

## Case Report

# Benign Brenner tumor of ovary - A rare case report

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## Abstract

Ovarian tumors are common forms of neoplasia in women and it accounts for about 30.0% of female genital cancers. Brenner tumors are subgroup of transitional cell tumors. Benign Brenner tumors are usually unilateral, small and solid. But in our case the tumor was very huge though showing all features of benign Brenner tumor on histopathological examination. For the diagnosis of benign Brenner tumor, radiological investigations are not a reliable tool. Therefore histopathological examination remains gold standard method for final diagnosis of this entity. This case report of large benign Brenner tumor is presented here because of its rarity.

## Key words

Benign Brenner tumor, Rare, Ovarian tumors, Histopathological examination.

## Introduction

The ovarian lesion constitutes the major burden in gynecology practices due to anatomical location of the tumor and also due to the fact that these tumors may remain asymptomatic for a longer period of time. They are diagnosed only after attaining a larger size. Brenner tumors are subgroup of transitional cell tumors. They are generally unilateral, only 5-7 % cases are bilateral. Although they are predominantly solid on imaging and pathologic examination,

association with serous and mucinous cystadenomas is up to 30% [1, 2]. USG and computed tomography, both the techniques are less sensitive method for the diagnosis because of its nonspecific appearance. Microscopically it is characterised by abundant dense fibrous stroma with epithelial nests of transitional cells with coffee bean shaped nuclei resembling those lining the urinary bladder. We are presenting a case of 49 years old female with complaint of abdominal pain and diagnosed as benign Brenner tumors on histopathology. Here in we just want

to stress rarity of Brenner tumors and we are able to find and document the typical features of benign Brenner tumors.

### Case Report

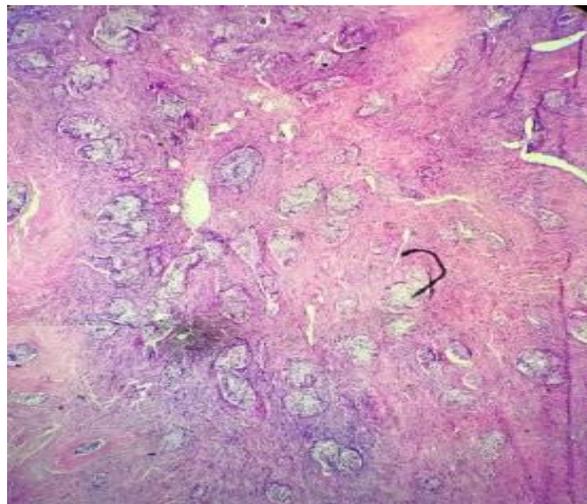
A 49-year-old female came to the Outdoor Patient Department of Obstetrics and Gynecology Department of Dhiraj General Hospital and SBKSMI & RC due to complaint of the lower abdominal pain since 6 months. Per abdominal examination revealed a palpable mobile lump at the left side of pelvic region. On per speculum examination, vaginal wall and cervix were found to be normal. On per vaginal examination, uterus was normal in size, and a large mobile lump was found posterior to the uterus. The USG finding showed a 22.8×18.6×13.8cm well-defined partly solid partly cystic left adnexal mass suggestive of ovarian tumor. All the hematological, biochemical and serological examinations were normal.

Hysterectomy with bilateral salpingo-oophorectomy was done and the specimen was sent for histopathological examination in the pathology department. On gross examination, hysterectomy specimen comprising of uterus with cervix and bilateral adnexa was noted. The left ovarian mass measured 22x18x13 cm. On cut section colourless serous fluid came out. The solid area of the tumor measured 11 x 5 x 4 cm which was whitish yellow in colour (**Photograph - 1**).

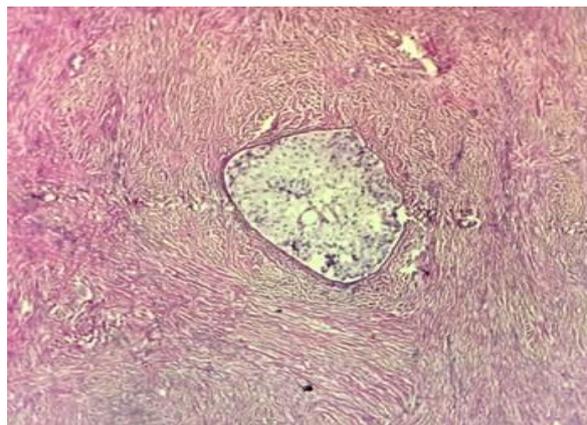
**Photograph – 1:** Whitish yellow cut surface of benign brenner tumor.



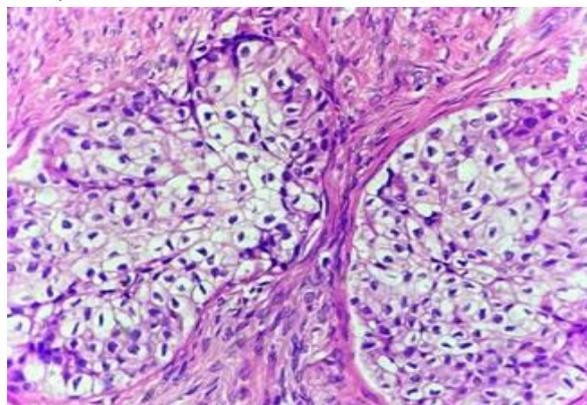
**Photograph – 2:** Nests of benign transitional cells in a background of fibrous stroma (H&E stain, 4X).



**Photograph – 3:** Low power view of the transitional cell island (H&E stain, 10X).



**Photograph – 4:** Tumor cells with uniform nuclei and presence of grooves (H&E stain, 40X).



On microscopic examination of the left ovarian mass, hematoxylin and eosin stained sections

demonstrated presence of solid and cystic areas. There was also presence of urothelium like cells surrounded by abundant dense fibrous stroma. The individual cells were uniform, polygonal with pale cytoplasm and often grooved nuclei (**Photograph - 2, 3, 4**). Histopathological examination of the right ovary was unremarkable. The sections from endomyometrium showed submucosal fibroid. Based on the histopathological examination, a diagnosis of benign Brenner tumor of left ovary was made.

## Discussion

Ovarian tumors are common forms of neoplasia in women and it accounts for about 30.0% of female genital cancers [3]. It is usually an incidental pathological finding. Among symptomatic patients, common symptoms include vaginal bleeding, a palpable pelvic mass, and pelvic pain. Our patient presented with pain in the lower abdomen since 6 months. Most of the time it is found to be unilateral. Bilaterality is seen only in 5-7% of the cases. 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 [4]. The histological patterns observed in Brenner tumor are typically benign, with a few reports of borderline or malignant counterparts [4].

USG and computed tomography, both the techniques are less sensitive method for the diagnosis because of its nonspecific appearance in imaging studies [5]. Benign Brenner tumors are generally similar to those of other solid ovarian masses such as fibroma, fibrothecoma, and pedunculated leiomyoma [6].

The World Health Organization (WHO) classifies Brenner tumors into three categories: benign, borderline and malignant. Benign Brenner tumors are usually unilateral, small and solid. But in our case the tumor was very huge though showing features of benign Brenner

tumor. Grossly these tumors are usually well circumscribed with a firm grey white or yellowish white cut surface closely resembling that of a fibroma or thecoma. Occasionally benign tumors may be partly cystic and some tumors may be hard and gritty due to calcification. Microscopy shows solid and cystic nests of epithelial cells resembling transitional epithelium surrounded by abundant dense, fibroblastic stroma. The cells have oval nuclei with distinct nucleoli. Nuclear grooves may be present; stroma may show focal hyalinization and calcific plaques. In our case we were able to find and document the typical features of benign Brenner's tumor.

Immunohistochemistry and molecular analysis is helpful in diagnosis and confirmation of Brenner tumor but considering high cost is not of much clinical value. In the present case we could make out the diagnosis of benign Brenner tumor on histological findings.

Surgical resection of the tumor mass is diagnostic as well as curative for this tumor.

## Conclusion

Benign Brenner tumor is a rare ovarian tumor and radiological investigations are not a reliable way to diagnose it. Histopathological examination remains gold standard method for final diagnosis of this entity. Usually Benign Brenner tumor is small in size but it is possible to have a completely benign large benign Brenner tumor just like in our case.

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