DERMOID CYST OF THE RETROUTERINE POUCH OF DOUGLAS

Heng-Ju Chen, Bih-Chwen Hsieh, Hun-Shan Pan, Kok-Min Seow, Yieh-Loong Tsai, Jiann-Loung Hwang*

Department of Obstetrics and Gynecology, Shin-Kong Wu Ho-Su Memorial Hospital, Taipei, Taiwan.

SUMMARY

Objective: Benign cystic teratomas are one of the most common ovarian tumors. Teratomas of the retrouterine pouch of Douglas are extremely rare. We report a case of benign cystic teratoma of the Douglas pouch in a woman who underwent laparoscopic surgery.

Case Report: A 61-year-old woman presented with lower abdominal pain. On pelvic examination, a pelvic mass was palpated in the right adnexa. Transvaginal ultrasound demonstrated two cyst-like masses in the right adnexa. One was homogeneous and measured 4.0 × 3.5 cm, while the other was heterogeneous and measured 3.5 × 3.0 cm. The concentration of the CA125 tumor marker was 8.88 U/mL. On laparoscopy, a cyst 5 × 4 cm in diameter located in the right adnexa, and a 4 × 3 cm well-circumscribed tumor in the cul-de-sac were found. Pathology revealed a right ovarian simple cyst and a benign cystic teratoma in the pouch of Douglas.

Conclusion: The etiology of benign cystic teratomas of the Douglas pouch is poorly understood. We report a rare site of a benign cystic teratoma that may provide insights into the differential diagnosis of a pelvic mass in the retrouterine pouch of Douglas. [*Taiwanese J Obstet Gynecol* 2004;43(4):226–228]

Key Words: benign cystic teratoma, dermoid cyst, Douglas pouch, postmenopause

Introduction

Mature teratomas (dermoid cysts) are one of the most common ovarian tumors in women of reproductive age [1]. They occur most commonly in the ovary, although cases of diverse anatomic locations including the fallopian tube, uterus, rectum and omentum have been reported [2–5]. We present a case of a postmenopausal woman with a mature teratoma in the Douglas pouch. Lefkowitch et al described the first dermoid cyst of the Douglas pouch in 1978 [6]. We found only one other such case in the English literature [7], making this the third. We believe this to be the first report of a benign cystic teratoma of the Douglas pouch in a postmenopausal woman.

**Correspondence to:* Dr. Jiann-Loung Hwang, Department of Obstetrics and Gynecology, Shin-Kong Wu Ho-Su Memorial Hospital, 95 Wen Chang Road, Shih Lin District, Taipei, Taiwan.
E-mail: h7341@ms21.hinet.net
Received: December 3, 2003
Revised: February 11, 2004
Accepted: April 1, 2004

Case Report

A 61-year-old woman, gravida 6, para 3, abortus 3, presented to the outpatient clinic with lower abdominal pain. Pelvic examination revealed a mobile, fist-sized mass in the right adnexa. Transvaginal ultrasound showed a heterogeneous mass measuring 4.5 × 4.0 cm in the right adnexa. There was a small amount of free fluid in the cul-de-sac. We assayed for the CA125 tumor marker and asked the patient to continue follow-up in the gynecology department.

Two months later, the patient visited our department for pelvic mass evaluation. The CA125 concentration was 8.88 U/mL (normal, 0–35 U/mL). Transvaginal ultrasound revealed a 4.2 × 3.3 cm homogeneous and a 3.5 × 3.2 cm heterogeneous right ovarian cyst. Considering the echo-complex mass and her advanced age, surgery was suggested even though the pain had subsided. As the CA125 level was within normal limits and the pelvic mass was mobile, we chose laparoscopic examination instead of laparotomy. The patient's operative history revealed an appendectomy and a left ovarian cystectomy due to a dermoid cyst about 20

years previously. She had undergone menopause at 49 years of age and denied any recent menopausal bleeding.

On admission, the patient's vital signs were within normal limits and physical examination revealed no specific abnormal findings. Pelvic examination revealed a normal-sized uterus and a right non-tender, fist-sized mass. Ultrasonography showed a normal uterus and two pelvic cysts on the right side. One was homogeneous and 4.0 × 3.5 cm in size, while the other was heterogeneous and 3.5 × 3.0 cm in size. The left ovary was not visible, perhaps due to atrophy.

During laparoscopy, a non-enlarged, regular-shaped uterus was found. A cyst of the right ovary, 5 × 4 cm in size, and a normal fallopian tube were noted in the right adnexa (Figure 1). The left ovary was atrophic and the left fallopian tube was normal. In addition, a well-circumscribed tumor of 4 × 3 cm was found in the cul-de-sac (Figure 2). This mass had adhered with filmy adhesions to the peritoneum of the Douglas pouch. The mass in the cul-de-sac was resected and right salpingo-oophorectomy was performed. The resected tumor in the cul-de-sac was a cyst entirely covered with a fibrous and firm capsule and filled with an amorphous white creamy substance and hair-like material. The patient had an uneventful postoperative course. Microscopically, the tumor in the cul-de-sac was a dermoid cyst walled by thick fibrous tissue and made up of calcified amorphous material and hair shafts. Focal ossification was noted. No malignancy was found. The right ovary contained a simple cyst.

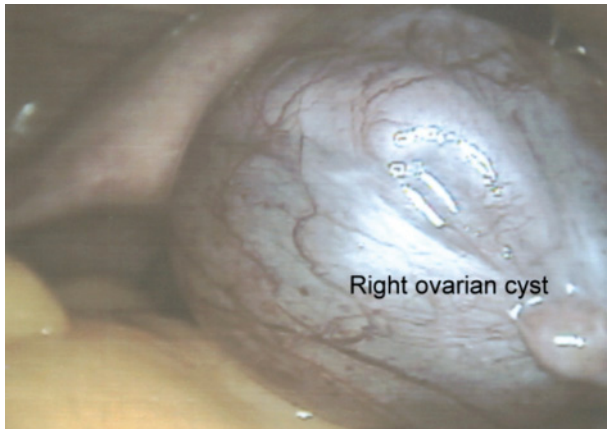

Figure 1. Right ovarian cyst noted at laparoscopy.

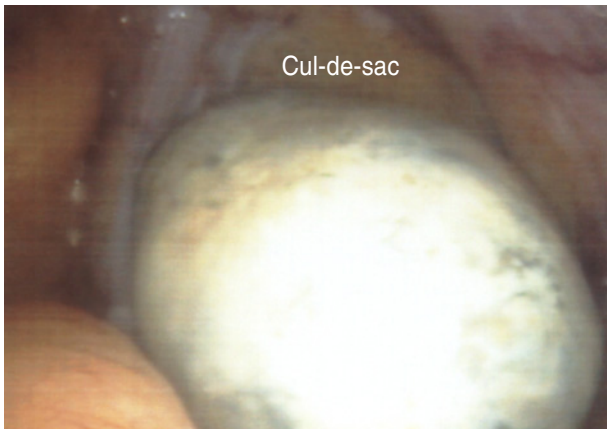

Figure 2. A well-circumscribed tumor in the cul-de-sac.

Discussion

A review of the English literature to the present revealed two cases of teratoma of the Douglas pouch. Lefkowitch et al reported the first case in 1978, in which a woman had complained of urinary retention. Under the impression of a fibroid uterus, laparotomy was performed and a benign cystic teratoma of the retrouterine pouch of Douglas was found [6]. The second case was a 30-year-old woman who underwent laparoscopy for a persistent pelvic mass in the posterior cul-de-sac; a dermoid cyst of the Douglas pouch was diagnosed [7].

The etiology of mature teratomas in the Douglas pouch is poorly understood. It is generally accepted that teratomas arise from germ cells that originate in mature gonads. During early fetal development, there is migration of germ cells from the yolk sac along the hindgut toward the genital ridge [8]. If the germ cells become arrested in their migration between the yolk sac endoderm and the dorsal mesentery then, as the paramesonephric ducts fuse in the midline, they may become trapped in the retrouterine pouch of Douglas [6]. The etiology of parasitic ovarian dermoid cysts of the omentum may be reimplantation of an ovarian teratoma [5]. In our case, the woman had previously undergone left ovarian cystectomy due to a dermoid cyst. Therefore, the possible etiology of a mature teratoma of the Douglas pouch may be reimplantation of the previous left ovarian dermoid cyst.

In conclusion, the initial impression in our case was a right adnexal cyst with two components. Under laparoscopic examination, a right ovarian simple cyst and a benign cystic teratoma in the Douglas pouch were diagnosed. The case we present here is the third one in the literature located in the Douglas pouch and the first mature teratoma of the Douglas pouch in a postmenopausal woman. Although the pathogenesis of this tumor in the Douglas pouch is unclear, we report it as a rare site of benign mature teratomas.

References

1. Blaustein A, Kurman RJ. *Blaustein's Pathology of the Female Genital Tract*, 4th edition. New York: Springer-Verlag, 1994:

1280.
2. Mazzarella P, Okagaki T, Richart RM. Teratoma of the uterine tube. A case report and review of the literature. *Obstet Gynecol* 1972;39:381–388.
3. Martin E, Scholes J, Richart RM, Fenoglio CM. Benign cystic teratoma of the uterus. *Am J Obstet Gynecol* 1979;135:429–431.
4. Sakurai Y, Uraguchi T, Imazu H, Hasegawa S, Matsubara T, Ochiai M, Funabiki T. Submucosal dermoid cyst of the rectum: report of a case. *Surg Today* 2000;30:195–198.
5. Ushakov FB, Meirow D, Prus D, Libson E, BenShushan A, Rojansky N. Parasitic ovarian dermoid tumor of the omentum – a review of the literature and report of two new cases. *Eur J Obstet Gynecol Reprod Biol* 1998;81:77–82.
6. Lefkowitch JH, Fenoglio CM, Richart RM. Benign cystic teratoma of the retrouterine pouch of Douglas. *Am J Obstet Gynecol* 1978;131:818–820.
7. Turhan NO, Dilmen G, Ustun H. Benign cystic teratoma of the douglas. *Eur J Obstet Gynecol Reprod Biol* 2000;93:213–214.
8. Fox H, Langley FA, eds. *Postgraduate Obstetrical and Gynecological Pathology*. Oxford: Pergamon Press, 1973:226–229.