



Ovarian torsion and ovarian oedema

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Ultrasound images are included in the case description with patient and patient's caregiver consent.

1. Introduction

Massive ovarian oedema is a tumor-mimicking condition occurring in adolescent and young women. The oedema can be present in one or both ovaries as a result of incomplete or complete torsion of the ovarian pedicle that affects arterial, venal and lymphatic drainage of the ovary. Only lymphatic drainage obstruction and not ovarian cell necrosis was the result of incomplete ovarian torsion and was detected as an enlargement of the ovary and looked like a solid, adnexal mass. The clinical presentation of ovarian oedema can be either acute or progressive depending on the rapidity of the torsion. If the torsion is acute the symptomatology is acute the abdominal pain can be suggestive an acute abdomen (1-3).

2. Case description

A 14-year-old patient was referred to Department of Gynaecology with persistent abdominal pain in the right lower abdominal quadrant and a large solid right adnexal mass revealed in abdominal ultrasound.

The patient suffered from colic abdominal pain, with occurred periodically with varying intensity in the past 2 months. A few days prior to the admission, she had an acute onset of abdominal pain, which resolved spontaneously. During the previous 2 months, she had experienced six similar episodes and she received analgesic drugs with good results.

Her menarche was at the age of 13 and her menstrual cycle had a periodicity of 28 days.

The clinical examination revealed pain in the right lower abdominal quadrant

without any palpable masses. Peritoneal signs and costoangle tenderness were absent.

The transabdominal ultrasound was not diagnostic due to multiple bowel artifacts. A transvaginal ultrasound examination was not possible because as the patient was not sexually active and did not consent. The consent was obtained for transrectal ultrasound examination. The scan revealed presence of the solid oval structure located posterior to the uterus which measured 78 × 45 × 50 mm. A single, round, hypoechoic area, 32 mm in diameter was present within the mass and resembled ovarian follicle (Fig. 1 and 2).. A small fluid collection within rectouterine pouch was also present. The left ovary and the uterus were without abnormalities. Color Doppler flow patterns in both adnexa were normal.

Based on above clinical and imaging findings, combined with elevated CA 125 marker of 57,9 IU/ml, patient was qualified for laparotomy.

Initial diagnosis

Ovarian tumor or ovarian torsion

Initial treatment

Exploratory laparotomy was performed, the uterus was normal, the left ovary had a normal anatomy without any evidence of pathology or dysfunction.

Macroscopically, the right ovary was very oedematous. It appeared to be a swollen solid mass, measuring 6 × 8 × 6 cm with a 3 cm cyst. The fourfold torsion of the ovarian (adnexal) pedicle was noted. A small amount of free fluid was observed. There were no signs of ischemia or necrosis of the ovary. No other pathology was observed.

The torsion of the ovary was untwisted and tubo-ovarian tissue was conserved. An ovarian tissue sample was taken. Pelvic fluid was sampled. The excision and the specimen were sent for histopathologic and cytologic examination. The patient and her parents were counseled about a rare possibility of hidden malignancy within ovary and a rare possibility of repeat surgery. The patient recovered very fast

postoperatively, without any pain and symptoms. The pathological examination revealed an expanded, edematous ovarian cortex with many cystic ovarian follicles with lutenization (Fig. 3). The result was negative for malignancy and was compatible with normal ovarian tissue.

The final diagnosis was ovarian torsion with massive ovarian oedema.

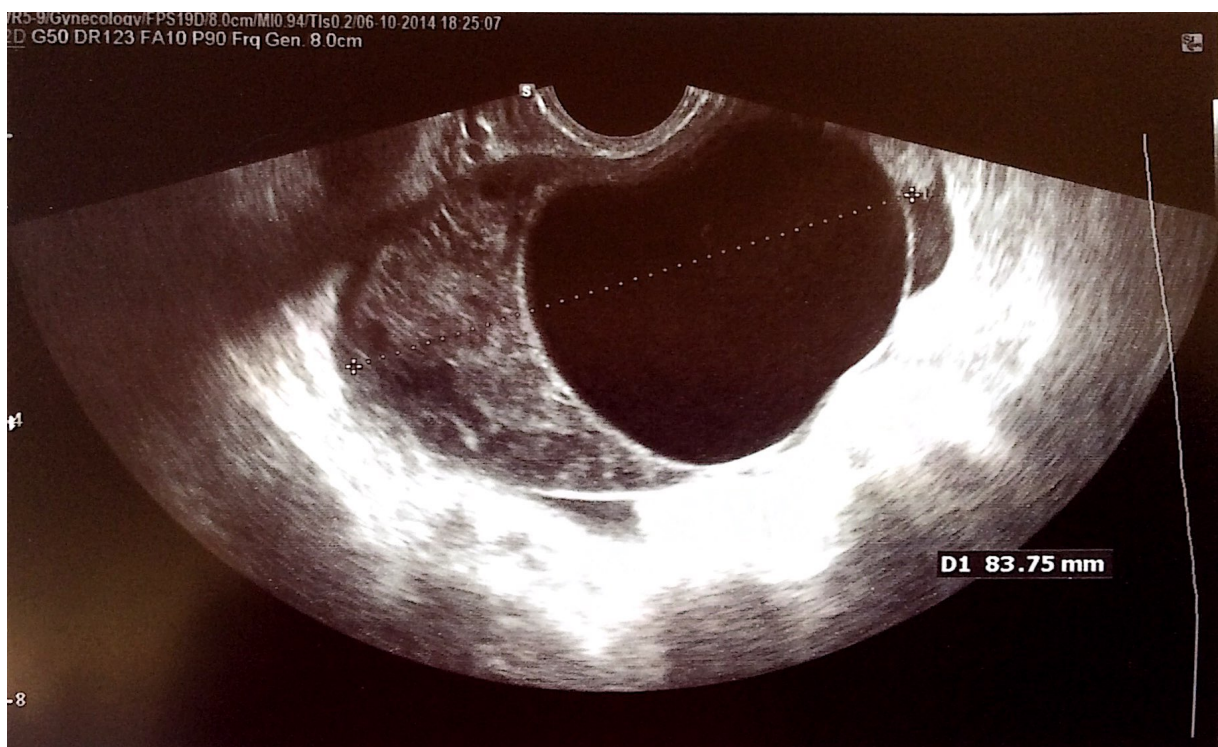
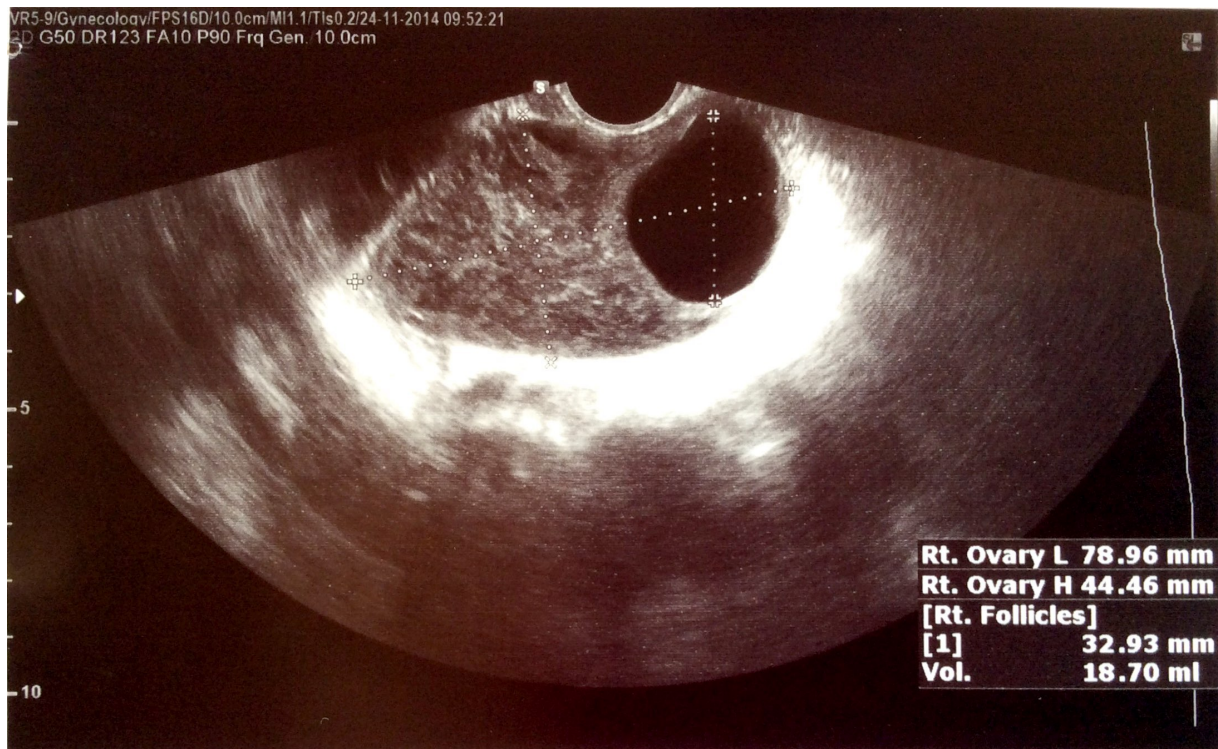
The patient is symptom free after 1 year of follow-up.

3. Summary and Conclusion

The majority of cases, described in the literature, presented recurrent intermittent abdominal pain or a pelvic mass, as did our patient. A few of the described patients had nausea with or without vomiting. Menstrual irregularities were common and some patients had hormone secretion-related signs (hirsutism, precocious puberty) resulting from stromal cell compression due to stromal edema. Ultrasound findings were considered non-specific (1-4).

Macroscopically, the same description of a smooth, enlarged, grayish ovary, with glistening surface and rubbery consistency was given in most reports. Most of the cases did not show signs of hemorrhage or necrosis, although in one third of them the adnexa were twisted (1-5).

Massive ovarian edema mimics a malignant tumor and usually affects young patients in need of fertility preservation and retention of hormonal activity. Frozen section is an option for preventing unnecessary catastrophic reproductive outcomes another option is wedge resection, which involves the removal of a minimum of 30 % of the ovarian volume. This is performed in order to exclude secondary massive ovarian oedema (1-5).



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