Brief Communication

Massive Ovarian Edema (MOE): A Case Report with Review of the Literature

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Abstract

We report a case of 31- year- old married woman, who presented with an abdominal pain and pelvic mass to the gynecological emergency room at Islamic Hospital, Aqaba on January 2006. Her systematic physical examination was normal except for an abdominal tenderness, all laboratory investigations were within nomal. lapratomy and right oopherectomy were done. The histopathology revealed the diagnosis of Massive Ovarian Edema (MOE).

Introduction

Massive Ovarian Edema (MOE) is a rare tumor-like enlargement of ovary, most commonly the right ovary, of uncertain pathogenesis, first described in 1969 by Kalstone and his collegue. In 1980, Chervenak and his colleague, while reviewing the world literature, could count 22 cases. In 2006, 77 cases have been reported in the world literature; three of which were observed during pregnancy.

Majority of them were mistaken at lapratomy for primary ovarian neoplasm and excised. The rarity of the lesion has prompted us to report this case. Up to our knowledge, this is the first case reported in Middle East area.

Keywords: Massive Ovarian Edema, case report.

Case Report

A 33 old married woman was presented to the gynecology emergency room in Islamic hospital at Aqaba city in January, 2006, with an abdominal pain of two days and right sided pelvic mass. She was in her second day of her cycle.

Her menstrual history revealed recurrent attacks of irregular bleeding for the last five months.
On examination, she had stable vital signs, and no sign of virilization was noted. We marked lower abdominal tenderness, mainly in the right iliac fossa.

Ultrasound examination revealed right echogenic pelvic mass measuring 6×6 cm, probably arising from the right ovary, with the minimal pelvic collection.

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Laboratory Findings: HB/PCV=11.5 g/d, WBC = 7.2×109/L. Pregnancy test was negative.

At lapratomy: The right ovary was enlarged about 6×6 cm in size. Pink to blue in color, firm in consistency, and well encapsulated. The right meso ovarian vessels were enlarged but there was no meso ovarian torsion. The left ovary appeared normal looking.

The ovarian enlargement seemed suspicious and thought to be one of the primary solid ovarian tumors and that is why right oopherectomy was performed.

Pathology

The specimen is formed from 6×6 cm mass, weighing 35 g, pink in color and well encapsulated. Its microscopic exam showed normal superficial cortex, and marked underlying diffuse edema, separating normal follicular structures. There was no stromal hyperplasia or luteinized cells.

Post operative period: The patient was discharged from the hospital in good general condition, with uneventful post operative period.

Discussion

Massive Ovarian Edema (MOE) is a rare tumor-like ovarian enlargement. World Health Organization defines it as an accumulation of edema fluid within the ovarian stroma, separating normal follicular structures. Predominantly, it happens on the unilateral lesion, mostly right ovary in 75% of cases; although bilateral enlargement was reported. It has no malignant potentiality. Often affects young women with an average age of 20 years, the range being 6 to 33 year.

The patient usually presents with an abdominal or pelvic pain, menstrual irregularities and pelvic mass of variable size, some cases had signs of virilization at presentation.

Precocious puberty was reported also. Morphological recognition of the lesion was fairly simple. The cut surface of the specimen appeared wet and soft, and thin edema fluid oozed out.

Microscopically, the stromal cells appeared widely separated by copious edema. Atretic follicles could be recognized.

Characteristically; a thin rim of compressed cortical stroma is recognized at the Necrosis and hemorrhage appeared unusual. Focal stromal lutenization has been noted.

The exact mechanism of Massive Ovarian Edema (MOE) is not clear. The most obvious explanation appears to be obstruction to the venous and/or lymphatic blockage, due to partial torsion of the mesovarian; resulting in a collection of interstitial edema fluid.

A hormonal etiology for Massive Ovarian (MOE) has not gain much support since the lesions in the majority of cases were unilateral.

Endocrine studies of a virilized adolescent patient with massive ovarian edema were reported. Plasma concentration of progesterone and 17-Hydroxy Progesterone (17-OHP) in the peripheral left ovarian vein and their ovarian – peripheral vein gradients were above the range observed during normal follicular phase.

Also, testosterone (T) levels in peripheral vein levels were increased, and unexpectedly, Androstendione levels in ovarian vein were normal suggesting an alteration in ovarian biosynthesis pathway for the production of Testosterone (T). The levels of both (17-OHP) and (T) returned to their normal levels after surgery.

The data indicate that stromal lutenization of Massive Ovarian Edema (MOE) may lead to a change in ovarian steridogenesis; which would be responsible for the clinical manifestation of this disorder.

Since majority of cases are mistaken as primary solid ovarian neoplasm and excised, recent reports using MRI of Massive Ovarian Edema (MOE) have demonstrated that ovarian follicles situated around the peripheral of the cortex of the enlarged ovaries are the most important diagnostic indicator of (MOE). Some authors suggest that ultrasound detection of multiple peripheral ovarian follicles in a solid ovarian tumor-like mass may make the preoperative diagnosis of Massive Ovarian Edema (MOE) possible by ultrasound only.

Management of this entity depends on the condition of the patient and may vary from bilateral salpingo-oopherectomy to simple ovarian biobsy. In the past, Kalstone and his colleague recommended a frozen section of a generous biopsy and fixation of ovaries in a position where they cannot twist again. Now, a day's conservative laparoscopic approach and histological confirmation is the favorite treatment modality.

In conclusion, (MOE) must be kept in mind in the differential diagnosis of ovarian enlargement in a female during her reproductive years. Once the diagnosis of MOE is done, every effort should be made to preserve the ovarian function.

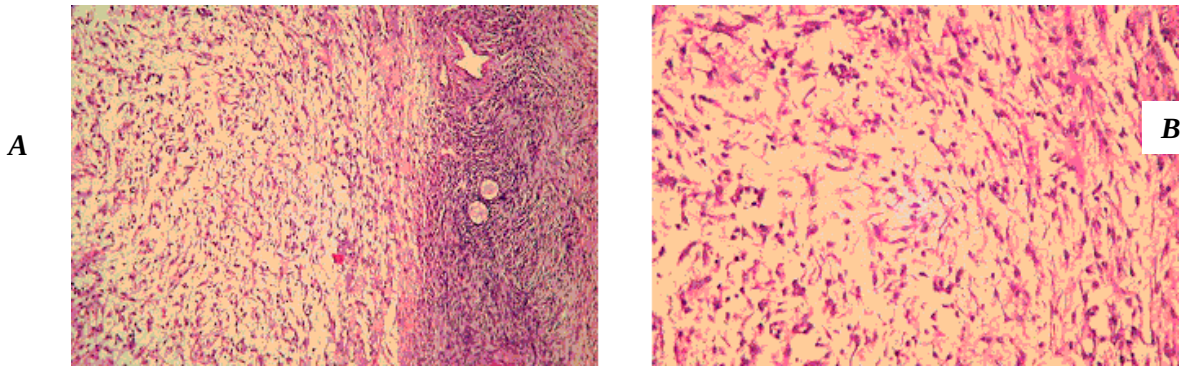

Figure (1): (A) Left side of the ovary shows edematous change of the stroma with low cellularity and right side demonstrates normal ovarian tissue (dense cellular area, blue color with 2 primitive follicles in the right center) (hematoxylin and eosin, × 100).(B) Highpower field shows marked edematous change with low cellularity (hematoxylin and eosin, × 200).

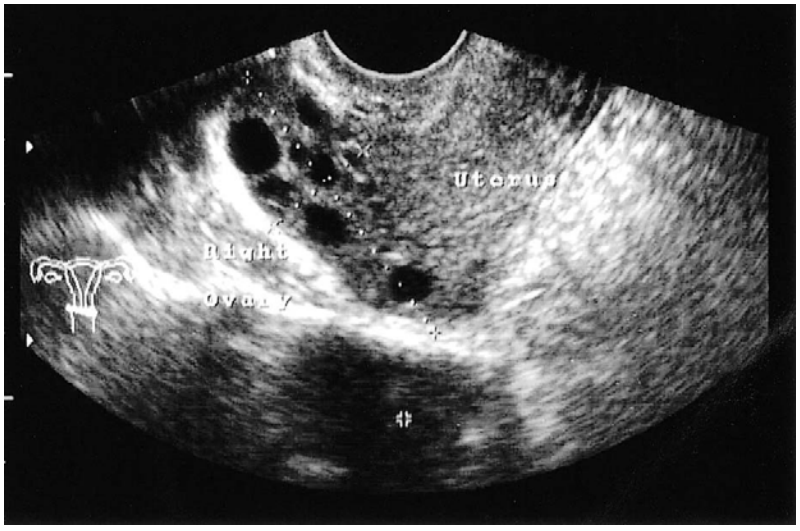

Figure (2): Transvaginal ultrasound shows an enlarged ovary containing numerous different-size follicles and a normal-appearing uterus.

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تضخم المبيض الوذمي (تقرير حالة مرضية ومراجعة الأدبيات)

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الملخص

بما أن تضخم المبيض الوذمي يعتبر من الحالات النادرة الحدوث، وبما أنه– حسب علمنا– لم يتم التبليغ عن حالات مشابهة في الشرق الأوسط قبل هذه الحالة؛ فإننا سنقدم حالة مرضية لامرأة في الثلاثين من العمر، كانت قد حضرت إلى طوارئ قسم النسائية في المستشفى الإسلامي في مدينة العقبة وهي تعاني من ألم في البطن، وقد أظهرت الصورة الشعاعية وجود كتلة على المبيض الأيمن بحجم 6x6 سنتيمتر وتم إجراء عملية فتح استقصائي للبطن واستئصال المبيض الأيمن.

وقد أظهرت نتيجة فحص الأنسجة أن التشخيص النهائي هو التضخم الوذمي للمبيض الأيمن. الذي يعتبر من الحالات النادرة ويعتبر "كالستون" أول من وصف هذه الحالة في عام 1969.

ولم يتم إلى الآن التوصل إلى آلية التضخم، أو الأسباب المؤدية له، إلا أنه يعتقد بان الالتواء الجزئي لرابطة المبيض يؤدي إلى انسداد القنوات الوريدية والليمفاوية وتجمع السوائل فيما بين الخلايا. وهو عادةً يصيب النساء في الأعمار ما بين سن السادسة حتى الثالثة والثلاثين. كما أنه يصيب المبيض الأيمن في معظم الحالات (75%)، ولكن من النادر لكلا المبيضين إن يصابا معا.

و نحن نقوم بتقديم هذه الحالة لأنها ليست من الحالات العادية، ذلك إن معظمها يتم تشخيصه بعد استئصالها أثناء العمليات الجراحية وذلك بسبب وجود تشابه كبير بين هذه الحالة وأورام المبيض الأولية (بشكلها).

وقد أمكن اليوم بعد تقدم جراحة المنظار أخذ عينات تشخيصية من المبيض المصاب قبل أي إجراء جراحي وقد قمنا بتقديم هذه الحالة مع مراجعة للأدبيات.

الكلمات الدالة: تضخم المبيض الوذمي، ألم في البطن، تقرير حالة.