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Torsion of huge dermoid cyst in adolescent girl: A case report

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ABSTRACT

Huge ovarian mass is an uncommon finding in a female adolescent. Dermoid cysts are usually having very slow rate of growth about 1.8 mm per year, so giant dermoid cysts have been rarely reported in the literature. Here we present a case of huge cyst in a 15-year old girl having severe abdominal pain. Abdominal examination revealed regular cystic tender pelvi-abdominal mass corresponding to the size of 28 weeks pregnant uterus by palpation. Abdominal ultrasonography revealed the presence of right ovarian cyst measured 20 × 20 × 18 cm. Colour Doppler evaluation revealed no blood flow in the periphery of the mass. All investigations were normal. Immediate laparotomy revealed right gangrenous huge ovarian mass. Salpingo-oophorectomy was done and histopathological examination revealed twisted gangrenous dermoid cyst. She stayed at hospital for 3 days and then discharged in a healthy condition.
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1. Introduction

Ovarian cysts are commonly seen during infancy and adolescence. Mostly, they are non neoplastic and hormonally dependent as follicular, simple, and corpus luteum cysts [1]. Ovarian cysts are rarely grown to reach huge size without raising any symptoms. Most of the cases that have huge cysts present with pressure symptoms over the genitourinary system leading to urinary complaints or the respiratory system lead to respiratory embarrassment [2].

Dermoid cysts account for 10–20% of all ovarian neoplasms. They are common in young women, especially at the age of 30 years. Additionally, they are also the most common ovarian cysts in adolescents [3]. In most of cases, they are asymptomatic and can be discovered accidentally on clinical examination or ultrasonographic scan [4].

Dermoid cysts are usually indolent tumors with very slow rate of growth about 1.8 mm per year [5]. Giant dermoid cysts have been infrequently reported in the literature. The incidence of torsion in a case of dermoid cysts is approximately 15%. Ovarian torsion is the fifth most common gynecological emergency condition [6] and for that, delayed diagnosis is not uncommon leading to disastrous results as ovarian infarction and necrosis [7].

We hereby report a case of huge cyst in a 15-year old girl having severe abdominal pain which was diagnosed as torsion in ovarian dermoid cyst.

2. Case history

In May 2016, a 15-year- old girl was presented to the emergency unit of Assiut Women's Health Hospital with acute lower abdominal pain of three hours duration. The pain was dull aching, mainly localized at the right side of the abdomen and radiating to the back. It was associated with vomiting three times. Her medical history was uneventful and her menstrual cycles were regular. She was in day 23.

On general examination, she was average body built, weighed 76 kg. Her Blood pressure was 100/70 mmHg, pulse was 110/min. There was no pallor. Cardiac and chest examinations were unremarkable. Abdominal examination revealed grossly distended abdomen by a pelvi-abdominal mass corresponding to the size of 28 weeks pregnant uterus by palpation. The mass was regular, cystic in consistency, very tender and had limited mobility. Liver, spleen and kidneys were normally palpable. There was no ascitis and intestinal sounds were audible.

Abdominal ultrasonography revealed the presence of huge cystic mass on the right side measured 20 × 20 × 18 cm with no free collection. The mass was unilocular, had thick wall well defined borders, turbid contents and solid area inside (Fig. 1). The other ovary couldn't be seen and the uterus was normal size. Two–dimensional colour Doppler evaluation revealed no blood flow detected in the periphery of the mass. Three-dimensional power

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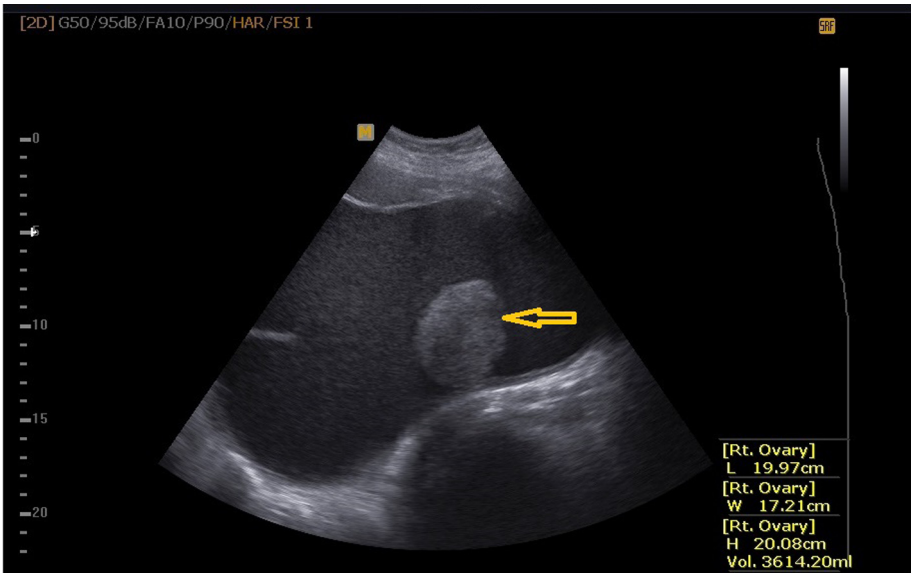


Fig. 1. Abdominal ultrasound showing huge right ovarian cyst 20 × 20 × 18 cm with solid area inside (yellow arrow).

Doppler (3DPD) analysis of the blood flow inside the mass revealed low vascular indices (Fig. 2).

Laboratory investigations, including hemoglobin level, platelet count, prothrombin time and concentration were all within normal range. Bases on high suspicion in the possibility of twisted ovarian cyst with infarction, the patient and her parents were counseled for the possibility of oophorectomy, and an informed written consent for abdominal exploration was obtained.

Abdominal exploration was done under general anesthesia through a right paramedian incision while the patient was lying in the supine position. There was a huge gangrenous heterogeneous mass originating from the right ovary not adherent to the surrounding viscera with repeated twists in its pedicle. The mass removed intact, with ipsilateral Fallopian tube stretched and adhered to its surface, by Salpingoophorectomy. The removed mass measured 20 × 18 cm (Fig. 3). Left ovary and tube were

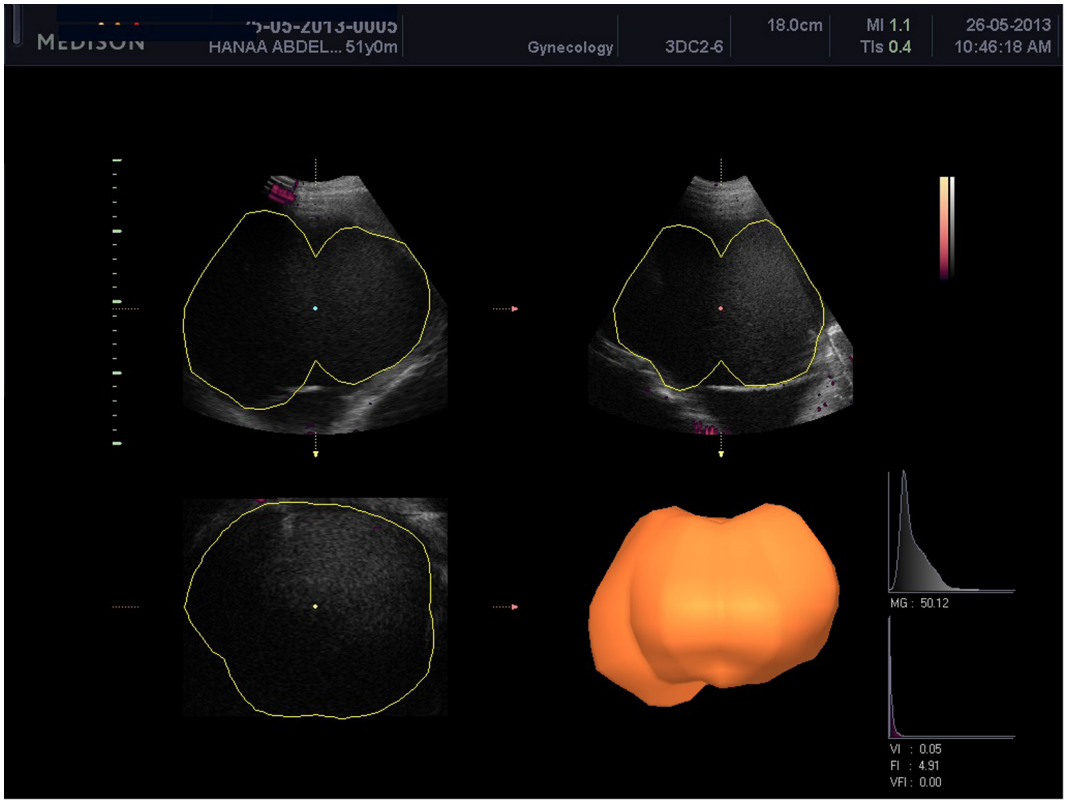


Fig. 2. Three-dimensional power Doppler analysis of the blood flow inside the mass revealed low vascular indices.

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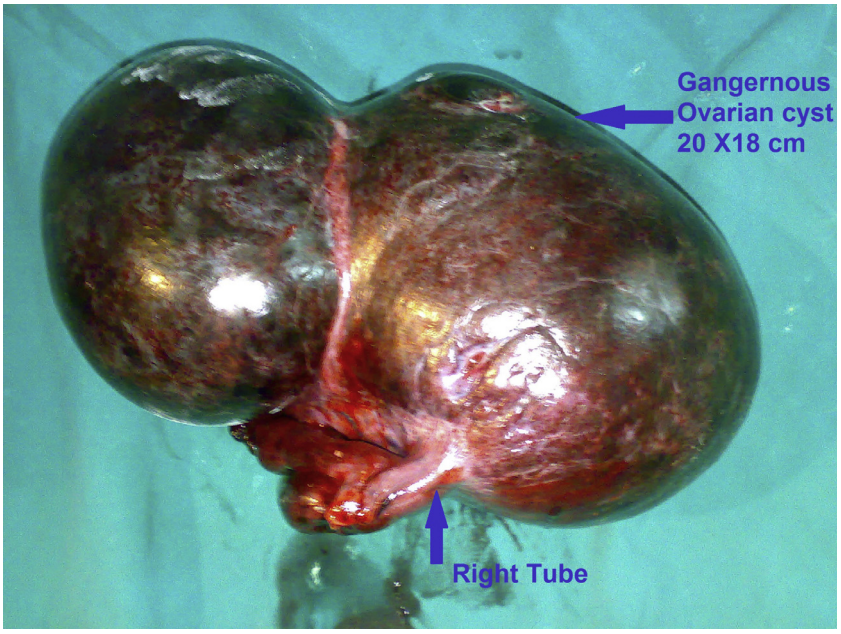


Fig. 3. Gangrenous ovarian mass 20 × 18 cm removed by salpingoophorectomy.

normal. Closure of the abdomen was done in anatomical layers. No blood transfusion was needed.

Histopathological examination revealed twisted gangrenous dermoid cyst. Post operatively, the patient was stable and the course of recovery was unremarkable. She stayed at hospital for 3 days and then discharged in a healthy condition.

3. Discussion

Huge ovarian masses are extremely rare. The majority of them are benign as malignancy is rarely to be asymptomatic before attaining a huge size. Adolescent girls with pelviabdominal masses represent a challenging state in gynecological practice as a result of presence of non specific clinical symptoms and signs in most of cases. Moreover, the hesitancy in the decision of surgical intervention trying to avoid future compromise of fertility potential can be additional hazard for those girls.

Most of adolescents with an ovarian mass have no symptoms, and the mass may be accidentally detected [8]. Others can present with lower abdominal pain, GIT symptoms or pressure symptoms as frequency of micturation, urinary retention, constipation, dyspnea, orthopnea, and hydronephrosis. Acute complications are frequently encountered in adolescents such as torsion, hemorrhage, and rupture if the mass left undiagnosed for long time [9]. In our case, although the mass attained a huge size, the patient was completely asymptomatic until she suffered from acute abdominal pain as a result of torsion of the mass.

In the modern era of current medical practice, such huge ovarian masses have become uncommon in children and adolescents, as most of them are early diagnosed by the use of ultrasonography. However, there are few reported cases in the literature of such huge masses, but the majority of them were serous cystadenomas [10].

Dermoid cysts, also known as mature cystic teratoma, are encapsulated cysts with tissue components similar to the normal derivatives of germ layers. They have been reported to contain hair, bone, teeth and different body systems tissue [3]. Most of dermoid cysts are benign; however they can be malignant in 2% of cases. They are likely to be identified in young women, and adolescent girls. They can rarely undergo torsion, rupture or infection [8].

Ovarian torsion is commonly occurs on the right side. In most of cases, it occurs with torsion of the fallopian tube as they share the same vascular pedicle around the broad ligament [11]. This coincides with our reported case. Torsion occurs in about 15% of dermoid cysts as a result of their high fat content, causing them to freely float in the abdominal cavity, promoting torsion of the adnexa with any strenuous physical activity. Torsion produces tissue ischemia leading to severe pain; as had occurred in our case, and requires emergency surgical intervention. colour Doppler evaluation of the blood flow of huge masses is important for diagnosis of torsion; it shows absent blood flow in the pedicle [12]. Also, 3DPD could be helpful in evaluation of the vascular indices for more accurate diagnosis [13]. This was evident in preoperative diagnosis of our reported case.

Conservative surgery as ovarian cystectomy can be feasible if no extensive tissue infarction occurred as a result of torsion [14]. In our case, Salpingoophorectomy was the only possible line of treatment due to absence of healthy tissue can be spared as a result of repeated twist of the pedicle and extensive infarction of the adnexa. Our patient was too late in seeking medical advice, because of that; she remained asymptomatic for long time until the abdominal pain occurred due to ovarian torsion.

Such huge ovarian masses are not uncommon in our locality. We previously reported a huge Brenner's tumor with mucinous cystadenoma reaching 20.7 kg in weight in a postmenopausal woman presented to our tertiary center [15]. Delay in seeking medical care is the main reason for late presentation of huge ovarian masses due to poverty, illiteracy, living in discrete rural areas with difficult transportation and family problems.

This case highlights the rare but possible presentation of asymptomatic huge dermoid cysts in adolescents and children. It is a potentially life-threatening condition if complications occurred as torsion and rupture with delayed diagnosis [16]. So, it must be kept in mind by physicians.

In conclusion, any adolescent girl with acute abdominal pain must be carefully evaluated even if she was asymptomatic before. Routine abdominal ultrasonography and Doppler is a simple

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measure greatly helps to early diagnose such huge complicated ovarian masses. Abdominal exploration should be as early as possible to avoid extensive infarction of the adnexa that requires surgical removal of the tube and ovary and potential decrease in the patient future fertility, so the early intervention can help untwisting a viable ovary instead of losing a gangrenous one.

References

[1] Ciftci I, Sekmenli T, Ugras S. Ovarian huge serous cystadenoma in adolescent girl: a case report. *Nat. J. Med. Res.*. 2013;3(2):187–189.
[2] Katke RD. A huge benign mucinous cystadenoma of ovary: a case report and review of literature. *Int. J. Reprod. Contracept. Obstet. Gynecol.*. 2014;3(2):456–459.
[3] Outwater EK, Siegelman ES, Hunt JL. Ovarian teratomas: tumor types and imaging characteristics. *Radiographics*. 2001;21(2):475–490.
[4] Laufer M, Goldstein D. Benign and malignant ovarian masses. In: Emans S, Laufer M, Goldstein D, editors. *Pediatric and Adolescent Gynecology*, vol. 5. Philadelphia: Lippincott Williams and Wilkins; 2005:706–710.
[5] Caspi B, Appelman Z, Rabinerson D, Zalel Y, Tulandi T, Shoham Z. The growth pattern of ovarian dermoid cysts: a prospective study in premenopausal and postmenopausal women. *Fertil. Steril.*. 1997;68:501–505.
[6] Hibbard LT. Adnexal torsion. *Am. J. Obstet. Gynecol.*. 1985;152:456–461.
[7] Anders JF, Powell EC. Urgency of evaluation and outcome of acute ovarian torsion in pediatric patients. *Arch. Pediatr. Adolesc. Med.*. 2005;159(6):532–535.
[8] Katke RD. Torsion of huge cystic teratoma of ovary with multiple fibroids uterus: a case report and review of literature. *Int. J. Reprod. Contracept. Obstet. Gynecol.*. 2014;3:793–795.
[9] Deen R, Silva AD, Wijesuriya R. Twisted benign ovarian teratoma presenting with pain and generalized pruritus: a case report. *J. Med. Case Rep.*. 2013;7(1):130.
[10] Deligeoroglou E, Eleftheriades M, Shiadoes V, Bostis D, Hasiakos D, Kontoravdis A, et al.. Ovarian masses during adolescence: clinical, ultrasonographic and pathologic findings, serum tumor markers and endocrinological profile. *Gynecol. Endocrinol.*. 2004;19(1):1–8.
[11] Cass DL, Hawkins E, Brandt ML, Chintagumpala M, Bloss RS, Milewicz AL, et al.. Surgery for ovarian masses in infants, children, and adolescents: 102 consecutive patients treated in a 15-year period. *J. Pediatr. Surg.*. 2001;36:693–699.
[12] Abbas AM. The predictive value of transvaginal color and pulsed Doppler in evaluation of adnexal masses. *Thai. J. Obstet. Gynecol.*. 2015;23(1):52–58.
[13] Abbas AM, Zahran KM, Nasr A, Kamel HS. Three-dimensional power Doppler evaluation of adnexal masses. Which parameter performs best? *Thai. J. Obstet. Gynecol.*. 2014;22(2):102–107.
[14] Ding DC, Chen SS. Conservative laparoscopic management of ovarian teratoma torsion in a young woman. *J. Chin. Med. Assoc.*. 2005;68(1):37–39.
[15] Abbas AM, Amin MT. Brenner's tumor associated with ovarian mucinous cystadenoma reaching a huge size in postmenopausal woman. *J. Can. Res. Ther.*. 2015;11:1030.
[16] Havlik DM, Nolte KB. Sudden death in an infant resulting from torsion of the uterine adnexa. *Am. J. Forensic. Med. Pathol.*. 2002;23:289–291.

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