



MASSIVE OVARIAN OEDEMA SIMULATING TUMOUR, IN YOUNG GIRL: A CASE REPORT

Pathology

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ABSTRACT

Massive ovarian oedema is a rare non neoplastic condition presenting with solid ovarian enlargement affecting young women. The lack of pathognomic clinical features, specific radiological findings and hormonal tests makes this entity challenging for a clinician as it can easily be mistaken for neoplasm. The erroneous diagnosis, may results in overtreatment in young patients with resultant loss of hormonal function and fertility. A 14 year young girl, who attended menarche, presented with acute abdominal pain of short duration. Clinical and radiological findings were suspicious of ovarian neoplasm. Due to acute presentation, she underwent emergency salphingo-oophorectomy. To our surprise the gross and histomorphology favoured diagnosis altogether of a benign lesion of massive ovarian oedema. The case reinforces awareness about this rare condition and intra operative frozen section study if available; together can help to plan precise surgery and can prevent unnecessary overtreatment particularly in young girls.

KEYWORDS

massive ovarian oedema, young girl, ovarian mass.

INTRODUCTION:

Massive Ovarian oedema is a rare benign entity affecting young women in their second and third decade of reproductive life.^[1] This lesion was first described by Kallstone in 1969.^[2] WHO defined it as an accumulation of oedema fluid within ovarian stroma separating normal ovarian follicular structure. The most common presenting symptoms are pain, distension and mass in the abdomen, infertility and in some cases irregular vaginal bleeding. There are two types of massive ovarian oedema: primary without concomitant pathology and secondary, superimposed on already altered ovaries. The most favoured hypothesis is interference with venous and lymphatic flow due to torsion of mesovarium, while arterial flow remains unaffected.^[3] This results in stromal cell leutinisation in the oedematous ovary which occurs in response to torsion and subsequent ischemia. There is no clear cut pathognomic clinical or diagnostic radiological feature which could point towards the pre-operative diagnosis of ovarian oedema and differentiating it from other solid ovarian masses clinically or by imaging techniques. Hence is often misdiagnosed as malignancy.^[2]

CASE REPORT:

A 14 year young school girl presented with an acute abdominal pain of short duration. Her ultrasonography showed 10x6x3cm of solid cystic mass of heterogenous echogenicity involving right ovary favouring juvenile Granulosa cell tumour or Dysgerminoma. This was followed by CT scan which showed a mass involving right ovary with hypodense and isodense components suggestive of Dermoid Cyst. The patient underwent a right salphingo-oophorectomy and received a specimen of right ovary measuring 10x6x3cm with attached fallopian tube of 6x1x1cm. The ovarian mass showed intact, glistening and wrinkled capsule. The cut section showed a homogeneous, soft and glistening gelatinous surface. The fallopian tube was unremarkable on gross examination. (Figure 1) Histopathology revealed a thinned out ovarian capsule and compressed subcapsular with normal ovarian follicles. (Figure 2) The ovary is almost completely replaced by abundant thin watery oedematous fluid, (Figure 3) thin walled dilated blood vessels. (Figure 4) There was no evidence of any tumour even on multiple sections studied. Thus the diagnosis of Massive Ovarian oedema was offered.

DISCUSSION:

Massive ovarian oedema is a tumour like condition affecting woman in

the reproductive age group, presenting as a unilateral adnexal mass but bilateral cases are also reported in 8% cases. WHO defined it as "A tumour like enlargement of one or both ovaries due to accumulation of oedema fluid within the ovarian stroma, usually with preservation of pre-existing follicles."^[3] Massive ovarian oedema can be primary or secondary. Primary oedema occurs due to torsion of ovarian pedicle to the extent that it interferes with venous and lymphatic drainage leading to oedema.^[4] Secondary ovarian oedema is associated with mature cystic teratoma, Meigs syndrome, ovarian fibrothecoma, polycystic ovary and malignancy.^[5] As a result of enlargement of ovary, patient commonly presents with an adnexal mass, acute abdominal pain depending on the severity of torsion. It can also present with menstrual irregularities, infertility and abdominal distension.^[6] Precocious puberty is seen in prepubertal cases while masculinization is a common feature in adults. Secondary ovarian oedema is also associated with features like ascites, anorexia, hydrothorax, abnormal vaginal discharge, fever and haemoptysis.^[5] According to WHO the ovaries achieve an average size of 8 cm having a smooth outer surface with the cut surface showing exudation of watery fluid with areas of subcapsular cysts, reminiscent of ovarian follicles. On microscopic examination highly oedematous stroma is seen separating stromal cells with a peripheral condensed rim of ovarian stroma and intact follicles.^[3] At times the atretic follicles may be recognised. Necrosis and haemorrhage are rare.^[7] Dilated veins and lymphatics are often present. Fibromatosis can be seen focally in these cases as reported by Young and Scully, being the close differential diagnosis due to overlap in clinical presentation, age and histological features.^[8] Among the other differentials are fibroma which is common in middle aged women and is composed of intersecting fascicles of bland spindle cells with collagen deposition. Luteinized thecoma are hypercellular with zones of oedema but involving the cortex and sparing the medulla. Fibromatosis has a more cellular stroma with collagen deposition while Myxoma has abundant myxoid matrix with spindle and stellate shaped nuclei. Signet ring cells or other epithelial cells in stroma can be present in Krukenberg's tumour which commonly presents as a bilateral mass.^[9] Due to misleading clinical and radiological features these patients are generally over treated with salphingo-oophorectomy.^[10] Other more feasible treatment modalities are fertility preserving options like intraoperative frozen section examination, wedge resection removing 30% or more of ovary to exclude the secondary causes of this condition and de torsion of ovary.^[6,7]

Massive ovarian oedema is a rare clinical condition where most of the cases are generally over treated. A strong clinical suspicion should be raised in young women of reproductive age group presenting with solid enlargement of ovary and definitive fertility preserving treatment should be decided only after confirmed pathological diagnosis through frozen section or wedge resection.

Images:

Figure1: Enlarged ovary with thinned and wrinkled capsule; soft, whitish, gelatinous cut surface (Gross)



Figure 2: Thinned out capsule and preserved follicle in the cortex of ovary. (H&E, 10X)

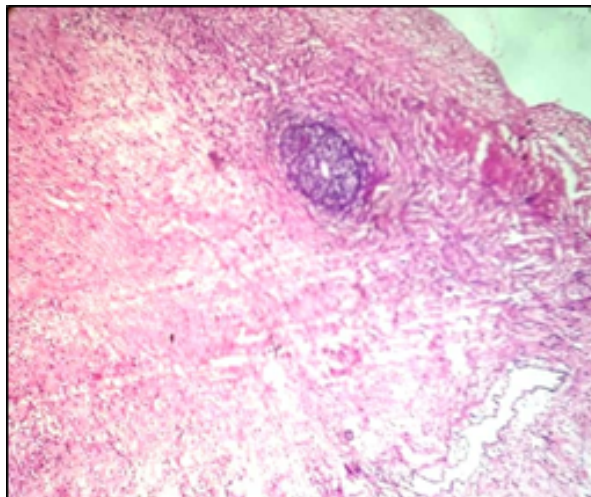
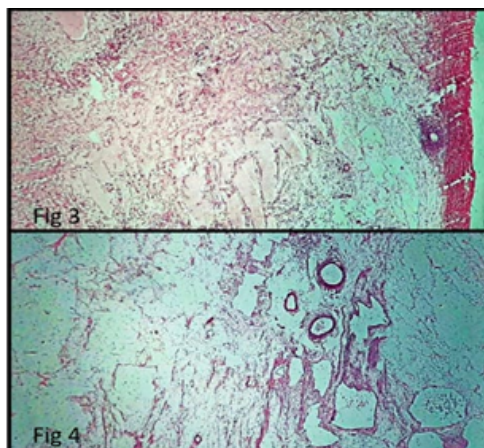


Figure 3: Ovary is replaced by extensive areas of thin oedematous material. (H&E, 20X)

Figure 4: Focal areas showing thin walled dilated vascular channels. (H&E, 20X)



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