

# Massive Edema of the Ovary: Case Report

## Overin Yaygın Ödemi: Olgu Sunumu

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### ABSTRACT

Massive ovarian edema is a rare condition characterized by marked enlargement of one or both ovaries as a result of accumulation of edema fluid in stroma. It is a benign lesion and is generally seen in young females between 6-33 years of age. Our aim is to remind that massive ovarian edema should be considered in the differential diagnosis especially in young patients to avoid aggressive treatment.

Our patient was a 17-year-old female who was admitted to our hospital with complaints of irregular menstruation and right groin pain for the last 3 months. There was no remarkable finding in the physical examination. 'Sex-cord stromal tumor (luteinized thecoma)' could not be excluded in the intraoperative frozen section. The diagnosis was reported as 'massive ovarian edema' with routine examination.

Pathological evaluation is required because of the difficulty of differentiating these lesions from malignant lesions with radiological methods in the pre-operative period. Although it is a rare lesion, clinicians and pathologists should consider it in the differential diagnosis to avoid aggressive treatment.

**Key Words:** Ovary, Edema

### ÖZ

Overin yaygın ödemi oldukça nadir olarak görülen, stromada ödem oluşması sonucu, overlerin birinde ya da her ikisinde belirgin büyüme şeklinde tanımlanan bir durumdur. Benign karakterlidir ve 6-33 yaş arası genç yaş grubunu etkiler. Amacımız, yaygın over ödeminin özellikle genç hastaların agresif tedaviden korunabilmesi açısından ayırıcı tanıda akılda tutulması gereken bir lezyon olduğunu hatırlatmaktır.

Olğumuz olan 17 yaşında kadın hasta, yaklaşık 3 aydır süren sağ kasıkta ağrı ve adet düzensizliği şikayetleri ile hastanemize başvurdu. Fizik muayenede dikkat çekici bir özellik saptanmadı. Hastaya operasyon esnasında yapılan frozen incelemede "seks kord stromal tümör (luteinize tekoma)" açısından ayırıcı tanı yapılamadı. Rutin inceleme sonucunda olgu "overin yaygın ödemi" olarak rapor edildi.

Operasyon öncesi dönemde radyolojik inceleme ile malign lezyonlardan ayırımının zor olmasından dolayı, tanı açısından patolojik inceleme gerekmektedir. Nadir görülmesine rağmen, klinisyenin ve patoloğun ön tanıda bu lezyonu dikkate alması, agresif tedavinin önlenmesi açısından hastaların yararına olacaktır.

**Anahtar Sözcükler:** Over, Ödem

### INTRODUCTION

Massive ovarian edema is a quite rare condition that is defined as marked enlargement of one or both ovaries due to the development of edema in the stroma (1). It was first described by Kalstone et al. in 1969 (2). It is benign in nature and affects the 6- to 33-year-old age group (3). It can be unilateral or bilateral (3). It is important as it cannot be radiologically differentiated from other malignant lesions. The fact that it is seen mostly in the young age group requires a different treatment approach. We present this case to summarize the difficulties encountered in the diagnosis and treatment and the current approaches to this rare lesion and to emphasize the need to take it into account in the differential diagnosis so that the patients can be spared aggressive treatment.

### CASE REPORT

A 17-year-old female presented at our hospital with left groin pain and irregular menstruation for the last 3 months. Physical examination did not reveal any abnormality. It was not possible to observe the right ovary on ultrasonography and there was a lesion 13 cm in diameter in the Douglas pouch with regular margins, a heterogenous appearance and a cystic area. Magnetic resonance imaging showed a pelvic midline lesion approximately 10 cm in size that was hypointense on T1-weighted sections and hyperintense on T2-weighted sections; it contained central septations that were enhanced with contrast media. The patient was operated on as malignancy was suspected. The material sent for frozen section during the surgery consisted of a 13x9x8 cm mass with a pink-white external surface. The

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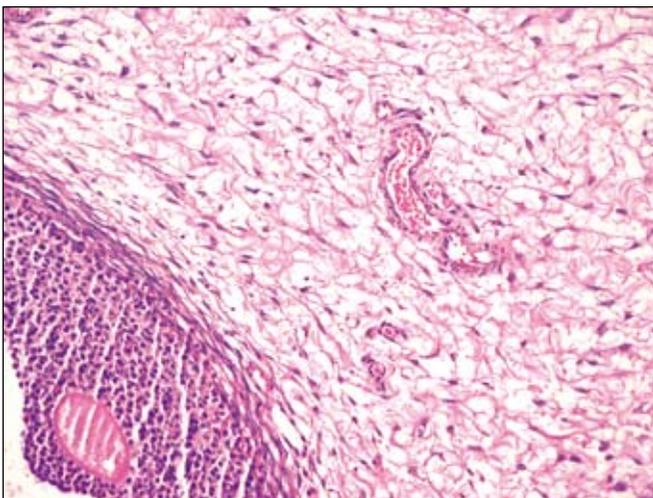
cut surface had the consistency of a fish and was solid with scattered areas filled with yellow lipid. (Figure 1). The frozen section result was 'consistent with sex-cord stromal tumor (luteinized thecoma). Paraffin sections microscopically showed dilated follicular structures and luteinized cell groups that contained eosinophilic material in the lumen within a massively edematous stroma (Figure 2). These findings led to a report of "massive ovarian edema".

## DISCUSSION

Massive ovarian edema is a rare event that is characterized by marked enlargement of the ovary following the development of edema in the stroma. It is usually seen in young females but a 6-year-old girl and postmenopausal women have also been reported (4).



**Figure 1:** The section surface was generally solid with scattered areas filled with lipid macroscopically, making up a lesion with the consistency of a fish.



**Figure 2:** Dilated vessel sections were seen microscopically in a massive edematous stroma between follicular structures.

Acute abdominal pain is a common complaint on presentation. Irregular menstruation is seen more rarely. A palpable adnexal mass or virilization can also be seen (5-7). Our case also had a 3-month history of abdominal pain and irregular menstruation. However, the physical examination did not reveal any abnormality or adnexal mass. There were no virilization findings.

Unilateral cases make up 85% and most are in the right ovary (3). Our case was also unilateral and involved the right ovary. Concurrent pathology such as serous cystadenoma has rarely been reported (1).

The most favored hypothesis for the etiology is the development of massive edema as a result of the disturbed venous and lymphatic circulation following complete or partial torsion of the ovary (8). The stromal cells are thought to show proliferation secondary to lymphedema. Another theory states just the opposite in that the massive edema is supposed to develop following the torsion that develops as a result of growth following stromal proliferation or stromal hyperthecosis (1).

It is believed that bleeding and infarcts do not develop as there are no arterial circulation problems despite the generally disturbed venous and/or lymphatic circulation (3,9). The right ovary had cystic and solid areas and showed torsion but there was no sign of ischemia in our case. However, there have been reports of hemorrhage (10).

It is difficult to preoperatively diagnose massive ovarian edema with imaging techniques despite technological advances. Ultrasonography generally gives the impression of a solid lesion but the lesion has also been defined as a multicystic adnexal mass (3). Our lesion was reported to have a cystic area following ultrasonography. It is obvious that the differential diagnosis would not be easy with such varied findings.

The histopathological differential diagnosis can also be difficult. Observation of preserved follicular structures within an edematous stroma can help differentiate the lesion from fibroma and luteinized thecoma, the most important lesions to exclude (11). The presence of signet ring cells or other epithelial cells in the stroma should be carefully evaluated to exclude Krukenberg's tumor (11). One must also take into account that metastatic tumor cells can cause edema by spreading to the lymphatics in the ovary (11).

The fact that massive ovarian edema is rare can make it difficult for a pathologist with limited frozen experience to make the diagnosis. It is therefore important to have detailed clinical information on the case and to be in contact

with the actual surgeon during the evaluation. Having more samples from the lesion sent for frozen investigation in our case could have contributed to the diagnosis.

Treatment poses some difficulties. The fact that the patients are young and are of childbearing age indicates a need for conservative treatment while the difficulty in differentiating the lesions from a malignancy without histopathological investigation creates problems. The current approach is frozen biopsy with the wedge resection method and a conservative surgical approach if the diagnosis is massive ovarian edema (3-5).

In conclusion, "massive ovarian edema" is an important lesion as it is seen in young patients of childbearing age and can be difficult to diagnose. The difficulty in differentiation from malignant lesions in the preoperative period emphasizes the need for pathological investigation to make the diagnosis. Although rare, the clinician and pathologist would be wise to consider it in the preliminary diagnosis to prevent a young patient from aggressive treatment.

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