



Mature cystic teratoma of ovary transforming to squamous cell Carcinoma - a Case report

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ABSTRACT

Mature cystic teratoma (MCT) accounts for 30-45% of all ovarian tumors. Malignant transformation of these tumors is a rare event, which develops only in 1 to 2% of the cases. But it must be highlighted that though it may be a rare occurrence, malignant transformation is associated with a poor prognosis. Of all transformations, squamous cell carcinoma (SCC) is the most common histological type accounting for about 75% of all malignant transformations. We hereby report a case of a 49 year old female with mass in abdomen for 3 months associated with pain. Ultrasound studies suggested an ovarian tumor-solid cystic teratoma. Total abdominal hysterectomy with bilateral salphingo oophorectomy was done. Moderately differentiated invasive squamous cell carcinoma arising in a background of mature cystic teratoma was diagnosed by histopathological studies.

INTRODUCTION

Mature cystic teratoma accounts for 30-45% of all benign tumors arising in ovary [1] and is composed of well differentiated tissues derived from the three germ cell layers (ectoderm, mesoderm, and endoderm). Malignant transformation in a mature cystic teratoma of ovary is rare with an incidence rate of 1-2%. [2] The most common malignancy is squamous cell carcinoma (75%) followed by adenocarcinoma & melanoma. ^{3,4}

CASE REPORT

A 49 year old multiparous post menopausal woman with chief complaints of mass in abdomen for 3 months and pain abdomen for 2 weeks. Clinical examination findings presented a hard abdominal pelvic mass with no ascites. Clinical Diagnosis of Ovarian Tumor with possibility of malignancy was done.

On investigation, ultrasound study revealed a large, heterogenous mass, measuring 14 x 11 x 4 cm in the left adnexa. Radiological diagnosis showed a complex solid cystic ovarian teratoma.

Transabdominal hysterectomy with bilateral salphingo oophorectomy was performed.

Resected specimen was received in the Department of Pathology

Gross Examination showed -left sided ovary with a cystic mass measuring 14 x 10 x 4 cm with a smooth and intact external capsular surface. On cut section, the inner wall showed thickened greyish white areas with papillary excrescences. The cyst wall thickness varied from 2 to 5 mm (fig.1).

Right sided ovary measured 2 x 1 x 1 cm with no obvious abnormality.

Uterus and cervix appeared to be normal.

Microscopic Examination: Section from uterus showed endometrium with atrophic change, the section from cervix showed chronic nonspecific cervicitis (fig.2).

Rt. Ovary was normal.

Left sided ovary showed mature cystic teratoma with malignant transformation to squamous cell carcinoma.

Final diagnosis

Left Ovarian teratoma with malignant transformation to squamous cell carcinoma (fig.3,4,5).



Fig 1. Gross -dermoid cyst with thickened hard area with uterus, cervix,1 sided tube & ovary & other sided ovary

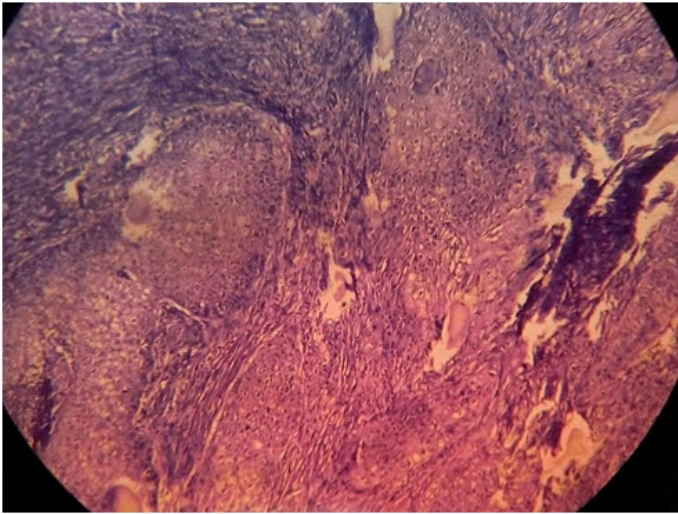


Fig 2. L.P.View a cyst lined with thinned out squamous epithelium.

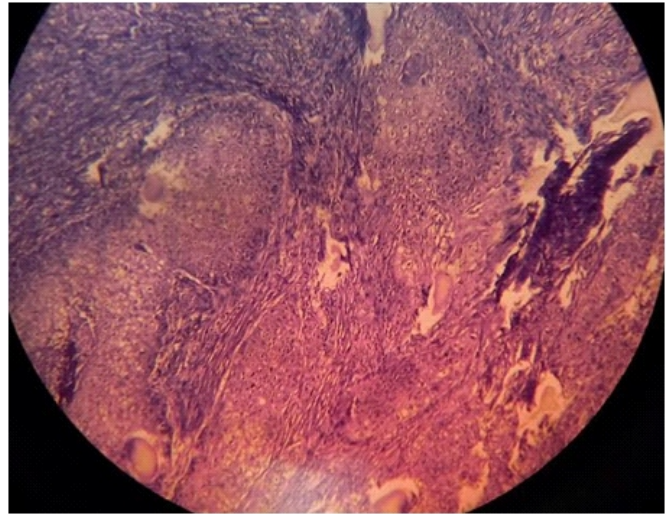


Fig 3. L.P.Ovarian tissue showing squamous cell transformation of dermoid cyst.

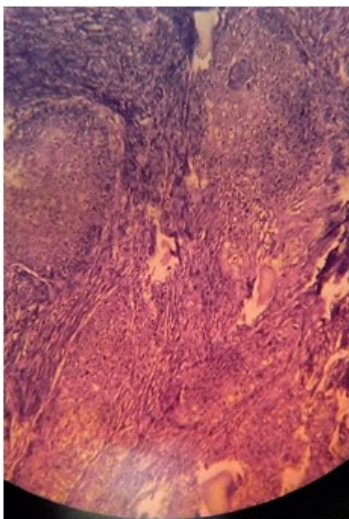


Fig 4. L.P.-dermoid cyst lined with squamous epithelium.

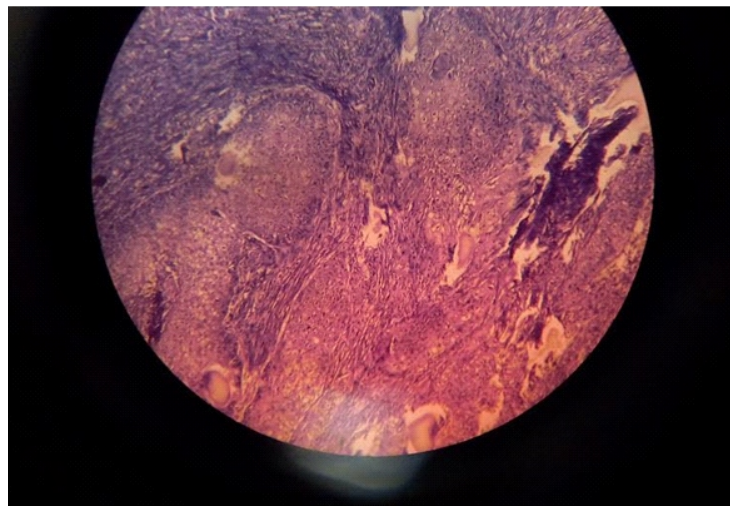


Fig 5. H.P.View lobule of atypical squamous cells infiltrating into stroma.

DISCUSSION

Mature cystic teratoma of the ovary, often referred to as dermoid cysts, are benign and are one of the commonest ovarian tumours. This usually occurs in postmenopausal women with studies showing a mean age of onset of 55 years,[5] which compares well with the mean age of diagnosis in our patients. The average diameter of benign dermoid cysts is 67 cm,[6] while that of the malignant counterpart is 14 cm.⁵ The tumour diameter in our case is 14 cm. A study reported that a tumour diameter of larger than 9.9cm was 86% sensitive for malignancy.[7]

Pre-operative diagnosis is difficult because of lack of specific symptoms and signs to suggest malignancy.[8] Although germ cell tumours generally occur in younger patients, SCC arising from MCT occurs in patients who are older than those who develop other malignant germ cell tumours.[7] At the time of presentation, the most frequent symptom associated with malignant transformation is lower abdominal or pelvic pain and increasing abdominal girth.[9]

In our case, the patient also complained of pelvic pain.

The main therapeutic approach to an ovarian mature cystic teratoma with malignant transformation is optimal tumor debulking followed by single agent or combination chemotherapy, radiation therapy or a combination of these modalities. Due to rarity, a definite or palliative therapy for squamous cell carcinoma arising from a mature cystic teratoma has not yet been established.[10]

In our case, the patient was referred for chemotherapy, but she resisted treatment & died from progression of disease, 4 months after the initial operation.

CONCLUSION

Clinicians should consider the possibility of malignant transformation of MCT in postmenopausal women with large tumours.

REFERENCES

1. Kong CS, Longacre TA, Hendrickson MR, *Gynaecologic Oncology*, Philadelphia, Lippincott, Williams & Wilkins, 2012
2. Robert H. Young, Philip B. Clement, Robert E. Scully. Sex Cord Stromal, Steroid Cell, & Germ Cell -Tumors of the Ovary. Chapter 55. In Sternberg's Diagnostic Surgical Pathology. 4th edition Vol 3; 2579-2615
3. F. Nogales, A. Talerma, R.A. Kubik-Huch, F.A. Tavassoli, M. Devouassoux-Shisheboran. Germ Cell-Tumors In World Health Organisation Classification of tumors, Pathology & Genetics of Tumors of the Breast & Female Genital Organs. Edited by Fattaneh A. Tavassoli, Peter Devilee 2003; 163-175.
4. Rosai J. Female Reproductive System, Chapter 19. In: Rosai J, editor. Ackerman's Surgical Pathology. 9th ed., Vol 2 St Louis: Mosby; 2004 1649 - 1736.
5. Hackethal A, Brueggmann D, Bohlmann MK, et al., Squamous cell carcinoma in mature cystic teratoma of the ovary: systematic review and analysis of published data, *Lancet Oncol*, 2008;9;117380.
6. Ayhan A, Bukulmez O, Genc C., et al., Mature cystic teratomas of the ovary: case series from one institution over

34 years, *Eur J Obstet Gynecol Reprod Biol* 2000;88:1537.

7. Kikkawa F, Nawa A, Tamakoshi K, Ishikawa H, Kuzuya K, Suganuma N, et al. Diagnosis of squamous cell carcinoma arising from mature cystic teratoma of ovary. *Cancer* 1998; 82: 2249-55.
8. Hurwitz JL, Fenton A, McCluggage WG, McKenna S. Squamous cell carcinoma arising in a dermoid cyst of the ovary: a case series. *BJOG* 2007; 114: 1283-7.
9. Lim SC, Choi SJ, Suh CH. A case of small cell carcinoma arising in mature cystic teratoma of ovary. *Pathol Int* 1998; 48: 834-9.
10. Shariat-Torbaghan S, Emami-Aleagha M, Sedighi S, Azadbakht F, Keshvar A, Hajarizadeh B, et al. Squamous cell carcinoma arising in an ovarian mature cystic teratoma: a case report. *Arch Iran Med* 2009; 12: 1