

## Huge Bilateral Mature Cystic Teratoma in Adolescence: A Case Report and Review of Literature

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### Abstract

Mature cystic teratoma is a benign tumor of the ovary arising from germ cells. It can occur at any age but, commonly in patients between 20 and 40 years. It is usually unilateral. The size of the tumor is relatively small at the time of diagnosis. An unusual presentation of mature cystic teratoma considering age of the patient, diagnosis and features of the tumor, is described, which to our knowledge has not been reported before in the literature.

**Keywords:** Mature cystic teratoma; Huge; Bilateral; Adolescence

### Introduction

The incidence of mature cystic teratoma is 10-20% of all ovarian tumor [1,2]. It is usually unilateral, and bilateral in 10-15% of cases [3], commonly seen in patients between 20 and 40 of age. Size of this tumor rarely exceeds 10 cm [4]. An unusual presentation of bilateral mature cystic teratoma in a young adolescent patient is described.

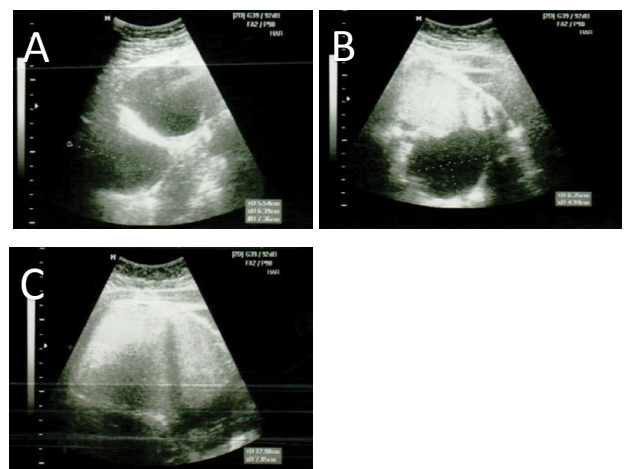
### Case presentation

A 13 years old, single female, presented to our Emergency room complaining of generalized abdominal pain for two weeks. It was colicky in nature, progressive in intensity over time, with no history of fever, nausea, vomiting, or changes in bowel habits. She did not notice any abdominal distension or changes in weight, but, complained of dysuria for two weeks. Her menarche was two years ago and regular menstruation for the past eleven months. The vital signs were within normal. A palpable pelvic-abdominal mass reaching up to the umbilicus, non-tender, mobile with no skin changes was found on abdominal examination. Ultrasound of the abdomen and pelvis revealed a normal, retroverted uterus, three multiple, right sided ovarian cyst, largest measuring  $6.3 \times 7.3$  cm and  $5.6 \times 6.3$  cm, and Left hyper-echogenic ovarian cyst measuring  $12.5 \times 7.8$  cm with some projections inside the cavity. There was no fluid in pouch of Douglas (Figure 1). Abdominal and pelvic CT showed a large, well defined, multiloculated cystic adnexal mass  $12.1 \times 7.5 \times 13$  cm in size, most likely arising from left ovary, occupying the whole pelvis and pushing the uterus to the right, antero-laterally and sigmoid colon left laterally, causing left hydronephrosis and hydroureter. The lesion showed mixed component with fat fluid level, and Rokitansky ball seen within it, along with foci of calcification noted in the wall, that represented left ovarian dermoid cyst. Other similar characteristics lesions were noted in higher cuts measuring, approximately  $10.5 \times 5.6 \times 12$  cm in size, corresponding to L5 vertebral body and extending superiorly to level of the renal hilum, occupying the right side of the abdomen and pushing the ascending colon posteriorly. No obvious infiltration to adjacent structures was noted. No lymphadenopathy or ascites was noted. Chest x-ray and tumor markers were within normal limits. The guardian of the patient were advised to consent for laparotomy, after full explanation if the possible operative procedures on entering the abdomen, which they agreed and signed. A midline sub-umbilical incision was made to enter the peritoneal cavity. Minimal serous fluid in peritoneal cavity was aspirated and sent for cytology. Bilateral, lobulated, ovarian cysts were found; right one measured  $15 \times 10$  cm, left measured  $12 \times 9$  cm. The uterus and fallopian tubes were normal. Bilateral ovarian cystectomy

was carried out with preservation of adequate normal ovarian tissue. The cytology report of peritoneal fluid was negative for malignant cells. Histopathology confirmed bilateral mature cystic teratoma (Figure 2). The patient recovered normally post operation and was discharged home after 5 days. She was followed up in the outpatient clinic for the next two years without complaints or abnormal findings on clinical and ultrasound checks.

### Discussion

The incidence of mature cystic teratoma is 20-25% of all ovarian tumors [2]. It is usually unilateral, and bilateral in small percentage



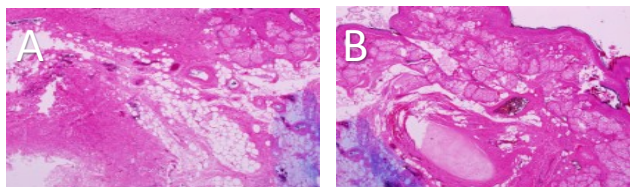
**Figure 1:** Gray scale appearance, showing retroverted normal size uterus, with right multiple ovarian cyst, three in number, the largest measured  $5 \times 5$  cm and  $6 \times 7$  cm (A,B), and Left hyper echogenic ovarian cyst measuring  $12 \times 8$  cm with some projections inside the cyst (C). No fluid in pouch of Douglas.

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**Figure 2:** Sebaceous glands, fat and fibrous tissue with squamous epithelial lining on top (A). Skin (stratified squamous epithelium with keratin on top), sebaceous glands and flakes of cartilage (B).

of patients [3]. This lesion is commonly seen in young women of childbearing age, and rarely in very young adolescents. Mature cystic teratoma rarely grows more than 10 cm [4]. It can be diagnosed by ultrasound based on its specific features [5]. CT scan may be reserved to visualize the nature of large size tumors, when suspicion of malignancy is present. Mature cystic teratoma is usually asymptomatic and rarely causes symptoms unless it undergoes torsion or pressure symptoms resulting from increasing size of the tumor. The tumor is usually managed by cystectomy or oophorectomy, performed laparoscopically or via laparotomy, depending on the patients age, fertility, cosmetic issues, ovarian tissue reserved and if one or both ovaries affected [6,7]. The preservation of ovarian tissue is highly important in patients with bilateral pathology. The percentage for malignant transformation is 0.2-2% [8]. Mature cystic teratoma at 13 years of age in the patient described, is considered to be rare, especially bilaterally with tumor size >10 cm in each ovary. The lowest age reported was 9 years old in two patients [9,10]. One of them had a unilateral mass and the other was bilateral, with tumor size <10 cm in both cases. Mature cystic teratoma with synchronous immature teratoma in the opposite ovary in a 9-years-old girl has been reported in the literature [10]. Multiple, bilateral ovarian dermoid cyst <10 cm have been reported in the past [11-13]. Bilateral mature cystic teratoma >10 cm in a 35-years old patient has been reported by El-Agwany [14]. CT scan was of great value in the diagnosis of our case because of the size of the cysts and had to be managed by laparotomy. Recurrence may occur 1-15 years after operation [15]. Long term recurrence rate of 4.2% after surgical excision of mature cystic teratoma was reported in one study [16]. Young age, bilaterally, and large cyst size >8 cm were shown to be significant predictive factors. When a patient had all these three factors, the recurrence rate was 21.0% [16]. Our patient was followed up with ultrasound periodically and advised to have further checks in the future, considering her age and bilateral tumours more than 10 cm in size.

## Conclusion and Recommendations

This case report is a rare presentation of mature cystic teratoma in adolescence which is a definite entity in the differential diagnoses of abdominal pain with pelvic-abdominal mass in young females. Long term follow up of this patient with significant predictive factors is advised due to higher incidence of recurrence in the future.

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