectomy. The surgical specimen was prepared for pathological examination.

5. Anatomopathological Findings

5.1. Macroscopy

The two ovaries measured 16 and 9 cm in length, with a bumpy outer surface and no capsular rupture. The cut surface was fibrous, whitish, and firm in consistency (Figure 2).

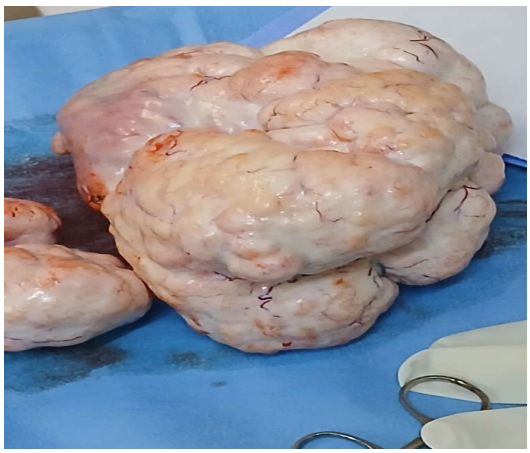

Figure 2. Tumor masses, whitish with a bumpy outer surface without capsular breach.

5.2. Histology

The histological appearance showed benign epithelial tumor proliferation with a nest-like architecture. The nests are made up of transitional differentiation cells with eosinophilic cytoplasm and monomorphic, oval nuclei with incisions and homogeneous chromatin. Some nests are centered around mucinous epithelium or cystic cavities. The stroma is fibrous, very abundant, hypocellular, and collagenous. There are foci of calcification. No signs of malignancy (Figures 3-5). This led to the conclusion of a bilateral benign Brenner tumor.

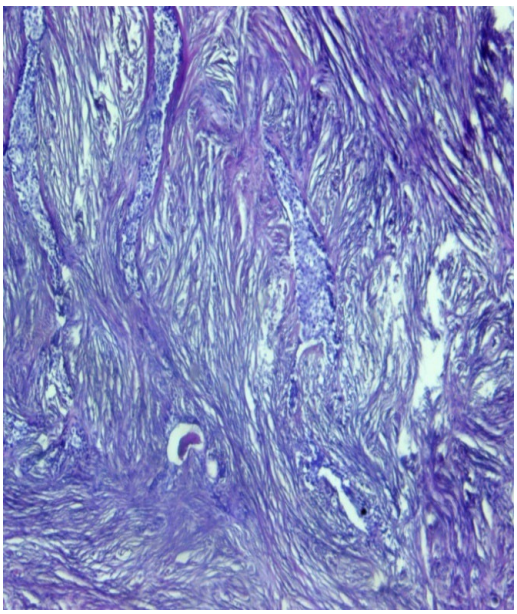

Figure 3. HE, G40: proliferation tumor cells in a nest with a epithelial, very abundant fibrous stroma.

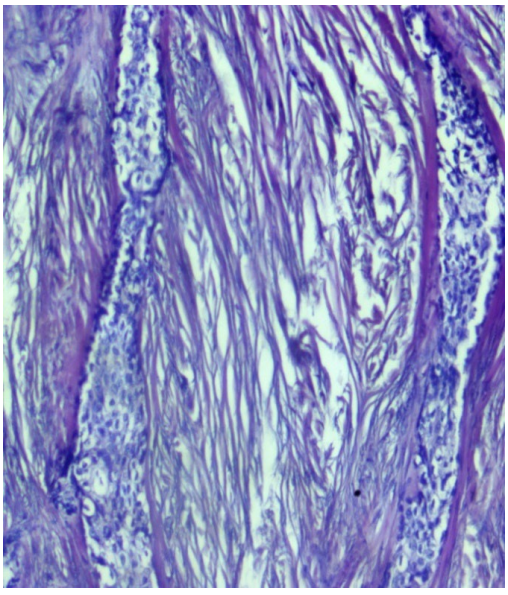

Figure 4. HE, G100: nest of epithelial ovoid.

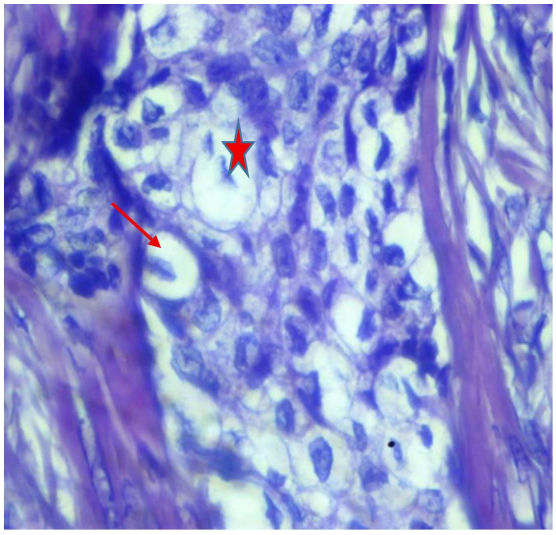

Figure 5. HE, G 400: cluster of epithelial cells, oval, without atypia, sometimes with incisions (arrow). Presence of cystic cavity (star).

5.3. Postoperative Follow-up

This was straightforward, with painkillers, antibiotics, and a preventive dose of anticoagulant. The patient was discharged from hospital on the third day. Check-ups at one week and one month were uneventful.

6. Discussion

Brenner tumors are classified as superficial epithelial tumors of the ovary. These tumors occur in postmenopausal women between the ages of 50 and 70 [1]. The average age at diagnosis is 50, with 71% of patients over the age of 40 [4]. Our patient was 80 years old. Brenner tumors, unilateral or bilateral, are generally asymptomatic and are often discovered incidentally during a pathological examination. According to Sahu, 40% of benign tumors are discovered incidentally during examination [5]. The clinical signs are nonspecific, but pelvic pain and, in general, a pelvic mass, abnormal vaginal bleeding, or menstrual irregularities may also be observed [6]. In our study, the patient presented with moderate abdominal pain and an increase in abdominal volume that had been developing for 2017. We were limited by the fact that tumor markers and CT scans were not performed. Admittedly, they would not have confirmed the diagnosis, but they would have given us some preoperative guidance. This would be justified by the lack of health insurance in our context and also by the patient's low socioeconomic status. Macroscopically, they are most often unilateral, large, measuring 20 cm in diameter, and grayish-white in appearance. Bilateral tumors are rare, occurring in 12% of cases [1] [4] and 7% of cases [7], thus proving the rarity of our case. They are generally characterized by the presence of a solid component corresponding to the benign Brenner tumor associated with cysts containing papillary or polypoid masses [1] [4]. Histologically, Brenner tumors reveal nests and cords of epithelial

cells resembling transitional cells in a dense fibromatous stroma. The cells are uniform, polygonal, with pale cytoplasm, regular oval nuclei, and longitudinal grooves (coffee bean appearance). The microcysts are lined with cylindrical mucinous cells [5]. The histological profiles observed in Brenner tumors are typically benign, intermediate, and malignant [8] [9]. In the present observation, both ovarian masses typically exhibited these histological features. We performed a total hysterectomy with bilateral adnexectomy. The therapeutic management is modeled on that of epithelial ovarian cancers and is based primarily on cytoreductive surgery, consisting of a total hysterectomy with bilateral adnexectomy and omentectomy [10]. Benign Brenner tumors, unilateral or bilateral, have an excellent prognosis. Our patient had no postoperative complications and the outcome was favorable.

7. Conclusion

Brenner tumor is a rare tumor, unique in its origin. Its diagnosis is based on postoperative histopathological examination, which is the gold standard for definitive diagnosis, as preoperative diagnosis is often inconclusive. Its treatment is mainly based on surgery. Benign Brenner tumors generally have an excellent prognosis.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

[1] Ameur El Youbi, M.B., M'rabti, H., Mohtaram, A., Aaribi, I., Kharmoum, J., Khannoussi, B.E., *et al.* (2014) Tumeur de Brenner maligne avec très bonne réponse après chimiothérapie: À propos d'un cas et revue de la littérature. *Pan African Medical Journal*, **17**, Article 293. https://doi.org/10.11604/pamj.2014.17.293.2443

[2] Khalil, F., El Sayegh, H., Iken, A., Benslimane, L. and Nouni, Y. (2013) Bladder Carcinoma and Brenner Tumor of the Ovary: Common Etiopathogenic and Immunohistochemical Origins. *Moroccan Journal of Medical Sciences*, **XVIII**, p. 3.

[3] Hrvojka, S.V., Petar, K., Lada, B.B. and Ahmed, P. (2005) Brenner Tumor of the Ovary. *Acta Clinica Croatica*, **44**, 271-273.

[4] Hemalatha, A.L. (2005) Prakash Konanahalli: Bilateral Malignant Brenner Tumor of Ovary. *The Journal of Obstetrics and Gynecology of India*, **55**, 81-82.

[5] Sahu, A., Toppo, A., Mohapatra, K. and Panda, S. (2023) Brenner Tumors of the Ovary: A Case Series in a Teaching Institute Center. *Journal of Family Medicine and Primary Care*, **12**, 1720-1723. https://doi.org/10.4103/jfmpc.jfmpc_2483_21

[6] Kurman, R.J., Carcangiu, M.L., Herrington, C.S. and Young, R.H. (2014) WHO Classification of Tumors. 4th Edition, IARC.

[7] Kondi-Pafiti, A., Kairi-Vassilatou, E., Iavazzo, C., Vouza, E., Mavrigiannaki, P., Kleanthis, C., *et al.* (2011) Clinicopathological Features and Immunoprofile of 30 Cases of Brenner Ovarian Tumors. *Archives of Gynecology and Obstetrics*, **285**, 1699-1702. https://doi.org/10.1007/s00404-011-2182-5

[8] Damjanov, I. and Linder, J. (1997) Anderson's Pathology. 10th edn Vol 2. St. Louis Mosby. 1997 International Journal of Otolaryngology and Head & Neck Surgery , vol.

4, n° 2: 496-499.

[9] Roth, L.M. and Czernobilsky, B. (1985) Ovarian Brenner Tumors. II. Malignant. *Cancer*, **56**, 592-601. https://doi.org/10.1002/1097-0142(19850801)56:3<592::aid-cncr2820560328>3.0.co;2-a

[10] van der Weiden, R.M.F. and Gratama, S. (1987) Proliferative and Malignant Brenner Tumours (BT) and Their Differentiation from Metastatic Transitional Cell Carcinoma of the Bladder: A Case Report and Review of the Literature. *European Journal of Obstetrics & Gynecology and Reproductive Biology*, **26**, 251-260. https://doi.org/10.1016/0028-2243(87)90076-1