REPORT

Laparoscopic management for coexistent parasitic ovarian teratoma of the omentum and ovarian mucinous cystadenoma: A case report

Chen-Ching Huang[1] and Lim-Woh Koh[1,2]
[1]Show Chwan Memorial Hospital, Changhua, Taiwan, Republic of China
[2]National Taiwan University Hospital, Taipei, Taiwan, Republic of China

Abstract: We report a case of a 34-year-old woman who underwent laparoscopy for her adnexal tumor. Coexistence of ovarian mucinous cystadenoma and parasitic ovarian teratoma of the omentum was found and successfully treated by laparoscopic surgery. As our case presented, it is thought that the omental teratomas could be resulting from the auto-amputation and re-implantation of a dermoid cyst of the ovary.

Keywords: Mucinous cystadenoma, omental teratoma, laparoscopy.

INTRODUCTION

Mature cystic teratoma is listed among the most usual ovarian tumors. However, omental teratomas are extremely rarely reported (Kakuda *et al*., 2015). The first omental dermoid cyst was demonstrated in 1734 (Sinha *et al*., 2009). By reviewing of literature, it was found that only 33 such cases reported in published literature (Hegde, 2014, Özcan *et al*., 2015). The knowledge on the formation of these omental teratomas is rather limited.

Here, we describe a patient who presented with concurrent benign omental dermoid cyst and a mucinous cystadenoma of the right ovary. Together with the nonappearance of the left adnexa and pathologic report, it was suggested that the tumor encountered auto-amputation and re-implantation on the omentum. To the best of our knowledge, this is the first case with coexistent omental teratoma and an ovarian mucinous cystadenoma which was successfully treated by laparoscopic cystectomy and partial omentectomy, respectively.

Case report

The patient is a 34-year-old woman, with gravida 3, para 2 and abortus 1, who suffered from lower abdominal distension recently. The patient was with regular menstruation and no previous surgeries were reported. Several episodes of acute pains of lower portion of abdomen were recorded in her medical history, with unknown causes, about 14 years ago. Exploratory laparotomy was indicated that time but she refused since the symptoms subsided a week later after conservative treatment. However, she had been found to have an 8cm right adnexal cyst since 4 years ago. She followed up regularly at our gynecologic clinic because no obvious symptoms were associated with the cyst. Unfortunately, the size of the tumor seemed to be increased because lower abdominal distension which bothering her a lot recently. Pelvic examination revealed a softball-size, mobile cystic mass in the right lower quadrant. Sonography showed a normal uterus with two cystic mass conjunction together, presume to be bilateral ovarian cysts initially one cyst with an anechoic area and posterior enhancement, measuring 11.2x8.2cm, located at the right adnexal area. The other cyst with bright echogenic portion with posterior shadowing, measuring 7.1x4.7cm, located at the right mid abdomen. Tumor markers were reported to be in the normal ranges, including CA125, CEA and AFP. Bilateral ovarian tumors were diagnosed followed by a laparoscopic surgery.

Upon the laparoscopic surgery, we found severe adhesion between the anterior abdominal wall, cyst bladder and the uterus. Adhesiolysis was done carefully with endoscopic scissor. Then, many adhesions were found, which involved omentum, ascending colon, and the right adnexa. Following that, a second cystic mass was adhesiolysed, and then implanted into the great omentum (fig. 1). This tumor was measured around 5cm in size. It was found that there were many small vessels as the blood supply from the omentum. Partial omentectomy was performed with the help of endoloops to dissect and remove the omental tumor. Upon dissection, the cyst ruptured with sebaceous material and hair flowing out, that is consistent with teratoma macroscopically. The uterus is grossly normal in appearance. The left adnexa (fallopian tube and ovary) was absent, but existed a 1cm of closed-end tube, developing from the corner of the uterus (fig. 2). Besides, a well encapsulated right ovarian cyst, about 12x10cm in size, was noted. Upon fenestration, clear fluid flowed out. Cystectomy of the right ovary was performed by

**Corresponding author:* e-mail: klw416@hotmail.com

enucleation and endoscopic continue suturing. Laparoscopic posterior colpotomy was performed for removal of the tumors from the vagina. The colpotomy was closed vaginally. At the end of the operation, we examined the pelvic and abdominal cavity thoroughly and no further pathologic lesion was found. Repeated and copious saline lavaged the whole abdomen to make sure no more debris left. An abdominal drain into posterior cul-de-sac was placed, too. The total operative time was 130 min with blood loss of 200mL and no blood transfusion needed.

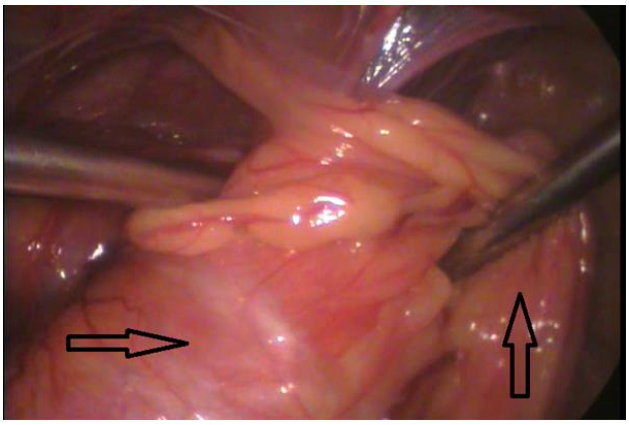

Fig. 1: An omental teratoma in 5cm of size (left arrow) with omental blood supply consists of multiple small vessels (right arrow).

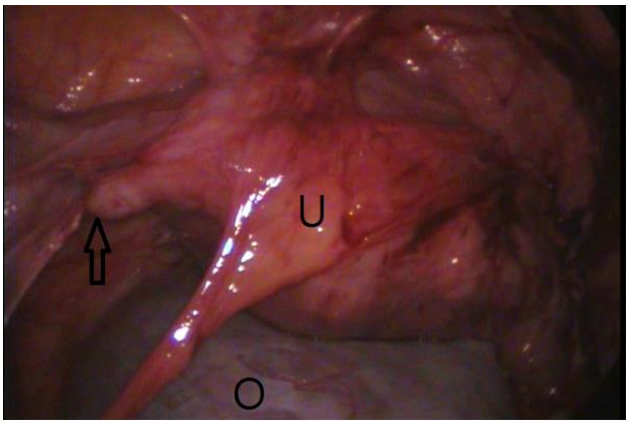

Fig. 2: The left adnexa (fallopian tube and ovary) was absent (left arrow). U: uterus with an avascular adhesive band at left cornus. O: right ovarian mucinous cystadenoma.

The patient coped with the procedure well. There were no intra- or post-operative complications found. She was then discharged two days later without any sequelae. Till now, she was followed up at our outpatient clinic uneventfully. Histopathology revealed that the sections of right ovary showed a picture of mucinous cyst adenoma microscopically. The sections of omental tumor revealed cystic teratoma which consisted of greasy material and hair, respiratory mucosa and thyroid tissue with ovarian stroma (fig. 3). No evidence of malignancy was seen.

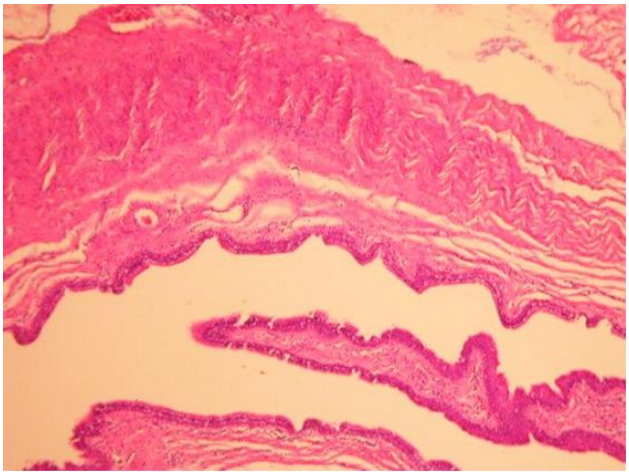

Fig. 3: Histopathology revealed that the sections of right ovary showed a picture of mucinous cystadenoma microscopically. The sections of the omental tumor revealed cystic teratoma which consisted of greasy material and hair, respiratory mucosa and thyroid tissue with ovarian stroma.

DISCUSSION

Benign cystic teratoma could result from germ cell tumors which were differentiated along the embryonic line. In female sufferers, the teratomas happened in the ovary most of the occasions (Kakuda *et al*., 2015). Among all ovarian neoplasms, the incidence ranged from 5 to 25%, and more than one in tenth of these tumors are bilateral. It was reported that torsion of the pedicle was the most usual complication of teratomas of the ovary, and the occurrence was reported to be 16.1% (Sinha *et al*., 2009).

It has rarely been reported omental cyst caused by cystic teratoma. The definite etiology of omental teratomas is not well documented. Three key explanations have been proposed to the localization of the tumors to the omentum. (I) Omental teratoma initiated from displacement of germ cells, (II) teratoma emerged in supernumerary ovary of the omentum, (III) ovarian dermoid cyst auto-amputated and then implanted into the greater omentum (Sinha *et al*., 2009, Hegde, 2014, Özcan *et al*., 2015, Khoo *et al*., 2008, Ali *et al*., 2009).

The most possible causes of the rare omental teratoma of our patient could be torsion, auto-amputation and the following re-implantation of a dermoid cyst of the left ovary. This presumption is reinforced by the facts that (I) several episodes of acute pains of the lower portion of abdomen were recorded in her past history about 14 years ago, with unknown cause, torsion might be happened that time; (II) at this time of the laparoscopic findings, severe abdominal adhesion, absence of the left adnexa and histopathological identifying ovarian tissue in the omental tumor which may indicate inflammation process, auto amputation and the ovarian origin, and (III) many small

vessels were observed as the blood supply from the omentum to the imbedded teratoma, which may indicate re-implantation and neovascularization.

Pains of the abdomen were the principal symptom of the omental teratoma (Sinha *et al*., 2009). Torsion on the omental pedicle was rarely developed with acute presentation (Khoo *et al*., 2008). Handy measures in diagnosing these tumors comprising X-ray, computed tomography (CT) scan and transabdominal ultrasound scan (Schols *et al*., 2013, McLucas, 2008). In contrast, our case was a silent one only presented with abdominal distension due to the coexistent and enlarged size ovarian mucinous cyst adenoma. Localization of the tumor to the omentum is obvious at the laparoscopic findings. To our knowledge, coexistent omental teratoma and an ovarian mucinous cyst adenoma has never been reported before. Simple excision was a feasible treatment for benign cystic teratomas of the omentum just as other similar tumors (Sinha *et al*., 2009).

CONCLUSION

As our case presented, it is thought that the omental teratomas could be resulting from the auto-amputation and re-implantation of a dermoid cyst of the ovary. In our case, both the tumors were successfully treated by laparoscopic cystectomy and partial omentectomy respectively without sequelae. It is concluded that the laparoscopist should be consulted sharply after a unilateral nonappearance of adnexa unanticipatedly discovered at laparoscopy in order to search for potential auto-amputated and re-implanted ovarian tumors within the abdominal cavity.

REFERENCES

Ali AA, Sall I, El Kaoui H, Bouchentouf SM, El Hjjouji A, El Fahss, M, Bounaim A, Zentar A and Sair K (2009). Teratoma of the greater omentum. *Canadian Journal of Surgery,* **52**: E54.

Hegde P (2014). Extragonadal omental teratoma: A case report. *Journal of Obstetrics and Gynaecology Research*, **40**: 618-621.

Kakuda M, Matsuzaki S, Kobayashi E, Yoshino K, Morii E and Kimura T (2015). A case of extragonadal teratoma in the pouch of douglas and literature review. *J. Minim. Invasive Gynecol.,* **22**; 1311-1317.

Khoo CK, Chua I, Siow A and Chern B (2008). Parasitic dermoid cyst of the pouch of Douglas: A case report. *J. Minim. Invasive Gynecol.,* **15**: 761-763.

Mclucas B (2008). Diagnosis, imaging and anatomical classification of uterine fibroids. *Best Pract. Res. Clin. Obstet. Gynaecol.,* **22**: 627-642.

Ozcan HC, Ugur MG, G Nd ZR, Bozdag Z and Kutlar İ (2015). Parasitic omental ovarian dermoid tumour mimicking an adnexal mass: A report of two very unusual cases. *J. Turk. Soc. Obstet. Gynecol.,* **12**: 251-253.

Schols RM, Stassen LP, Keymeulen KB and Bouvy ND (2013). Dermoid cyst of the greater omentum: Rare and innocent. *BMJ. Case Reports*, bcr2012008304.

Sinha R, Sundaram M and Lakhotia S (2009). Multiple intraabdominal parasitic cystic teratomas. *J. Minim. Invasive Gynecol.,* **16**: 789-791.