

A CASE OF BILATERAL TERATOMA OF OVARY WITH TORSION**Dr. Vijay David Raj R.*¹ and Dr. Natarajan Suresh²**¹Post Graduate, Department of Pathology, Sree Balaji Medical College and Hospital Chennai, Tamil Nadu, India.²Assistant Professor, Department of Pathology, Sree Balaji Medical College and Hospital Chennai, Tamil Nadu, India.***Corresponding Author: Dr. Vijay David Raj R.**

Post Graduate, Department of Pathology, Sree Balaji Medical College and Hospital Chennai, Tamil Nadu, India.

Article Received on 08/07/2017

Article Revised on 28/07/2017

Article Accepted on 18/08/2017

ABSTRACT

27 year female came to casualty with complaints of abdominal pain for 3 days, which was sharp, non-radiating type of pain, not subsiding on pain killers. USG abdomen revealed torsion of left ovary with a cyst of 12 x 8 x 5 cm and right ovarian cyst measuring 2 x 2 x 1 cm. Emergency left salpingo-oophorectomy done and right ovarian cystectomy done. Teratoma of ovary are benign/malignant tumors that are easily detected by pelvic ultrasonography. Teratomas are common cause of torsion ovary presenting with acute abdominal pain. However, patients of bilateral teratomas are rarely seen. Routine checking of the contra-lateral ovary during the surgical procedure along with frequent postoperative pelvic sonography for both ovaries in patients with high recurrence is necessary. Surgery must be done accordingly without affecting the fertility and recurrent surgeries.

KEYWORDS: Teratomas, Torsion Ovary, Cyst Resection, Bilateral.**INTRODUCTION**

Mature cystic teratomas also called dermoid cyst is a benign tumour of the ovary which is composed of derivatives of ectoderm, mesoderm and endoderm with ectoderm predominantly. It represents 20% of all ovarian neoplasms and seen in reproductive age group (20-45 years). It may also occur in new-borns and postmenopausal age groups.

CASE REPORT

27 year female P2 L2 presented to the Emergency Room with complaints of severe abdominal pain for 3 days. The pain was a sharp, non-radiating type of pain, not subsiding on pain killers. History of nausea/vomiting present for 3 days. History of dysmenorrhoea for 5 months present. History of occasional abdominal pain present intermittently for 6 months.

Ultrasound Imaging findings done immediately and the report showed.

Torsion of left ovary with a cyst measuring 12 x 8 x 5 cm and right ovary showing a cyst measuring 2 x 2 x 1 cm. Emergency left salpingo-oophorectomy done with right cyst excision to save the patient and also to preserve the fertility of the patient. The specimen was sent to Pathology department for histopathological diagnosis.

Pathology**Gross Examination**

A) Received left salpingo-oophorectomy specimen with ovary measuring 11 x 8 x 5 cm and tube measuring 6 cm in length.

External Surface: Grey black in colour with areas of congestion present. Tube Shows congestion.

Cut Surface: Pultaceous material with hair follicle seen with extensive areas of haemorrhage. Tube shows lumen with haemorrhage.

B) Received right ovarian cyst measuring 2 x 2 x 1 cm.

External Surface: Greyish white.

Cut Surface: Shows pultaceous material with hair follicles.

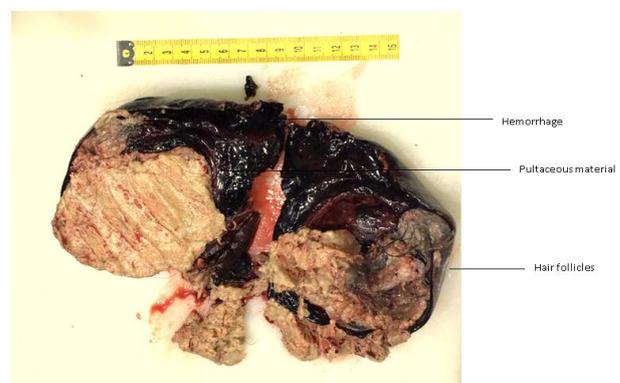


Figure 1: Cut section of left ovary shows pultaceous material with hair follicles and extensive areas of haemorrhage.

Microscopical Examination

A) Section from Left ovary shows a cystic lesion lined by stratified squamous epithelium and surrounded by pilo-sebaceous glands and extensive areas of hemorrhage.

Section from the left tube shows congestion and extensive areas of hemorrhage.

B) Section from the right ovarian cyst excision specimen show a cystic lesion lined by stratified squamous epithelium and enclosing a hair shaft and keratinous material with areas of microcytic degeneration. Multinucleated giant cell reaction seen focally.

Histopathological findings confirmed the presence of bilateral, mature cystic teratomas, composed of sebaceous and keratinous material as well as hair shaft components. No evidence of malignancy was found. After discharge, the patient underwent follow-up at 1 and 3 months. She did not report any abdominal pain, and a pelvic sonography did not demonstrate any signs of recurrence or residual tumour.

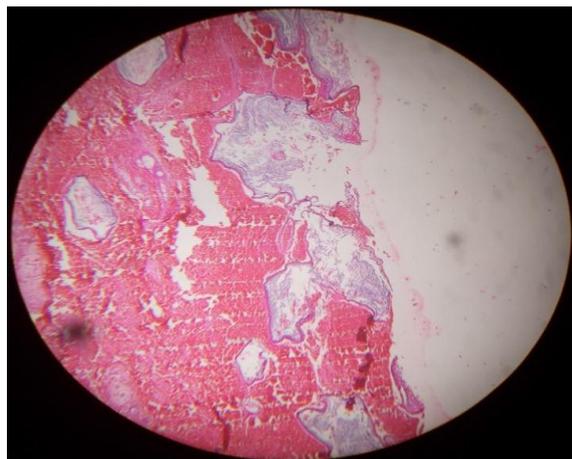


Figure 2: (Scanner 40x magnification).H&E Stain Section from the left ovary shows extensive areas of haemorrhage with keratinised squamous epithelium.

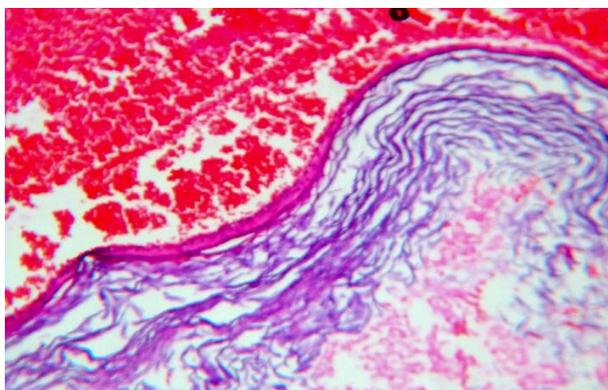


Figure 3: (Low power 100 x magnification) H&E Stain Section from the left ovary shows extensive areas of haemorrhage with keratinised squamous epithelium.

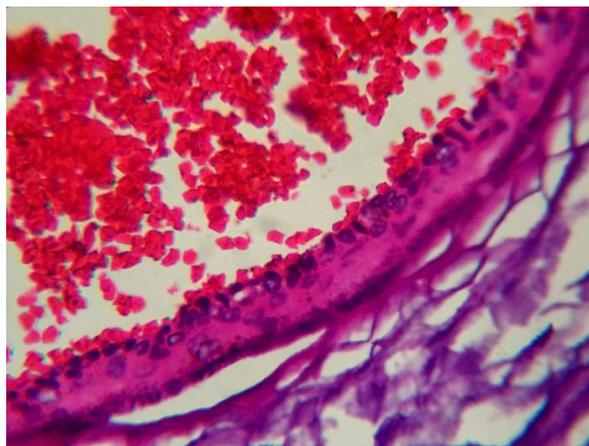


Figure 4: (High power 400 x magnification) H&E Stain Section from the left ovary shows extensive areas of haemorrhage with keratinised squamous epithelium with epithelial lining.

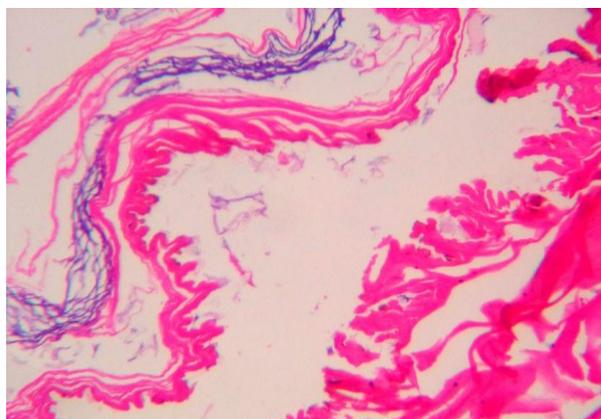


Figure 5: (Low power 100x magnification) H&E stain Section from the right ovarian cyst keratinised squamous epithelium.

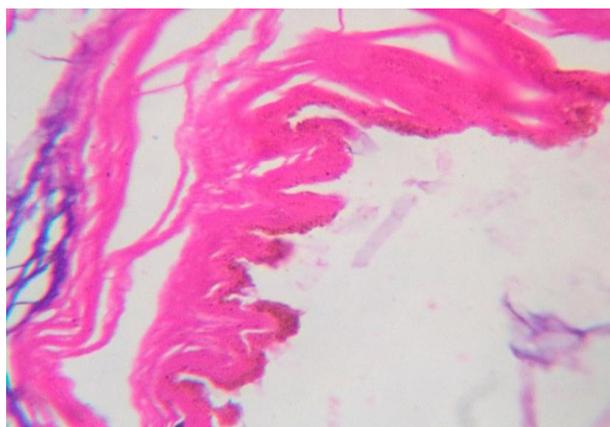


Figure 6: (High power 400x magnification) H&E Stain Section from the right ovarian cyst keratinised squamous epithelium.

DISCUSSION

Mature cystic teratomas also called dermoid cyst is a germ cell tumour of the ovary. The mature type of teratoma is benign, whereas the immature type of teratoma is malignant.^[1] Mature cystic teratomas being

benign accounts for 20% of the total cases of ovarian tumors.^[2] The disease occurs in patients of reproductive age group (20 - 45 years) predominantly, although cases are seen in new-born and also in post-menopausal age group.^[3] Mature cystic teratomas range in size from 0.5cm to 40 cm with an average of 25 cm^[4] they grow slowly but some tumours are seen growing more rapidly. Mature cystic teratomas are usually unilateral, with only approximately 8–15% being bilateral.^[5] These tumours have a high incidence of recurrence even after surgical resection. After puberty oestrogen and progesterone production may cause the increase in size of mature cystic teratomas, and the stop of growth after menopause.^[6] This tumour has a high incidence of recurrence within one year and less than months in immature teratomas. There is always a suspicion for the opposite ovary to be harbouring a teratoma either mature or immature as seen in 10 – 15 % cases. Hence ultrasound of the contra-lateral ovary is always recommended for follow-up. The commonest clinical presentation is pain (47.6%) and other presentation are abdominal mass (15.4%) and abnormal uterine bleeding (15.1%). The abdominal pain may be mild, dull aching which may be worsened to acute abdominal pain if the ovary undergoes torsion. The tumour occurs frequently during pregnancy in around 22 – 40 % of cases.

Grossly, the tumour appears round, oval or globular with smooth, gray white and glistening. The contents of the tumour are liquid at body temperature and solidifies in room temperature. Presence of hair follicle with pultaceous content are common in mature cystic teratomas. Rokitansky's protuberance has bone and tooth present in it.

The microscopic features mainly show a cyst cavity lined by skin with keratinized squamous epithelium with abundant sebaceous, eccrine glands, fat with dermal appendages. Occasionally gastro-intestinal and bronchial type cell lining may be seen. One study of 100 cases of mature cystic teratoma has ectoderm 100%, mesoderm 93% and endoderm 71%.

The complications associated with the tumour are torsion of the ovary, rupture of the tumour, infection of the contents of the tumour and rarely malignant transformation of the tumour. One rare complication is the development of neuro-psychiatric symptoms due to autoimmune encephalitis due to the antibodies developed to the neural epithelium of the tumour. Torsion occurs 16.1% in the pregnant and puerperium age group. Other complications are rupture of the tumour (1% cases). This may immediately cause shock, haemorrhage with late complications as granulomatous reaction and dense adhesions.

In our case, the patient who was a 27 year female presented with acute abdominal pain for 3 days which was sharp and non-relieving with pain killers. On reaching the casualty, an ultrasound revealed torsion

ovary with a cyst on the left side and a cyst on the right ovary. Surgery was planned immediately and the torsion ovary was removed in total. Considering the reproducing age group of the patient, the right ovary was spared with only removal of the cyst. The specimen was sent to the pathology department. Microscopically, the left ovary showed extensive haemorrhage with the cyst lining showing areas of squamous epithelium with keratin layers with extensive haemorrhage. The right ovarian cyst had pultaceous content with cyst lined by squamous epithelium.

The right ovary was spared due to the reproductive age group, but the patient is on follow-up in anticipation of recurrence by ultra-sonogram examinations every 3 months up to a year.^[7]

Mature cystic teratomas are detected incidentally during routine imaging procedures; as they are asymptomatic in most cases (64.5%).^[8] Ultrasonography helps in the early detection and is an excellent, non-invasive, investigative procedure.^[9,10]

Serum CA19-9 and CA 125 are tumour biomarkers used for ovarian pathology.^[11] Serum CA125 is used to distinguish between benign and malignant ovarian tumours whereas CA 19-9 is used for assessing tumour size by direct proportion of the quantity seen.^[12] Surgery provides a definitive diagnosis and prevent complications.^[13] The incidence of postsurgical recurrence on the same ovary is 4%. Previously, the contra-lateral ovary was also removed during surgery but it is not done due to the sonographic examinations done anticipating recurrence.^[14]

CONCLUSIONS

Routine checking of the contra-lateral ovary during surgical resection is necessary. In view of detecting recurrence in teratomas of ovary, post-operative pelvic sonograms are to be done every 3 months in suspected patients' up to a year. This case is reported as it is a rare case presentation.

REFERENCES

1. Alotaibi MO, Navarro OM: Imaging of ovarian teratomas in children: a 9-year review. *Can Assoc Radiol J*, 2010; 61: 23–28.
2. Kahraman K, Cetinkaya SE, Kankaya D, Dunder I, Soylemez F: Squamous cell carcinoma arising from mature cystic teratoma of the ovary with synchronous endometrial adenocarcinoma. *J Obstet Gynaecol Res*, 2011; 37: 146–150.
3. Ozgur T, Atik E, Silfeler DB, Toprak S: Mature cystic teratoma in our series with review of literature and retrospective analysis. *Arch Gynecol Obstet*, 2012; 285: 1099–1101.
4. Caspi B, Appelman Z, Rabinerson D, Zalel Y, Tulandi T, Shoham Z: The growth pattern of ovarian dermoid cysts: a prospective study in

- premenopausal and postmenopausal women. *Fertil Steril*, 1997; 68: 501–505.
5. Pepe F, Panella M, Pepe G, Panella P, Pennisi F, Arikian S: Dermoid cysts of the ovary. *Eur J Gynaecol Oncol*, 1986; 7: 186–191.
 6. Blackwell WJ, Dockerty MB, and Masson JC: Dermoid cysts of the ovary: their clinical and pathologic significance. *Am J Obstet Gynecol*, 1946; 51: 151–172
 7. Kurman, R. J., Ellenson, L. H., Ronnett, B. M., & Blaustein, A. *Blaustein's pathology of the female genital tract: with 1446 figures and 125 tables*. New York: Springer, 2011.
 8. Comerici JT Jr, Licciardi F, Bergh PA, Gregori C, and Breen JL: Mature cystic teratoma: a clinicopathologic evaluation of 517 cases and review of the literature. *Obstet Gynecol*, 1994; 84: 22–28.
 9. Al Jama FE, Al Ghamdi AA, Gasim T, Al Dakheel 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. 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.
 11. 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.
 12. Bast RC Jr, Badgwell D, Lu Z, Marquez R, Rosen D, Liu J, Baggerly KA, Atkinson EN, Skates S, Zhang Z, Lokshin A, Menon U, Jacobs I, Lu K, Bast RC Jr, Badgwell D, Lu Z, Marquez R, Rosen D, Liu J, Baggerly KA, Atkinson EN, Skates S, Zhang Z, Lokshin A, Menon U, Jacobs I, Lu K: New tumor markers: CA125 and beyond. *Int J Gynecol Cancer*, 2005; 15: 274–281. Chang and Lin *BMC Women's Health*, 2014; 57: 3-4.
<http://www.biomedcentral.com/1472-6874/14/57>.
 13. 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.
 14. Doss N Jr, Forney JP, Vellios F, Nalick RH: Covert bilaterality of mature ovarian teratomas. *Obstet Gynecol*, 1977; 50: 651–653.