

CASE REPORT

MASSIVE OVARIAN EDEMA – CASE REPORT OF A RARE PSEUDOTUMOUR

Archana Shetty¹, Vijaya C², Lekha M.B³, Jayalakshmi V.J⁴

HOW TO CITE THIS ARTICLE:

Archana Shetty, Vijaya C, Lekha M.B, Jayalakshmi V.J. "Massive Ovarian Edema – Case Report of a Rare Pseudotumour". Journal of Evolution of Medical and Dental Sciences 2014; Vol. 3, Issue 05, February 03; Page: 1071-1074, DOI: 10.14260/jemds/2014/1947

ABSTRACT: Massive ovarian edema is a very rare disease characterized by a tumor like enlargement of the ovary. The presenting symptoms are non-specific and often the condition is mistaken for an ovarian neoplasm. A 28 year old nulligravida lady, presented with chronic pain abdomen and irregular menses to our gynecological outpatient department. Ultrasound was suspicious of an ovarian neoplasm, but all biochemical parameters, including ovarian tumor markers were within normal limits. Considering the young age of the patient, laparotomy was done, and the mass excised. On histopathological examination the diagnosis of massive ovarian edema was made. We present this case, not only because of its rarity, but also to stress on the fact that massive ovarian edema should be considered in the differential diagnosis of unilateral ovarian masses especially in young patients to avoid aggressive treatment as compromising fertility and hormonal function is always an issue.

KEYWORDS: Massive ovarian edema, stromal edema, USG, benign

INTRODUCTION: Massive ovarian edema is a rare pseudotumor ¹. It is characterized by an increase in the volume of one or both ovaries for accumulation of edema fluid in the stroma that separates the follicular structures. This entity is often mistaken for a neoplasm. It is important to recognize this condition, as the misdiagnosis of malignancy often puts the younger patient at the risk of overtreatment with the resultant loss of hormonal function and fertility.

CASE REPORT: A 28 year old married lady presented to the gynecological OPD with pain abdomen and history of irregular menses since 3 months. No signs of virilisation were seen. On examination, tenderness was felt in the right iliac fossa. Ultrasound done revealed a large hypoechoic mass in the right ovary. Biochemical analysis of tumor markers alpha fetoprotein, β HCG and CA- 125, were all within normal limits. Laparotomy was done, suspecting an ovarian neoplasm on table; the right ovary was excised and sent for histopathological examination. The ovary sent measured 16 x 10 x 4 cms, with a dull grey white surface, having few cystic spaces. On cutting open, it oozed out plenty of watery fluid, was rubbery to cut open. Cut section showed central grey white areas with many dilated cystic spaces, mainly in the cortex. [Fig 1: Gross specimen showing an enlarged ovary, with a grey white surface and with few cystic areas. Fig 2: Cut section of the ovary showing central grey white areas and dilated cystic spaces, mainly in the cortex].

Microscopy showed abundant stromal edema fluid, with occasional cystic follicles in the sections taken from the cortex of the ovary, which was compressed. No features of neoplasm were seen. [Fig 3: H and E stain showing pale areas of edematous ovarian stroma and compressed cortex at the periphery.] After repeated sectioning, and clinical co-relation a diagnosis of massive ovarian edema was made. The post-operative recovery was uneventful and the patient was discharged after a week.

CASE REPORT

DISCUSSION: Massive edema of the ovary is a rare non-tumoral entity. Kalstone et al first described it as a “massive, solid enlargement of the ovary associated with interstitial edema”². The most affected are young women in their reproductive stage, but singular cases of a post – menopausal female and a 6 month old infant have been reported. The most common presenting symptoms are pain, distension or mass in the abdomen, infertility and in some cases, vaginal bleeding.³ Masculinization is a common feature of many adult cases, which is due to stromal leutinization, as suggested by Chervenak.⁴ Our patient presented with nonspecific symptoms, without any features of virilisation.

The most favored hypothesis for the etiology of edema is disturbed venous and lymphatic circulation following complete or partial torsion of the ovary. It is believed that bleeding and infarcts do not develop as there are no arterial circulation problems ⁵.It can occur as a primary or secondary edema. Primary edema occurs in normal ovary with torsion or twisting of the ovarian pedicle. Secondary edema occurs in a diseased ovary, such as when there is an ovarian mass, adenomas, fibrothecomas and polycystic ovaries ³.

It is difficult to diagnose massive ovarian edema preoperatively with imaging techniques, despite technological advances. However, Umasaki et al have stated that the ultrasound appearance of multiple peripherally arranged follicles within an enlarged ovary, with or without endometrial hypertrophy, in young females usually suggests Massive ovarian edema ^{3, 6}. Although ultrasound abdomen was done in our case, unawareness of these simple findings made the diagnosis of Massive ovarian edema to be overlooked.

As the entity often mimics an ovarian neoplasm, patients are often subjected to aggressive treatments. A study by Praveen et al reported that 145 (81.9%) of the cases of massive ovarian edema out of 177 had undergone salpingo -oophorectomy, on the mistaken pretext of an association with malignancy.³ However, many authors retrospectively suggest a more conservative approach with frozen section of the involved ovary after detorsion and treatment according to the result. ². Although frozen section is valuable at the time of surgery, the fact that this entity is rare can make it difficult for the pathologist with limited experience to make the diagnosis.⁵

Morphologically the lesion is recognized by its grey white cut surface, exuding edematous fluid with a bulge on cutting open, with few cystic spaces at the periphery ⁷. All the above features were seen in our specimen. Histopathological diagnosis of Massive ovarian edema can be challenging. Observation of preserved follicular structures within an edematous stroma can help differentiate the lesion from fibroma and luteinized thecoma. The presence of signet ring cells or other epithelial cells in the ovarian stroma should be carefully evaluated to exclude Krukenberg’s tumor. The sclerosing stromal tumor has a characteristic pseudo-lobular pattern with focal hyalinization and compression of the surrounding ovarian tissue. Differently from ovarian edema and fibromatosis, this cancer does not spare the follicles. One must also take into account that metastatic tumor cells can also cause edema by spreading to the lymphatics in the ovary ^{3, 8}.The diagnosis in our case was also reached after ruling out all the above lesions and finding dilated follicles at the periphery of the compressed ovarian cortex.

CONCLUSION: For both the pathologist and the clinician, it is important to know about the various aspects of the benign lesion massive ovarian edema, as the presentation often mimics a neoplastic pathology. This will avoid overtreatment in young women, in whom fertility and maintaining hormone function is always an issue.

CASE REPORT

REFERENCES:

1. Benhaddou A, Nore O, Hopfner C. Massive ovarian edema: a case report. J Gynecol Obstet Biol Reprod (Paris). 2009 Oct; 38 (6):524-7.
2. Eren F, Aydin Ö, Gök N, Eren B, Çomunoglu N, Çomunoglu C. Ovarian enlargement associated with massive oedema. J Pak Med Assoc. Vol. 58, No. 1, January 2008 43-46.
3. Praveen RS, Pallavi VR, Rajashekar K, Usha A, Umadevi K and Bafna UD. A clinical update on massive ovarian oedema – a pseudotumour? ecancer 2013, 7:318.
4. Singh P A, Srivastava R N, Misra V, Dey S, Mishra S. Massive ovarian oedema. Journal of Clinical and Diagnostic Research [serial online] 2010 June [cited: 2010 June 17]; 4:2540-2542.
5. Akansu B et al. Massive Edema of the Ovary: Case Report. Turkish Journal of Pathology Cilt/Vol. 26, No. 2, 2010; Sayfa/Page 170-172.
6. Umesaki N, Tanaka T, Miyama M and Kawamura N. Sonographic characteristics of massive ovarian edema. Ultrasound Obstet Gynecol 2000; 16(5) 479–81.
7. Daboubi M.K and Khreisat B. Massive ovarian oedema: literature review and case presentation. Eastern Mediterranean Health Journal, Vol. 14, No. 4, 2008.
8. De Cecio et al. et al. Massive edema of ovary with cytogenetic alteration of chromosome 12q13-15 in adolescent patient: a case report. Journal of Ovarian Research 2013 6:13.



Fig. 1: Gross specimen showing an enlarged ovary, with a grey white surface and with few cystic areas



Fig. 2: Cut section of the ovary showing central grey white areas and dilated cystic spaces, mainly in the cortex

CASE REPORT

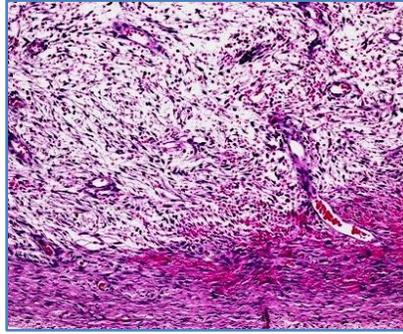


Fig. 3: H and E stain showing pale areas of edematous ovarian stroma and compressed cortex at the periphery.

AUTHORS:

1. Archana Shetty
2. Vijaya C.
3. Lekha M.B.
4. Jayalakshmi V.J.

PARTICULARS OF CONTRIBUTORS:

1. Assistant Professor, Department of Pathology, Sapthagiri Institute of Medical Sciences and Research Center, Bangalore.
2. Professor and Head, Department of Pathology, Sapthagiri Institute of Medical Sciences and Research Center, Bangalore.
3. Assistant Professor, Department of Pathology, Sapthagiri Institute of Medical Sciences and Research Center, Bangalore.

4. Lecturer, Department of Pathology, Sapthagiri Institute of Medical Sciences and Research Center, Bangalore.

NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Archana Shetty,
SIMS & RC, Street No. 15,
Hesaraghatta Main Road,
Chikkasandra - 560090.
E-mail: archanashetty2924@gmail.com

Date of Submission: 06/01/2014.

Date of Peer Review: 07/01/2014.

Date of Acceptance: 18/01/2014.

Date of Publishing: 28/01/2014.