Massive ovarian oedema: a case report

Abstract
Massive ovarian oedema is a rare entity, non-neoplastic tumor of the ovary. We report a case of massive ovarian oedema (MOO) in a 18-year-old female who presented with abdominal pain along with large solid pelvis mass. It is widely accepted that MOO results from the incomplete torsion of the ovary causing accumulation of fluid within the stroma and enlargement of the ovary. Awareness of this rare lesion due to its lack of pathognomonic features may allow surgeons to a conservative management preventing unnecessary oohorectomy in young patients.

Abbreviations: CEA, carcinoembryonic antigen; MRI, magnetic resonance imaging; MOO, massive ovarian oedema; SST, sclerosing stromal tumour

Introduction
An 18-year-old unmarried girl was referred to our clinic with self-limited and vague abdominal pain for 3 months with no relieving or aggravating factors. Her menstrual cycles were regular and had rheumatoid arthritis controlled by immunosuppressive disease-modifying antirheumatic drug.

On physical examination, she had a non-tender mobile adnexal mass measuring 14cm, extending from the pelvis to the liver. Ultrasound examination revealed an adnexal mass measuring 150x101mm with thick septations but no papillary projections. Color Doppler was negative. There was no ascitic fluid seen. The serum levels of Cancer Antigen 153 (CA – 15.3), Carcinoembryonic Antigen (CEA) and Cancer Antigen 19.9 (CA 19.9) were within normal limits. Cancer Antigen 125 (CA – 125) serum levels were at 71.80. Magnetic resonance imaging (MRI) of the pelvis showed a mass lesion in the left pelvic region, measuring 142x93x125mm with multiple thick septations (Figure 1).

![Figure 1 MRI image of an enlarged left ovary. There are peripheral enlarged follicles.](image1)

Based on the above described findings, the lack of guidelines and misleading clinical symptoms, our tumor board decided to offer the patient a laparotomy with left salpingo-oophorectomy. We performed an infraumbilical incision of the abdomen. The right ovary and uterus were macroscopically normal. Gross examination showed a marked left ovarian enlargement with smooth white external surface. The uncertainty of malignant potential due to the size of the lesion was the reason to perform a salpingo–oophorectomy. En bloc resection of the tumor was performed. One litre of clear fluid emerged after the incision of the surface. Microscopic examination revealed marked oedema of ovarian stroma with its architecture preserved. Normal germinal follicles were present without signs of necrosis but abundant cystic lesions were seen on the upper surface of the ovary (Figure 2) (Figure 3).

![Figure 2 Fibroblastic stroma with lymphatic channels. Stromal oedema on the left.](image2)

![Figure 3 Central region of fibrosis with vascular and lymphatic channels. Cortex with oedematous infiltration on the left.](image3)

Following surgery, the patient showed marked symptomatic improvement and was discharged three days later on oral contraceptive pills.

Discussion
Massive ovarian oedema (MOO) is a tumour-like enlargement of the ovary...
Massive ovarian oedema: a case report

Kalstone CE, Jaffe RB, Abell MR. Massive edema of the ovary simulating fibroma. Obstet Gynecol. 1969;34(4):564–571.

Daboubi MK, Khreisat B. Massive ovarian oedema: literature review and case presentation. East Mediterr Health J. 2008;14(4):972–977.

Callen AL, Illangasekare T, Poder L. Massive ovarian edema, due to adjacent appendicitis. Emerg Radiol. 2017;24(2):215–218.

Praveen R, Pallavi V, Rajashekar K, et al. A clinical update on massive ovarian oedema - a pseudotumour? Ecancermedicalscience. 2013;7:318.

Tamai K, Koyama T, Saga T, et al. MR features of physiologic and benign conditions of the ovary. Eur Radiol. 2006;16(12):2700–2711.

Roth LM, Gaba AR, Cheng L. The pathogenesis of ovarian myxoma: a neoplasm sometimes arising from other ovarian stromal tumors. Int J Gynecol Pathol. 2013;32(4):368–378.

The differential diagnosis of MOO includes ovarian myxoma, fibromatosis and sclerosing stromal tumour (SST). Pure ovarian myxoma is sharply circumscribed, and normal ovarian tissue can be seen at its periphery, whereas massive ovarian edema often incorporates follicular structures at its periphery and spares the peripheral cortex. The SST has a pseudolobular appearance with cellular areas separated by hyalinised connective tissue. Ovarian fibromatosis is a rare entity. Microscopy typically shows proliferation of spindle-shaped cells surrounding the normal follicular structure of the ovary. The superficial cortex is thickened and shows acellular bands of dense collagen.

MOO is a non-neoplastic disorder; therefore clinicians should consider this condition and take under consideration the age of patients presenting with this entity in order to preserve the fertility of these young patients.

None.

The authors declare that they have no conflict of interest.