

# Coexistence of Ovarian Mucinous Adeno Carcinoma and Benign Brenner Tumor: A Case Report

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Mucinous ovarian tumors are known to coexist sometimes with Brenner tumors; however, in many of the cases in the literature, mucinous cystadenomas are seen to have been analyzed. In this case report, we aimed to present a case who was operated on in our clinic, and who was diagnosed as mucinous adenocarcinoma and coexisting benign Brenner tumor.

In this case report, we aimed to present the outcomes of a 57-year-old patient with a history of 6 pregnancies, 4 living children and 2 abortuses, who presented to our hospital with the complaint of abnormal vaginal bleeding, and in whom a cystic lesion was detected in the left ovary on physical and radiological examinations. The Ca 125 level was normal. The patient underwent the operation with the pre-diagnosis of postmenopausal ovarian mass in which total abdominal hysterectomy, bilateral salpingo-oophorectomy, total omentectomy and bilateral pelvic-para-aortic lymph node dissection were performed. The pathology result was reported as left ovarian mucinous adenocarcinoma and benign Brenner tumor.

The rate of Brenner tumor accompanying mucinous cystadenoma has been reported as 1.3% and the rate of mucinous adenocarcinoma accompanying Brenner tumor has been reported as 9%. However, its coexistence with mucinous adenocarcinoma is rare as in our case. In case of presence of the diagnosis of mucinous cystadenocarcinoma or cystadenoma, assessment of the ipsilateral or contralateral ovarian cysts in terms of presence of Brenner tumor and further molecular cytogenetic analysis of the detected cases can shed light on the development histogenetics of these tumors.

**Key Words:** Brenner tumor, Ovary, Mucinous cystadenocarcinoma

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## Introduction

Brenner tumors are rare tumors seen with a ratio of 2% among all ovarian tumors. They are accepted to develop from superficial epithelium or from mesothelium via transitional metaplasia.<sup>1</sup> Many publications are available about ipsilateral or contralateral Brenner tumors that coexist with mucinous tumors and Brenner tumor which is among the rare tumors of the ovary coexisting with mucinous tumors has been reported in varying rates between 1-16%, and mucinous cystadenomas comprise the majority of the mucinous tumors in the

afore-mentioned studies.<sup>1-4</sup> In this case report, we aimed to present a subject who was operated on in our clinic, diagnosed as mucinous adenocarcinoma accompanying benign Brenner tumor.

## Case Report

The patient was a 57-year-old, multiparous, postmenopausal woman whose menarch had stopped 7 years ago. She presented to our clinic due to abundant vaginal bleeding lasting for the last 3 months. It was learnt that the patient did not have any other gynecologic complaints prior to this complaint. Her medical history was unremarkable. A mobile, soft mass 10 cm in size, lying towards the left from the midline of the pelvis was palpable on the gynecological examination. On the abdominal ultrasonography, a heterogenous mass consisting of solid areas and 12x10 cm in size was observed in the the pelvis. The ovaries could not be evaluated separately. Minimal fluid was present at the Douglas pouch. The uterus was normal in size. The CA 125, CEA and CA 19-9 levels were in normal ranges. The result of probe curettage performed preoperatively due to postmenopausal bleeding revealed non-diagnostic blood-fibrin elements.

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The 10 cm size bilobular mass originating from the left ovary was removed intraoperatively and sent for frozen section examination. The result of frozen section was reported as malignant. Thus, total abdominal hysterectomy, bilateral salpingo-oophorectomy, total omentectomy, appendectomy and bilateral pelvic-para-aortic lymph node dissection were performed and the surgical procedure was then brought to an end.

On histopathological examination, it was reported that the 9x8.5 cm of tumoral lesion originating from the left ovary comprised two distinct tumoral components; the mucinous adenocarcinoma component was reported to be of approximately 5x4 cm in size, of complex papillary pattern and multilocular cystic structure and expansive invasion was detected (Figure 1). The other smaller component of the tumoral structure was reported to be Brenner tumor (Figure 2). It was reported that CK 8/18 and CK 20 immunopositive transitional type epithelium cells constituted solid structures including cystic spaces and this component was present in an area covering less than 5% of the tumor (Figures 3,4). No malignant cells were detected in cytological examination.

The patient completed the postoperative recovery period and was then delivered to the medical oncology department for adjuvant chemotherapy.

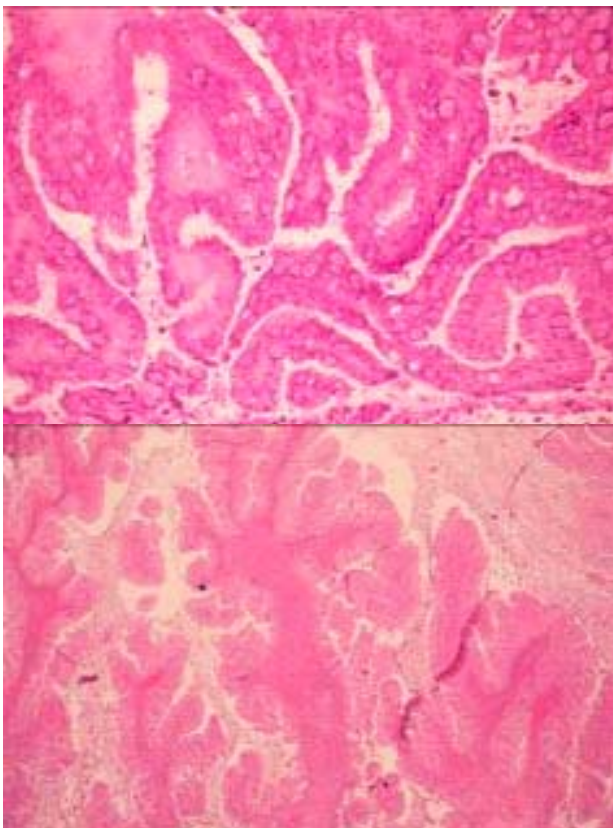


Figure 1: Sections showing mucinous carcinoma areas, H&E, X200

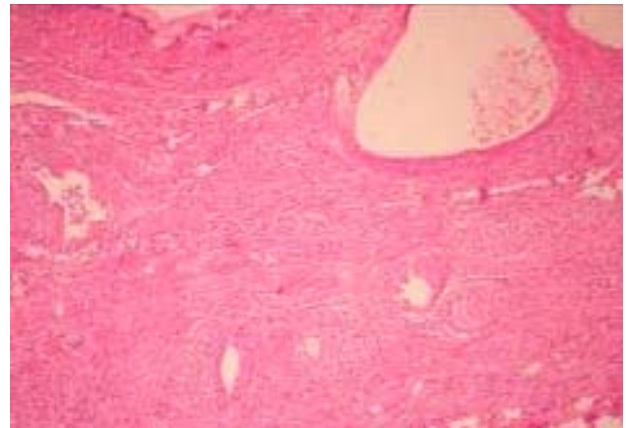


Figure 2: Cytic structures laid down with mucinous epithelium and Brenner tumor islands, H&E, x200

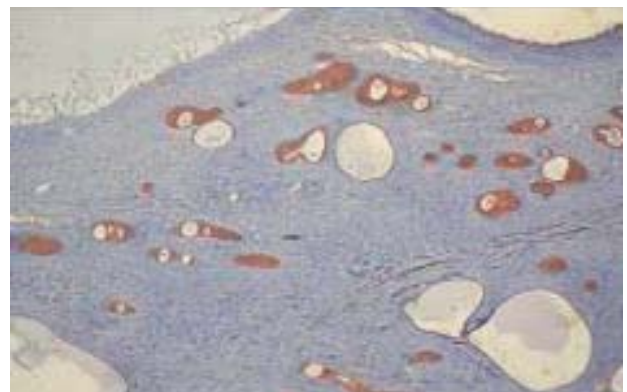


Figure 3: CK 8/18 immunopositivity in Brenner tumor component, x200

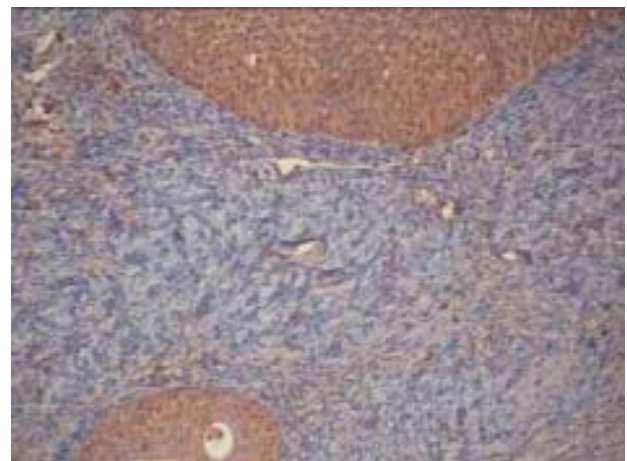


Figure 4: CK 20 immunopositivity in Brenner tumor component, x200

## Discussion

There are many studies and case reports available stating that Brenner tumors can be seen together with mucinous cystic tumors; however, the histogenetic causes of this condition has not been explained yet.<sup>1-4</sup> Some studies suggest the fact

that both of them developing from the celomic epithelia of the ovarian surface is a factor. There are also studies available suggesting that the coexistence of these tumors is related to the mucinous tumors' developing as a result of mucinous metaplasia of the transitional epithelium.<sup>2-5</sup>

While the majority of studies in the literature have analyzed the relationship of mucinous cystadenomas with Brenner tumor, there are not many studies available about the coexistence of ovarian mucinous adenocarcinomas and Brenner tumor. In a publication studying the histogenetics of this condition, amplification was detected in the 12q14-21 gene sequences in a patient who had a mucinous adenocarcinoma in the left ovary and benign Brenner tumor in the right ovary.<sup>6</sup> These studies and our case obviously indicate that in the presence of mucinous cystadenoma and cystadenocarcinoma, ipsilateral and contralateral ovary should be evaluated in terms of Brenner tumor, although rare.

### Overin Müsinöz Adenokarsinomu ve Benign Brenner Tümörü Beraberliği: Olgu Sunumu

Müsinöz over tümörlerinin kimi zaman Brenner tümörleri ile beraber görülebildiği bilinmektedir ancak literatürdeki vakaların birçoğunda müsinöz kistadenomların incelendiği dikkati çekmektedir. Bu vaka sunumunda kliniğimizde opere edilen; müsinöz adenokarsinom ve buna eşlik eden benign brenner tümörü tanısı alan bir olguyu sunmayı hedefledik.

Bu vaka sunumunda 57 yaşında anormal vajinal kanama şikayetiyle hastanemize başvuran, 6 gebeliği, 4 yaşayan çocuğu ve 2 abort öyküsü olan; yapılan muayene ve radyolojik değerlendirmesinde sol overde bilobule kistik oluşum tespit edilen, CA 125 ölçümü normal bir hastanın sonuçlarını sunmayı hedefledik. Postmenapozal overyan kitle ön tanısıyla opere edilen hastaya total abdominal histerektomi, bilateral salpingoofektomi, total omentektomi ve bilateral pelvik-paraaortik lenf noddu diseksiyonu uygulandı. Patoloji sonucu sol over müsinöz adenokarsinom ve benign Brenner tümörü şeklinde rapor edildi.

Müsinöz kistadenoma Brenner tümörünün eşlik etme oranı %1,3; Brenner tümörleri incelendiğinde ise müsinöz tümörlerin

eşlik etme oranı ortalama %9 olarak rapor edilmiştir. Bu vaka da olduğu gibi müsinöz adenokarsinoma ile beraberliği ise nadiren görülmektedir. Müsinöz kistadenokarsinom veya kistadenom tanısı mevcudiyetinde aynı taraf ve karşı taraf overde kist varlığında Brenner tümörü mevcudiyeti açısından değerlendirilme yapılması ve tespit edilen vakaların ileri moleküler sitogenetik değerlendirmelerinin yapılmasıyla bu tümörlerin gelişim histogenetikleri aydınlatılabilir.

**Anahtar Kelimeler:** Brenner tümör, Over, Müsinöz kistadenokarsinom

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