

# Unilateral massive ovarian edema (MOE): a case report

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## Summary

Massive ovarian edema is an unusual cause of ovarian enlargement in young patients. Venous and lymphatic obstruction producing edema is thought to be the reason for enlargement of the ovaries in most cases. We report the case of a 23-year-old woman with unilateral massive ovarian edema, findings on ultrasound imaging, and a review of the literature. The ultrasound findings have been reported as a solid tumour-like mass or as a solid mass containing a cystic component, which is non-specific and can mimic neoplasia. Thus, the definitive diagnosis requires histological examination. Because conservative treatment with preservation of the ovaries is often possible, ovarian edema is an important condition to consider in a young patient with a complex but non-specific ovarian mass and appropriate preoperative clinical treatment should be started.

**Key words:** Ovarian edema; Unilateral; Ultrasound.

## Introduction

Massive ovarian edema is a tumour-like enlargement of the ovary secondary to the accumulation of interstitial fluid within the ovarian stroma. Since its original description in 1969 by Kalstone *et al.* [1] approximately 80 cases have been reported. It is defined by the World Health Organization as "An accumulation of edema fluid within the ovarian stroma separating normal follicular structures. In some cases the stroma contains lutein cells and the patient is virilized" [2]. Originally, the disease was seen to be caused by partial intermittent torsion of the ovary. Subsequently many massive ovarian edemas were reported without torsion. MOE affects a young age group (6-33 years) [3] and can occur in pregnancy [4, 5]. It is very difficult to make a preoperative diagnosis because its imaging findings are non-specific. Thus, it can be mistaken for tumorous growth. Therefore it is important to consider massive ovarian edema as a cause of ovarian enlargement in a young patient because conservative treatment should be undertaken to retain normal ovarian function.

## Case Report

A 23-year-old nulliparous female presented with a six-week history of left lower abdominal pain. Menarche had occurred at ten years with regular menstrual cycles in the following years. On examination she had a large smooth mobile mass in the left pelvis. No virilizing features were seen. Preoperative ultrasound showed an inhomogeneous multicystic tumour of the left ovary with a diameter of 7.9x3.5x3.2 cm. Thus, laparoscopy was performed with the presumed diagnosis of a dermoid cyst. At laparoscopy the left ovary was enlarged with possible signs of malignancy (see Figure 1). There were no signs of torsion, hence, laparotomy was performed. A frozen section of the left ovary showed no evidence of malignancy. A left salpingo-

ophorectomy with biopsies from the ovary was performed. Histology revealed a unilateral massive ovarian edema with no malignancy in the biopsies of the contralateral ovary. Cytologic examination of the peritoneal fluid showed no abnormalities. Postoperative recovery was normal and the follow-up ultrasound examination three months later showed a normal right ovary and uterus.

## Discussion

The most common presentation of massive ovarian edema is abdominal pain [6, 10] with a pelvic mass [4]. Presumably secondary to torsion, acute abdominal pain can occur. Mostly the menstrual cycle is irregular [8]. In about 25% of patients virilization is described probably due to stromal luteinization [3]. Retroperitoneal and omental nodules of fibroma-like proliferations may be observed [11].

Intermittent torsion of the ovarian pedicle with venous and lymphatic obstruction is most likely thought to be the etiology of ovarian edema. Alternatively, primary stromal

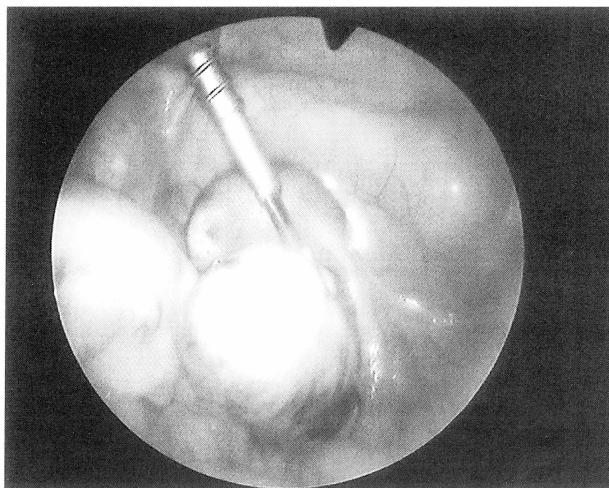


Figure 1. — Intraoperative situs (laparoscopy) of left ovary.

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proliferation can occur with resultant ovarian enlargement and subsequent torsion. No cause is found in 25% [9] with a specific absence of torsion in 20% of cases [3]; 15% of cases are bilateral and 85% unilateral [4].

On preoperative imaging, definitive diagnosis cannot be made. It should always be considered in the differential diagnosis of a solid adnexal tumour in young women [7]. The sonographic findings are non-specific with a complex adnexal mass, which generally appears as solid [4, 7, 12]. No characteristic Doppler features of MOE have been described. The magnetic resonance imaging features help in the differential diagnosis of a cystic or a solid lesion [4].

Management of this condition is difficult because ovarian masses must be considered neoplastic until proven otherwise. Frozen section is required to help avoid radical surgery [6]. Nevertheless oophorectomy has been a common treatment. Conservative treatment with wedge resection and fixation of the ovaries is currently advocated especially because of the young age of commonly affected patients and the bilaterality of this condition [8, 10]. After wedge resection ovaries can rapidly regress to normal size [4, 6].

Thus, MOE is an important diagnosis in the therapy of ovarian tumours, as ovarian preservation is often possible.

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