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A rare case of mature cystic teratoma in the emergency department

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ABSTRACT

Teratomas are the most common germ cell tumors among pediatric and female patients, which originates from germ cells layers and can be located everywhere in bodies. They are diagnosed by ultrasonography (US), which was characterized by calcification and cystic anechoic view. Our aim is to attract attention to a 21-year-old female patient with complaint of acute abdominal pain diagnosed with teratoma by early radiological imaging. The female patient admitted to the emergency department with a new onset of abdominal pain at the lower and left sides of the abdomen for a week. The suprapubic and left costovertebral angle tenderness were found in her physical examination. We firstly chose US for imaging. The US of the abdomen showed multiple cystic masses around uterus. Heterogeneous cystic and calcified lesions were detected on the patients computerized tomography scan, and considered as teratoma. A laparotomy was performed by gynecologists. At laparotomy, lobulated cystic masses were removed and the left ovary had been detorsioned. She has been discharged after two days of postoperative observation. For patients of young females with abdominal pain such as rare gynecological diseases, teratoma and ovarian torsion, in the emergency department should be considered and early imaging should be performed.

1. Introduction

Teratomas are the commonest germ cell tumors among pediatric and female patients, which originate from germ cells layers. Generally, teratomas are asymptomatic. However, the most common symptom is abdominal pain. They rarely cause ovarian rupture or torsion^[1]. Teratomas can be located everywhere of the body, usually in gonads. The treatment is conservative surgery but radical surgery is performed when it is required^[1].

We report a female patient suffered from abdominal pain and diagnosed with teratoma by early ultrasonographic imaging in the emergency department.

2. Case report

A 21-years-old female admitted to the emergency department with an incipient abdominal pain localized at the lower

and left sides of the abdomen for a week. She told that she was not pregnant. Her initial vital signs were stable (blood pressure: 110/60 mmHg; heart rate: 78/min; body temperature: 36.7 °C; respiratory rate: 16/min and SaO₂: 98%). On physical examination, there were suprapubic and left costovertebral angle tenderness and in abdominal examination there were no defense or rebound tenderness. A abnormal laboratory finding was only elevated white blood cell count: 14.3 (103/μL). B-human chorionic gonadotropin (B-HCG) was negative. Analgesic treatment was administered. Our initial diagnosis was urinary tract infection or renal colic. After 1 h, there was no response to the analgesic treatment, so we reviewed our diagnosis, and firstly chose ultrasonographic (US) imaging along renal or other unknown pathologies. US of the abdomen showed multiple cystic masses around uterus. The other tissues were normal. Abdominal-pelvic computed tomography (CT) scan was taken for differential diagnosis of the pelvic masses. Heterogeneous cystic, calcified lesions on the CT scan were considered as teratoma (Figures 1 and 2).

The patient consulted to a gynecologist. The gynecologist performed the laparotomy. The laparotomy demonstrated two lobulated cystic masses which removed from the right ovary. The left ovary had been detorsioned. The pathological examination of removed masses, keratinized tissues, hair, serous liquid

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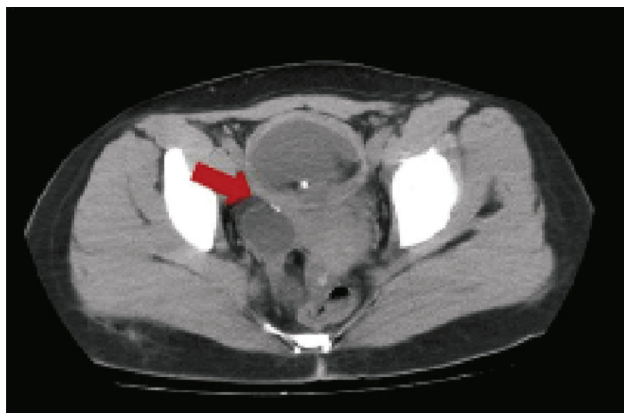


Figure 1. Non-enhanced abdominal CT shows two large masses with heterogenous density composed of solid and cystic components, located at the top and right side of uterus and some small punctuate calcifications at the edge of masses.

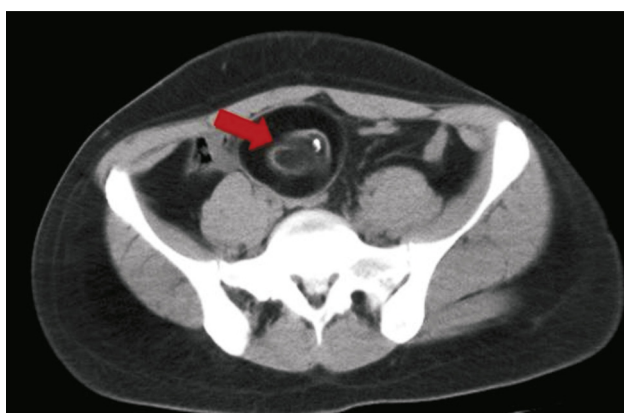


Figure 2. Non-enhanced abdominal CT shows smooth edged 6 × 4 cm fatty mass composed of solid elements and calcification is positioned anterior to the sacrum in the mesenteric tissue. Mass looks like ectopic pregnancy at first view.

and non-neoplastic tissues were demonstrated. She had been discharged after two days of postoperative observation with no complications.

3. Discussion

The 10%–20% of all kinds of ovarian tumors are teratomas. These are the most common germ cell ovarian tumors and the most common type of ovarian cancer among women younger than 20 years^[2]. Teratomas originate from the three germ layers at hyoid or fibrous stroma including neural tissue, muscle,

cartilage, bone, thyroid tissue and various structures as bronchial epithelium or intestinal wall^[3]. The incidence of malignant transformation is low. Cases are seen bilateral at the 8%–14% of all^[4].

Patients with ovarian teratomas may be asymptomatic or have chronic mild abdominal pain. Complications are torsion (16%), malignant degeneration (2%), rupture (1%–2%), and infection (1%–2%), respectively^[5]. The most frequent comorbid pathology of ovarian torsion is mature cystic teratomas^[6].

A choice of imaging in acute abdominal pain depends on the initial diagnosis. There are no clear-cut between the imaging recommendations. Although there was not a certain indication for imaging, we preferred US for early imaging at non-specific abdominal pain. We used US because it is cheap and harmless and the site of pain was not clear. CT scan used for differential diagnosis of the pelvic masses. It shows more detailed than US.

We detected teratoma after CT scan, and requested Doppler study. Doppler US revealed the lack of blood supply to ovaries. Final diagnosis was ovary teratoma complicated with ovarian torsion. Therefore, surgery had been performed.

Abdominal pain is an important reason for coming the emergency department and it can be caused by many reasons. For young female patients with abdominal pain such as rare gynecological diseases teratoma and ovarian torsion should be considered and early imaging should be performed.

Conflict of interest statement

The authors report no conflict of interest.

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