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Notes on Signs and Symptoms of a Large Benign Brenner Tumor of the Ovary

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Abstract

Brenner tumours are uncommon, unilateral, solid, and mostly benign ovarian tumours that belong to the surface epithelial category of ovarian neoplasms. Typically, it is an accidental pathological finding with no symptoms. Even though the majority of benign Brenner tumours are tiny, the case described here had a big tumour and was radiologically identified as a sub serous fibroid.

Introduction

Brenner tumors are rare ovarian tumors that develop from the surface epithelium of the ovary. Many Brenner tumors are small and asymptomatic, so they are often found incidentally during pelvic examinations or imaging studies About 30% of female genital malignancies are ovarian tumours, a prevalent form of neoplasia in females [1, 2]. These tumours exhibit a variety of behaviours, but because of their anatomical position, they might remain asymptomatic for a considerable amount of time before becoming large enough to be detected clinically. The Brenner tumour of the ovary is a very uncommon neoplasm that accounts for 1.4 to 2.5% of all ovarian tumours. It tends to affect postmenopausal women, with an average age at presentation of 50 years and a 71% female prevalence. Similar to the bladder epithelium, Brenner tumours are made up of nests of transitional epithelial cells. Most Brenner tumours are tiny, hard, solid, unilateral, and benign [1]. A just 2% of them are larger. Due to its ambiguous appearance, radiological imaging techniques (USG and computed tomography) are less sensitive for diagnosing it. The gold standard for making a diagnosis is histopathology, which is characterised microscopically by an abundance of dense fibrous stroma and epithelial cell nests with grooves that resemble coffee bean-shaped nuclei.

Brenner tumors can grow to large sizes and cause symptoms such as:

Abdominal swelling or bloating: Brenner tumors can cause the abdomen to swell, making it appear distended.

Pelvic pain: Large Brenner tumors can cause pain in the pelvis or lower abdomen.

Urinary symptoms: Brenner tumors can put pressure on the bladder, causing frequent urination, urgency, or difficulty emptying the bladder [2].

Bowel symptoms: Large Brenner tumors can press against the bowel, causing constipation or diarrhea.

Abnormal vaginal bleeding: In rare cases, Brenner tumors can cause abnormal vaginal bleeding or discharge.

It is important to note that these symptoms can also be caused by other conditions, so it is essential to consult a healthcare provider for a proper diagnosis.

Due to their anatomical location and propensity to be asymptomatic for prolonged periods of time, ovarian lesions pose a significant burden in gynecology practice. Vaginal hemorrhage, pelvic pain, pelvic mass, non-specific gastric complaints of dyspepsia, and flatulence are among the symptoms that are frequently present in symptomatic patients. Our patient arrived with polymenorrhagia, abdominal pain, and a lump. Through transitional cell metaplasia, Brenner tumour develops from the pelvic mesothelium or ovarian surface epithelium to produce the classic urothelial-like components . Only 5-7% of it is bilateral, making it primarily unilateral. Only a few instances of counterparts with a borderline or malignant histological pattern exist. [4,5].

Since the Brenner tumour has no distinct appearance, diagnosing it with radiological imaging techniques is challenging. In imaging techniques, Brenner tumour resembles other solid ovarian tumours such as fibroma, fibrothecoma, and pedunculated leiomyoma. Grossly, Brenner tumours are well-circumscribed, rigid, and have a sliced surface that is grey, white, or yellow. Borderline Brenner tumours typically have papillomatous masses projecting into one or more of the locules and are cystic, unilocular, or multilocular. Brenner tumours that are malignant might be solid or cystic with mural nodules lacking any distinguishing characteristics [6]. Brenner tumours have dense, fibrous stroma that is plentiful and has nests of epithelial transitional cells. Borderline or malignant components have a less noticeable fibrous component. In borderline or malignant histology patterns, complex cystic tumours with varied amounts of stroma frequently take the form of papillary solid projections.

Surgery can be used to remove the majority of Brenner's tumours. These are quickly recognised and often do not harm nearby tissue due to their brightly confined form. Resection surgery can often be curative and will eliminate all symptoms. Brenner tumours that are malignant can harm the tissues around them and spread to other structures, although these occurrences are so uncommon that no accepted treatment has been created. Even malignant Brenner tumours are typically candidates for total surgical resection if discovered early.

Numerous immunohistochemical markers of urothelial

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differentiation, such as uroplakin-III, thrombo modulator, p63, GATA-3, and cytokeratin-7, are expressed by Brenner tumours and are useful in the diagnosis and confirmation of Brenner cancer. However, given the high expense and lack of therapeutic benefit, particularly in cases where histopathology revealed the presence of benign brenner tumours, as in our case, regardless of the size of the ovarian mass, this was not advised.

Conclusion

To sum up, although being rare and often a modest ovarian tumour, benign Brenner tumour can become very large. The non-specific characteristics of radiological imaging make it difficult to diagnose these tumours. Instead, because of its solid consistency, it is mistaken for solid uterine and ovarian tumours such thecoma, fibroma, and leiomyoma. Thus, the gold standard for diagnosing the Brenner tumour is histopathology, which is required. For some tumours, surgical excision is curative, reversing all symptoms. Therefore, when a doctor encounters a patient with a solid, massive pelvic mass, they should be mindful of the likelihood of a Brenner tumour.

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