Extragonadal omental teratoma: A case report

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ABSTRACT
Mature cystic teratomas or dermoid cysts are among the most common ovarian tumors; however teratomas of extragonadal origin are extremely rare. The most common extragonadal site of these teratomas is the omentum. It is generally accepted that teratomas arise from germ cells that originate in the mature gonads. Of the three proposed etiologies of omental teratoma, auto-amputation and subsequent re-implantation of gonadal teratoma is the most likely preceding event. A review of literature reveals that only 31 cases of teratoma of the greater omentum have been published to date and three cases reported wherein omental teratoma and dermoid of the ovary were coexisting. We report a rare case of an omental teratoma in a 26-year woman who underwent ovarian cystectomy for dermoid cyst. This is the fourth case of an omental mature teratoma with coexisting ovarian dermoid cyst.

Key words: omental teratoma, extragonadal dermoid

INTRODUCTION
Mature cystic teratomas (benign cystic teratoma or dermoid cysts) are among the most common ovarian tumors; however teratomas of extragonadal origin are extremely rare. The most common extragonadal site of these teratomas is the omentum. The first omental mature teratoma was described by Lebert in 1734. We report a rare case of a benign cystic omental teratoma that was incidentally found in the Pouch of Douglas in a woman who was undergoing cystectomy for an ovarian dermoid cyst.

CASE REPORT
A 26 year old Jordanian nulliparous woman presented to gynecology outpatient clinic with lower abdominal pain and vaginal discharge of 2 weeks’ duration. Her menstrual cycles were regular. She had been treated for vaginal infection a week back. She was diagnosed with hyperprolactinaemia and was on treatment for the same during the previous year. She had undergone left ovarian cystectomy nine years back. Her examination findings were unremarkable except that pelvic examination revealed a right adnexal mass of 3 cm size. Ultrasound scan of pelvis showed two echogenic lesions of 3.3x2.2 cm and 6.6x6.3 cm with right ovarian complicated cysts (Figure 1). Uterus, cervix and left ovary were normal. Pre-operative tumor marker evaluations revealed no elevation of CA125 although her serum prolactin levels were elevated. Routine preoperative investigations were normal. With a provisional diagnosis of right ovarian dermoid cyst, she was planned for laparotomy and ovarian cystectomy. Intra-operatively a right ovarian dermoid of 3x3 cm was noted. Right ovarian cystectomy was done. Left hydrosalphinx was noted however left ovary and uterus were normal. Incidentally a large cystic mass of 7x7 cm was noted in Pouch of Douglas which was adherent to the surrounding tissues. After adhesiolyis the mass was seen to be attached to the greater omentum (Figures 2 & 3). The mass was resected from the omentum. Histopathological examination of excised
Omental tumor confirmed benign mature cystic teratoma. The ovarian cyst was also reported as dermoid cyst. Post-operatively the patient had a normal recovery.

**DISCUSSION**

It is generally accepted that teratomas arise from germ cells that originate in the mature gonads. During early fetal development, germ cells from the yolk sac migrate along the hindgut (route of the mesentery) toward the genital ridge (primitive gonad). These totipotential cells may give rise to a variety of tissues originating from the three primitive embryonic layers. Migration along the hindgut explains how teratomas may develop in multiple locations.3

Dermoid cysts occur most commonly in the ovary, but teratomas of extra gonadal origin have also been reported. Omental teratoma is the commonest extragonadal teratoma and is reported among women. They are typically found in women of reproductive age, but also seen in young girls and in older women. The reported incidence of this tumour in men is 16.7%.4

A review of literature indicates that only 31 cases of teratoma of greater omentum have been published till date. The case reported here is the fourth wherein omental teratoma and dermoid of the ovary were coexisting. One case of benign teratoma of omentum and ovary coexistent with an ovarian neoplasm has been reported. The etiology of omental teratomas is poorly understood, but three main theories have been proposed to explain their location:

- Primary teratomas of the omentum may originate from displaced germ cells.
- Teratomas may develop in a supernumerary ovary of the omentum.
- Teratomas may result from auto amputation of an ovarian dermoid cyst with secondary implantation into the greater omentum.5

There is lack of support to for the first and second theories as no reported cases are documented in the literature. The third hypothesis, which was first proposed by J.K. Thornton in 1881, seems to be the most plausible according to most of the cases, because of the association between mature teratoma of the greater omentum and the coexistence of ovarian teratoma. However, all three hypotheses should be
considered.

It is difficult to establish a diagnosis preoperatively. Ultrasound and CT and MRI may aid in the diagnosis. The definitive diagnosis is possible following histopathological examination, which must differentiate between mature and immature teratoma. Teratomas of the greater omentum are benign lesions, but malignant transformation has been described.

The management depends upon the maturity of teratoma. Surgical excision in cases of mature teratoma is all that is necessary. Immature teratomas are potentially malignant, so the patient may require chemotherapy and radiotherapy.

REFERENCE