

A Case of Bilateral Ovarian Dermoid Cysts

Urvi Prajapati*, Jalashree Rana*, Rajul Shah**, Cherry Shah***, Nailesh Shah****

Abstract :

Introduction : A dermoid cyst (also called as “mature teratoma”) is a sac like growth that may be present at birth. It contains structures such as hair, fluid, teeth or skin glands that can be found on or in the skin. In some cases; especially in ovary it also contains thyroid or brain tissue. Ovarian dermoid cysts, which not uncommonly found in both ovaries can develop in a women in her reproductive years. The word “teratoma” is derived from the Greek word “teraton” meaning monster. The term dermoid cyst was coined by Leblanc in 1831.

Key words : Bilateral ovaries, Dermoid cyst

Introduction :

Tumours of the ovaries are very common in women in reproductive age group. Dermoid cysts are the most common germ cell tumours of young age. They are usually unilateral but in about 15-20% cases they are bilateral. ⁽¹⁾ As the germ cell tumours occur most commonly in reproductive age, they are one of the causes of infertility. WHO classified ovarian tumours according to similarity in cell types. Up to 65% of ovarian tumours are epithelial in origin and 90% of malignant ovarian tumours are of epithelial type. ⁽²⁾

Case Report:

A 26 years old female patient came to gynaecology outpatient department with the complaints of pain in abdomen and abdominal fullness. She was examined thoroughly and ultrasonography was carried out and she was diagnosed to have bilateral dermoid cysts of ovary.

Her CA-125 level was 7.1 U/ml. Alpha fetoprotein level was 1.5 ng/ml and LDH level was 226 U/L. Patient went for laparoscopically assisted ovarian cystectomy with preservation of both side ovaries and sent for histopathology. She was advised for regular six month follow up as to look for the recurrence of dermoid cyst in preserved ovaries. We had received the right and left sided ovarian cysts.

Grossly, right sided cystic ovarian cyst measured 13x12x7.5cm, left sided cystic ovarian cyst measured 5.5x5x3cm and was having septations. On cut section, clear straw coloured fluid came out and hair shaft component was present. Microscopic examination revealed cyst wall lined by stratified squamous epithelium with skin. Subepithelial stroma showed presence of mature adipose tissue, sebaceous glands, nerve bundles, hairs and glial tissue. Hence, based on overall histopathology and both cysts, it might be concluded that they are BILATERAL OVARIAN DERMOID CYSTS.

Figure 1: Left side ovarian cyst

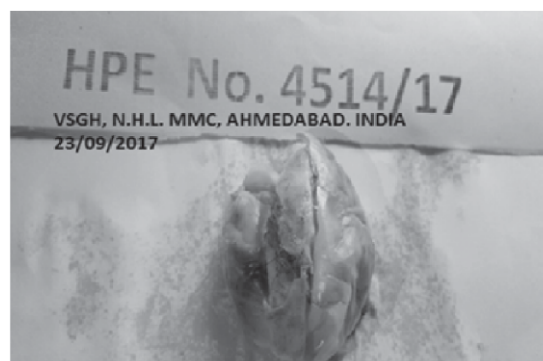
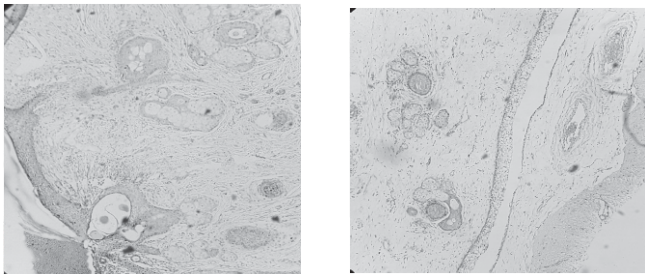


Figure 2: Right side ovarian cyst



* Resident
 ** Assistant Professor
 *** Professor of Pathology
 **** Professor and Head, Department of Pathology, N.H.L Municipal Medical Collage & Sheth V.S. General Hospital, Ahmedabad, Gujarat, India
 Correspondence to : Dr. Urvi Prajapati,
 e-mail: urvi9991@gmail.com

Figure 3 & 4: Histology of dermoid cyst



Discussion:

They are called as dermoid cyst because they comprise of all skin appendages i.e., ectodermal structures in 100% of cases. Germ cell is a totipotent cell therefore almost all types of body tissues are present in tumours including bone, hair, teeth, nail, thyroid, brain and even adipose tissue. This is the reason they are also called as teratomas which means monster in Greek. ⁽³⁾ Teratomas are of three types; mature, immature and monodermal. According to one theory, dermoid cyst develop by pathogenesis from a single haploid germ cell. ⁽⁴⁾ Usually a solid area composed of a combination of largest variety of tissue type is found in the cyst and is called Rokitsansky protuberance. Its histological examination is recommended. Sometime decalcification is required in such cases.

The increasing level of estrogen and progesterone may explain the increased size of mature cystic teratomas after puberty, and their arrested growth after menopause. ⁽⁵⁾ They have long term recurrence rate after surgical resection necessitating close follow up at six monthly intervals. In adult patients, mature cystic teratoma are often detected incidentally during routine procedures or during abdominal or pelvic surgeries performed for other reasons; most of these cases (64.5%) cases are asymptomatic. ⁽⁶⁾ However in children and adolescents, these ovarian tumours may also show different clinical manifestations, such as abdominal pain and distention, caused by tumour torsion or ligament irritation. ⁽⁷⁾

Ultrasonography and tumour markers such as CA-125 and alpha fetoprotein are common tools used for early detection and characterization of ovarian masses, such as mature or immature teratomas. Ultrasonography is an excellent, non-invasive, investigative procedure that can be used for women of any age. ^(8,9) Among the above mentioned tumour markers, serum CA 19-9 is the most

reliable biomarker of ovarian mature cyst teratoma; higher level of serum CA 19-9 correlates with large tumour size. However, the diagnostic value with CA19-9 in patient with mature cyst teratoma is low when used alone. ⁽¹⁰⁾ Clinically serum CA-125 is still used to distinguished between the benign and malignant pelvic masses. ⁽¹¹⁾

For most patients with mature cystic teratomas, laparoscopic or laparotomic surgical excision can provide a definitive diagnosis, afford symptom relief and prevent complications. ⁽¹²⁾ Laparoscopic management of ovarian tumours is a potentially safer alternative for young women in whom fertility preservation is a desired outcome. ⁽¹³⁾ The reported incidence of postsurgical recurrence on the same ovary is 3–4%. ⁽¹⁴⁾ Previously, the contralateral ovary was also recommended for biopsy during surgery, but this procedure is no longer indicated due to the availability of accurate sonographic imaging. ⁽¹⁵⁾ According to Harada et al., young age (<30 years), large cyst size (diameter > 8 cm), and bilateral occurrence are predictive risk factors for recurrence, with the risk of recurrence being especially high was reported. Bilateral dermoid are seen in only 15 to 20 % cases, which is very rare and it was reported by Shastry S & Gadda A ⁽¹⁶⁾, Ramana A et al. ⁽¹⁷⁾, Chang CF & Lin CK ⁽¹⁸⁾ and Boulay RM. ⁽¹⁹⁾

Conclusion:

Bilateral ovarian cyst teratomas are quiet rare. At the time of enucleation of dermoid cysts both ovaries should be thoroughly examined to ensure that all the dermoid cysts have been removed. It is essential in order to prevent recurrence which is common after bilateral teratoma and although benign tumour it needs close follow up.

In our case as the patient was young (26 years), cyst size was larger (13x12x7.5cm) and bilaterality of ovarian dermoid cyst indicated risk of recurrence was very high, so regular six month follow up was advised.

The case is presented because of rarity of this type of tumour.

References :

1. Sinha R, Sethi S, Mahajan C, Bindra V. Multiple bilateral dermoids: a case report. *J Minim Invasive Gynecol* 2010; 17:235-8.
2. Sundar S, Neal RD, Kehoe S. Diagnosis of ovarian cancer. *BMJ*. 2015; 351:h4443.

3. Choukimath SM, Ramalingappa CA. Multiple and bilateral benign cystic teratomas of ovary with broad ligament leiomyoma: a case report. *Int J Med Biomed Res* 2012; 1:158-60.
4. Alanbay I, Çoksuer H, Ercan M, karaahin E, Keskin U, Baser I. Multiple Recurrent Mature Cystic Teratoma Of The Same Ovary: A Case Report And Literature Review. *Med J Kocatepe* 2011; 12:8-12.
5. Blackwell WJ, Dockerty MB, Masson JC: Dermoid cysts of the ovary: their clinical and pathologic significance. *Am J Obstet Gynecol* 1946; 51:151-172.
6. Comerci JT, Licciardi F, Bergh PA, Gregori C, Breen JL: Mature cystic teratoma: a clinicopathologic evaluation of 517 cases and review of the literature. *Obstet Gynecol* 1994; 84:22-28.
7. Pfeifer SM, Gosman GG: Evaluation of adnexal masses in adolescents. *Pediatr Clin North Am.* 1999; 46: 573-92. 10.1016/S0031-3955(05)70138-3.
8. Al Jama FE, Al Ghamdi AA, Gasim T, Al Dakhiel SA, Rahman J, Rahman MS: Ovarian tumors in children and adolescents-a clinical study of 52 patients in a university hospital. *J Pediatr Adolesc Gynecol* 2011,24: 25-28. 10.1016/j.jpag.2010.06.005.
9. Deligeoroglou E, Eleftheriades M, Shiadoes V, Botsis D, Hasiakos D, Kontoravdis A, Creatsas G: Ovarian masses during adolescence: clinical, ultrasonographic and pathologic findings, serum tumor markers and endocrinological profile. *Gynecol Endocrinol* 2004, 19:1-8. 10.1080/09513590410001712895.
10. Emin U, Tayfun G, Cantekin I, Ozlem UB, Umit B, Leyla M: Tumor markers in mature cystic teratomas of the ovary. *Arch Gynecol Obstet* 2009; 279: 145-147. 10.1007/s00404-008-0688-2.
11. Bast RC, Badgwell D, Lu Z, Marquez R, Rosen D, Liu J et al. New tumor markers: CA125 and beyond. *Int J Gynecol Cancer* 2005; 15:274-281. 10.1111/j.1525-1438.2005.00441.x.
12. Laberge PY, Levesque S: Short-term morbidity and long-term recurrence rate of ovarian dermoid cysts treated by laparoscopy versus laparotomy. *J Obstet Gynaecol Can* 2006; 28:789-793.
13. Seracchioli R, Venturoli S, Colombo FM, Govoni F, Missiroli S, Bagnoli A: Fertility and tumor recurrence rate after conservative laparoscopic management of young women with early-stage borderline ovarian tumors. *FertilSteril* 2001, 76:999-1004. 10.1016/S0015-0282(01)02842-4.
14. Doss N Jr, forney JP, Vellios F, Nalick RH. Covert bilaterality of mature ovarian teratomas. *Obstet Gynecol* 1977; 50:651-653.
15. Laverj JP, KoontzWL, Layman L, Shaw L. *Surg GYNECOL obstet*1634):319-17.
16. Shastry S & Gadda A. Bilateral dermoid cyst of ovary. *Med J DY Patil Univ* 2014; 7:492-3.
17. Raman A et al. Subtle Presentation of Bilateral Ovarian Dermoid Cysts with Unilateral Torsion: A Case Report. *J Clic Gynecol & Obstet* 2015;4(2):232-34.
18. Chang CF & Lin CK. *BMC Women's Health* 2014; 14:57.
19. Boulay RM & Pdaczaski E. Bilateral Ovarian Dermoid Cysts. *New England Journal of Medicine* 2002;346:2,139-39.