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Case Report

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A Case Report of Massive Ovarian Edema Expressing Ovarian Torsion

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ABSTRACT

Introduction: Massive ovarian edema is a rare clinical entity arising from the ovaries, and it poses a significant clinical challenge as it can be easily mistaken for neoplasm. The entity is not well known by clinicians and radiologists. This is a case report of a young patient of 16 diagnosed as massive ovarian edema.

Case Presentation: Patient aged of 16 admitted for acute pelvic pain who benefited from ultrasound finding a large cystic and edematous right ovary with suspicion of sub torsion. A MRI was done and concluded to a massive edematous ovary which was firstly treated by symptomatic management with good evolution. 2 weeks later the patient came with a huge pain. Emergency laparotomy was done with salpingo ovariectomy.

Conclusion: Recognition of massive ovarian edema is of great importance to prevent unnecessary salpingo ovariectomy in young patients. It can hide adnexa torsion which should be managed on time to avoid ovarian necrosis.

Keywords: Ovary, Massive Edema, Young

Introduction

Massive ovarian oedema is a rare clinical entity arising from the ovaries, and it poses a significant clinical challenge as it can be easily mistaken for neoplasm [1].

It is a rare clinical entity, which is benign and has a higher incidence in women during their second and third life decade [2].

The etiology of this entity is not clear. It is reported to be caused by the accumulation of interstitial fluid resulting in ovarian enlargement. It is widely thought to be caused by the obstruction of lymphatics and veins, which results in the leakage of fluid out of the vessels [3].

The diagnosis is also difficult and poses a dilemma while it can occur likely ovarian torsion which can lead to blank surgery.

We report a rare case of a patient aged of 16 who presented for acute pelvic pain whose investigation was in favor of massive ovarian edema.

Case Presentation

Patient aged 16 years who consults for pain in the right iliac fossa without other associated signs evolving from 3 days. She has no notable history of disease. Nulliparous with a regular menstrual cycle without notion of dysmenorrhea

The general examination found an algic and apyretic patient with stable vital constants.

On physical examination: we noted the presence of a flexible flat abdomen with pelvic sensitivity without umbilical cry. The speculum examination and vaginal touch were not done because the patient claims to be a virgin. The digital rectal exam does not reveal a douglas pain.

In front of this clinical issue, we asked for a biological assessment made of a B-HCG assay, a complete blood count, a CRP and a urine test whose results where without any particularity.

The examination was completed by a pelvic ultrasound (Figure 1) by suprapubic route finding a regular anechoic image of 7/6 cm of an ovary with peripheric follicles whose walls are thick and not taking the doppler in favor of a large cystic and edematous ovary with suspicion of sub torsion.

Given this suspicion of sub-torsion we requested a pelvic abdominal CT scan which found a right ovary increased in median position size measuring 11 x 7 x 11 cm with a volume of 423 cc enhanced heterogeneously after contrast containing a

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liquefied area with oedema that may be in the context of massive ovarian edema to be compared with data from a pelvic MRI.

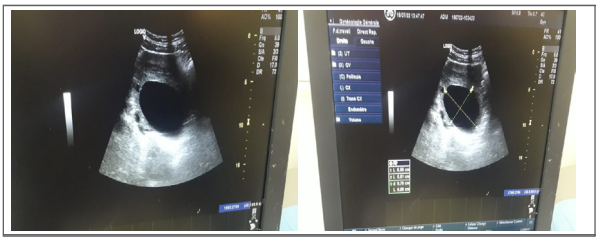

Figure 1: Ultrasound Presentation of Massive Ovarian Edema

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Pelvic MRI (Figure 2 and 3) found a Left ovary very increased in size measuring 110 x 75 x 74 mm in diameter whose stroma is described in hyperT2 and discrete hypo T1 with individualization of some areas in hypersignal T1 without restriction in diffusion. It is also the seat of multiple small follicles with peripheral disposition as well as a voluminous posterior cystic lesion of oval shape, of regular contours, with finely enhanced wall after injection of gadolinium and with content described in hypersignal T2 liquid franc unmodified after contrast, without tissue within it measuring 85 x 55 mm in diameter. Lack of clear visualization of turns of whorls.

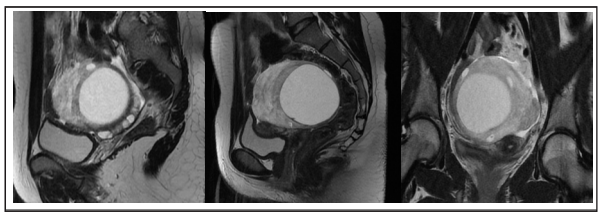

Figure 2: MRI Presentation of Massive Ovarian Edema

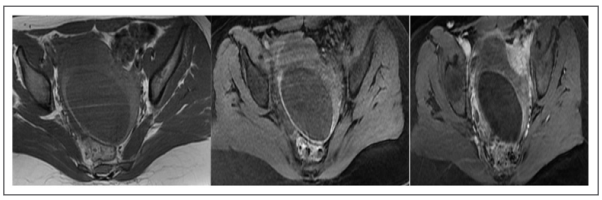

Figure 3: MRI Presentation of Massive Ovarian Edema

Based on the clinical and radiological arguments we completed the biological assessment with tumor markers and the patient was put under pain killer, anti-inflammatory and anti-edematous. The medical treatment was followed by a total resolution of pain after 2 days of the hospitalization and the patient was discharged.

The evolution 2 weeks later was marked by a huge pain leading to the realization of adnexectomy by laparotomy during which we found a huge necrotic twisted right ovary.

Discussion

Massive ovarian oedema has been described for the first time in 1969 as a massive, solid enlargement of the ovary associated with interstitial oedema without neoplasia changes and it is thought to be the result of incomplete torsion of the ovary interfering venous and lymphatic drainage but without causing necrosis [4]. Massive ovarian oedema can occur as primary or secondary condition. Primary edema occurs when the ovary is not diseased and when there is torsion or twisting of the ovarian pedicle to the extent that it interferes with the venous drainage leading to edema and does not affect the arterial blood flow. Secondary ovarian edema occurs in a diseased ovary such as ovarian mass and cyst, malignancy, fibromatosis, polycystic ovaries or following ovulation induction drugs [1,3,4].

Massive ovarian edema is more common in young women than in elderly women, with a mean age of 20-22 years at diagnosis; however, postmenopausal cases have also been reported [1].

The diagnosis of massive ovarian oedema is a dilemma due to the rarity of cases and the fact that it's an unknown entity for most clinicians leading to the over treatment extended from the simple blank surgery to the adnexectomy. The patients usually present with acute abdominal pain mimicking sometimes a sub torsion or a torsion as it was the case of our patient. Rarely, irregular menstruation can be a presenting feature. A palpable adnexal mass or virilization can also be seen [5]. Our patient had a palpable mass without any signs of virilization.

The preoperative diagnosis of massive ovarian oedema is often difficult and the ultrasonographic findings are variable and not diagnostically accurate. The ultrasound finding is not specific and can mimic neoplasia in the majority of the cases and have been reported as a heterogeneous complex ovarian mass [1]. In a report case made by Daboubi MK and al, ultrasound examination showed a large ovarian hypoechoic homogenous solid mass with poor vascularity. In another study, Varma A and al showed ovarian mass with hypoechogenic foci at the periphery [4,6]. In our report, we found a regular anechoic image of an ovary whose walls are thick and not vascularized on doppler. However, the possibility of the diagnosis of massive ovarian edema should be considered when a solid ovarian mass with multiple peripheral ovarian follicles is noted at the ultrasonograpy [7]. Its mandatory to complete the imagery by a CT TDM or an MRI. Although, there have been very few reports of CT findings in massive ovarian edema. CT is not routinely advocated for imaging ovarian pathologies. However, reported CT findings include an enlarged hypodense ovary, ipsilateral deviation of the uterus and presence of a twisted edematous ipsilateral fallopian tube [8]. CT finding in our case was a right ovary increased in size enhanced heterogeneously after contrast containing a liquefied area with oedema. That description was not enough to confirm the hypothesis of massive ovarian oedema.

MRI is the imaging investigation of choice for evaluating ovarian lesions because of its exquisite soft tissue contrast resolution. The enlarged ovary shows a homogeneous low signal intensity on T1 and a heterogeneous high signal intensity with peripherally located follicles on T2 weighted image which are better appreciated on post-contrast images [8]. This is explained by the peripheral displacement of follicles by edema fluid accumulated in the stroma [7]. There may be homogeneous or heterogeneous enhancement of the ovarian stroma [8]. For the management we initially opted for surgical abstention, and we used medications to relief the pain and antiedematous to assess

its effect on the ovarian oedema. Our attitude was different from most published cases [2,6,5] where the patients have been treated with salpingo-oophorectomy because of preoperative and intraoperative concern for a malignant ovarian mass. Although we initially opted for abstention our patient presented to weeks after the first episode a great pain leading to the surgery for the suspicion of adnexa torsion.

Conclusion

Massive ovarian oedema is a rare condition which must be also mentioned in cases of acute abdominal pain. The entity is not well known by clinicians and radiologists. Recognition of massive ovarian edema is of great importance and should lead any clinician or radiologist to find the signs of torsion.

Out of our report we asked ourselves weither the first attitude was a good one knowing that the patient was finally operated for adnexa torsion, and we found a necrosis of the adnexa.

It's also mandatory to ask if the edema is not always secondary to the torsion and if any ovarian edema should not be considered as a sign of torsion so that to avoid such kind of event.

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