CASE REPORT

# Brenner tumor of ovary: An incidental finding

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## ABSTRACT

Brenner tumor is a rare ovarian tumor that is a part of the surface epithelial group of ovarian neoplasm. It is usually asymptomatic and most of the times it is an incidental pathological finding. Here we present a case of benign Brenner tumor of ovary treated surgically.

**Key Words:** Brenner tumor, ovarian neoplasm, ultrasonography

## INTRODUCTION

Brenner tumor of the ovary is a relatively uncommon neoplasm. The average age at presentation is 50 years with 71% of the patients being more than 40 years.[1] It constitutes 1.4–2.5% of all ovarian tumors and has a predilection for the postmenopausal woman. Most of them are benign and less than 5% are proliferating or borderline.[2]

## CASE REPORT

A 45-year-old nulliparus woman attended to our hospital with a history of mild pain abdomen since 3 months. She was referred by a general practitioner with a finding of left-sided ovarian tumor on ultrasonography (USG). At the time of examination her vitals were stable, and no abnormality was detected in general and systemic examination. A palpable mobile lump of 8 × 8 cm size was found at the pelvic region. On per speculum examination, vaginal wall and cervix were found to be normal. On per vaginal examination, uterus was normal in size, and a mobile lump 8 × 8 cm size was found anterior to the uterus. The USG finding showed a 10 × 8 cm well-defined lobulated right adenaxal mass suggestive of ovarian tumor. The patient was prepared for laparotomy. On laparotomy, a multilobulated solid ovarian tumor was found on left side. Right-sided ovary, uterus, and both the fallopian tubes were seem to be normal. Peritoneal washing was taken for cytology. Total abdominal hysterectomy with bilateral salpingo-oophorectomy with infracolic omentectomy was performed with proper hemostesis. Grossly the tumor was 9.5 × 8 × 4 cm sizes with multilobulated glistening white nodular surfaces. Cut surface showed well-circumscribed, whitish nodules surrounded by fibromatous tissue [Figure 1]. On histopathological examination well-circumscribed epithelial cell nests were found with sharply demarcated borders, which are surrounded by abundant fibromatous stroma [Figure 2]. The epithelial cells are ovoid to polygonal and have pale cytoplasm and oval nuclei. Some of the nuclei have central longitudinal groove (coffee bean appearance). All the above features go in favor of benign Brenner tumor of ovary. Right ovary shows normal morphological features. No malignant cells were seen on the cytology of peritoneal fluid, and no atypical cell or malignant growth was found on omental biopsy. The postoperative period was uneventful and the patient was discharged with advice of regular follow-up.

## DISCUSSION

Brenner tumor of ovary is a solid ovarian tumor that is generally asymptomatic. Although they are predominantly solid on imaging and pathologic examination, association with serous and mucinous cystadenomas is up to 30%.[3] It is usually an incidental

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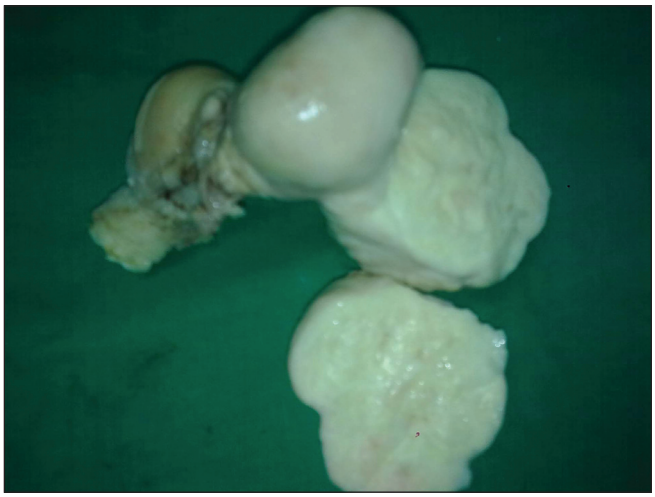

**Figure 1:** Cut section of the left-sided Brenner tumor

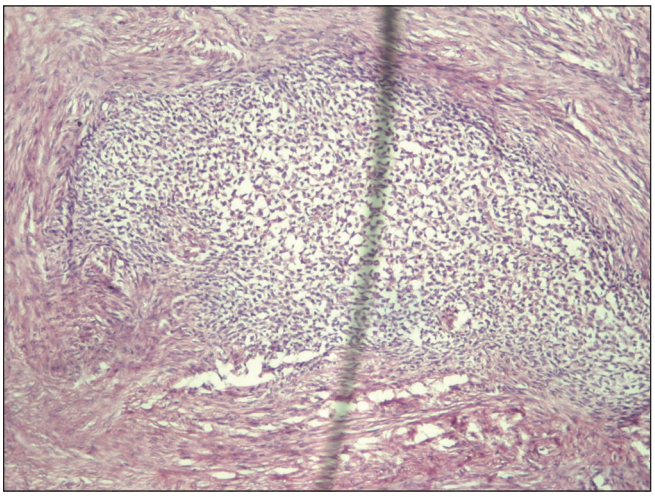

**Figure 2:** Microscopy showing epithelial cell nests separated by fibromatous stroma (H and E, ×20)

pathological finding. Among symptomatic patients, common symptoms include vaginal bleeding, a palpable pelvic mass, and pelvic pain. Most of the time it is found to be unilateral. Bilaterality is seen only in 5–7% of the cases.[4] It is generally accepted that Brenner tumors are derived from the surface epithelium of the ovary or the pelvic mesothelium through transitional cell metaplasia to form the typical urothelial-like components.[5] The histological patterns observed in Brenner tumor are typically benign, with a few reports of borderline or malignant counterparts.[1]

It is difficult to diagnose Brenner tumor with imaging studies. USG and computed tomography, both the techniques are limited in specificity because of the tumor's nonspecific appearance. In imaging studies benign Brenner tumors are generally similar to those of other solid ovarian masses such as fibroma, fibrothecoma, and pedunculated leiomyoma.[3]

Grossly benign Brenner tumors are well circumscribed, with a hard or fibromatous, gray, white, or slightly yellow cut surface. Occasionally the tissue becomes gritty because of calcific deposit. Borderline Brenner tumors are characteristically cystic and unilocular or multilocular with cauliflower like papillomatous masses protruding into one or more of the locules. Malignant Brenner tumor may be solid or cystic with mural nodules; they usually do not have any distinctive features.[6]

Microscopically, they are made of abundant dense fibrous stroma with epithelial nests of transitional cells resembling those lining the urinary bladder. The fibrous component is less prominent in borderline or malignant tumors than in benign lesions. Complex cystic tumors contain varying amounts of stroma and are more commonly found with borderline or malignant histologic findings, often in the form of papillary solid projections within a cystic mass.[7]

Most Brenner tumors are candidates for surgical resection. Because of their vividly circumscribed nature, they are easily located and do not typically affect surrounding tissue. Surgical resection is often curative and will reverse symptoms if they are present. Malignant Brenner tumors may affect surrounding tissue and metastasize into other structures, but such incidents are so rare that a standard treatment has not been developed. Even malignant Brenner tumors, if diagnosed early, are usually candidates for complete surgical resection.

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