

SQUAMOUS CELL CARCINOMA ARISING IN A MATURE CYSTIC TERATOMA OF THE OVARY- A CASE REPORT.**¹Dr. Nada Chettian Kandy*, ²Dr. Muktha R. Pai, ³Dr. Reba Philipose T. and ⁴Dr. Raj Kumari Robina**¹Post Graduate Student. Department of Pathology, A. J. Institute of Medical Sciences. Mangalore, Karnataka.²Professor. Department of Pathology, A. Institute of Medical Sciences, Mangalore, Karnataka.³Professor. Department of Pathology, A. J. Institute of Medical Sciences, Mangalore, Karnataka.⁴Post Graduate Student. Department of Pathology, A. J. Institute of Medical Sciences, Mangalore, Karnataka**Corresponding Author: Dr. Nada Chettian Kandy**

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ABSTRACT

Mature cystic teratoma (MCT) composes 10-20% of all ovarian neoplasms. Malignant transformation of the MCT is rare and the reported incidence is 0.17–1.4 %. A 70 year old woman presented with abdominal pain of one month duration. MRI showed a well defined abdomino-pelvic cystic lesion- suggestive of right cystic ovarian neoplasm. CA125 was 4.4IU/ml. She underwent primary cytoreduction surgery. Histopathological examination confirmed it as invasive keratinizing squamous cell carcinoma arising from a mature cystic teratoma of the ovary.

KEYWORDS- Squamous cell carcinoma, mature cystic teratoma, ovary, malignant transformation.**INTRODUCTION**

Dermoid cysts account for approximately 10- 20% of all ovarian tumours,^[1] and around 60% of all benign tumours arising in the ovary.^[2] They occur more commonly in premenopausal women and are usually unilateral. Oophorectomy is the operative procedure of choice and is usually curative.^[2,3]

Malignant transformation of the various mature tissue components of a dermoid cyst is rare and the reported incidence is 0.17–1.4 % .^[1,2,3] Squamous cell carcinoma (SCC) arising from the ectodermal component is the commonest form of malignant transformation accounting for >80 % of cases, followed by adenocarcinomas and carcinoid tumours.^[2,4]

Historically, these tumours have been diagnosed post-operatively, as pre-operative features predicting the diagnosis are not well established.^[2]

Due to its rarity, our knowledge about this tumour type is limited and currently based mostly on case reports.^[2,5]

CASE REPORT

A 70 year old woman presented with abdominal pain of one month duration. MRI showed a well defined abdomino-pelvic cystic lesion measuring 13.4x11x9.5cm - suggestive of right cystic ovarian neoplasm possibly serous cystadenocarcinoma. CA125 was 4.4IU/ml. She underwent primary cytoreduction surgery.

OBSERVATIONS**Gross Examination:** Right ovary was enlarged and cystic measuring 14x12x7 cm.

Outer surface was smooth, glistening and translucent. Cut surface showed unilocular thin walled cyst [Fig-1]. Lumen was filled with pultaceous material and hair tufts [Fig-1]. One focus shows two horn like projections arising from the cyst wall measuring 6.5x2x1.5cm and 3x2x2cm respectively. Other focus of grey white solid area seen. [Fig-1]

Microscopic Examination: The fibrous cyst wall was lined variably by ciliated pseudostratified columnar epithelium with goblet cells and stratified squamous epithelium. One focus showed hair follicles, macrophages admixed with chronic inflammatory cells. The horn like structures and solid area showed invasive keratinizing squamous cell carcinoma [Fig-2A]. Peritoneal fluid for cytology was positive for malignant squamous cells.**IHC(Immunohistochemistry):** Cytokeratin AE1/AE3 showed diffuse and strong cytoplasmic positivity of malignant squamous cells [Fig-2B].**FINAL IMPRESSION**

Invasive keratinizing squamous cell carcinoma arising in a mature Cystic teratoma of the right ovary.

Capsular infiltration – Present.

Peritoneal washing- Positive for malignant squamous cells.

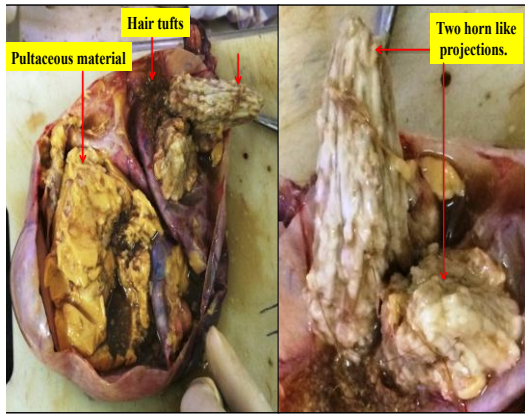


Figure 1: Two horn like projections arising from the Cyst wall.

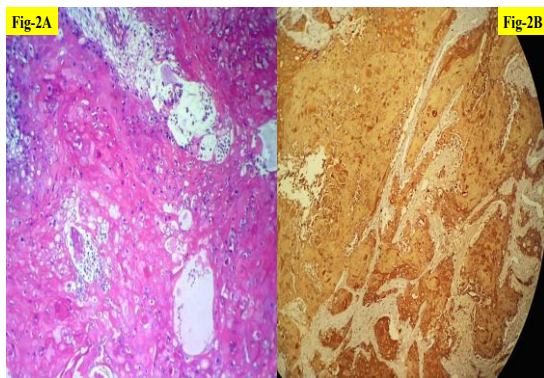


Figure 2A: H&E stain shows infiltrating malignant squamous cells with individual cell keratinization and keratin pearl formation.

Figure 2B: IHC- Cytokeratin AE1/AE3 shows diffuse and strong cytoplasmic positivity of malignant squamous cells.

DISCUSSION

Squamous cell carcinoma arising from a mature cystic teratoma is a rare pathologic event that is not diagnosed preoperatively.^[2,4] There are no particular signs or symptoms which are characteristic of malignancy arising in a dermoid.^[4]

This usually occurs in postmenopausal women with studies showing a mean age of onset of 55 years.^[1,2,3] Measurement of serum tumour markers and MRI are two important elements in differentiating malignant from benign ovarian tumours.^[4,5] Our patient had CA-125 levels checked pre-operatively and was normal. Higher CA-125 levels have been shown to be associated with adverse outcome.^[2,4] Other tumour markers are Carcinoembryonic antigen (CEA) and SCC-Ag.^[2,3,4] Raised CEA has recently been suggested as an important investigation when evaluating mature cystic teratoma,^[1,2,4] and high CEA level has been demonstrated in a patient with adenocarcinoma in a mature cystic teratoma.^[1,4] Equally, an elevated CEA level has been reported as more useful than CA-125 and CA19-9 in the diagnosis of malignant transformation of mature cystic teratoma.^[1,4] The average diameter of benign dermoid

cysts is 6–7cm, while that of the malignant counterpart is 14 cm, which compares well with the tumour diameter in our case (14x12x7cms).^[1,2,4] Because of its rarity the surgical and postoperative management of this uncommon germ cell malignancy are not established.^[1,4] The patient had an uncomplicated postoperative course. She was treated with pelvic radiation therapy and subsequent six cycles of chemotherapy at monthly intervals. A repeat CT scan of the abdomen and pelvis 6 months after the surgery showed no evidence of persistent malignancy. The patient is doing well for the past one and half years with disease free survival, and she is under follow up.

CONCLUSION

Squamous cell carcinoma arising from a MCT of the ovary is a rare malignancy. This carries a very poor prognosis once the disease spreads beyond the ovary. Pre-operative diagnosis is difficult, but serum tumour markers and MRI may be helpful in the diagnosis of malignant transformation. A careful histopathological evaluation followed by adequate sampling will enable accurate diagnosis.

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