Case Report

# Squamous cell carcinoma in mature cystic teratoma of ovary

**Manjula Manchale K[1], Praveen B. Biradar[2]**

**A 45 year-old female presented with distention of abdomen since 6-8 months. Ultrasonography revealed a cystic mass with solid areas arising from ovary and was diagnosed as a dermoid cyst. Total abdominal hysterectomy with bilateral salphingo-ophorectomy was performed. Cut section of left cystic ovarian mass showed tuft of hairs seen as a ball and yellow pultaceous material. Also seen were solid grey-white areas. Histopathological study confirmed the findings of dermoid cyst and grey-white solid areas showed squamous cell carcinoma with areas of keratin material, lymphocytes and mitotic figures. The right ovary was normal. Post-operative period was uneventful.**

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***Key words*** **: Squamous cell carcinoma, dermoid cyst, ovary.**

Dermoid cyst consists of tissues that develop from ectoderm, endoderm and mesoderm. Teratomas in majority of cases are benign in character and with complete surgical excision offer a very good prognosis[1]. Malignant transformations are rare, occurring in 2% of cases[2]. Squamous cell carcinoma is more common than adenocarcinoma and primary squamous cell carcinoma is a rarity[3].

## Case Report

A 45 year-old female presented with distension of abdomen of 6-8 months duration. She had two children with normal obstetric history. No history of loss of weight, appetite or any bowel and bladder symptoms. Clinical examination revealed a palpable mass in the left iliac fossa arising from pelvic cavity of 16th week size. Ultrasonography showed a left-sided ovarian mass with cystic and solid areas. Liver and spleen were normal. Total abdominal hysterectomy with bilateral salphingo-ophorectomy was done showing large left-sided cystic ovarian mass. removed. Uterus, cervix and right ovary appeared normal.

***Gross Examination*** — The cystic ovarian mass measured 16x12x9cms with outer surface showing solid areas measuring 5.5x4.5cms. Cut surface exuded grey-yellow pultaceous material and showed tuft of hairs in a ball like appearance. Cut surface of solid lesion showed a tiny cystic area measuring 2x1cm and appeared grey-white.

***Histopathological Examination*** — Sections showed a cyst wall lined by stratified squamous epithelium with adnexal structures. The solid areas showed atypical squamous cells, with keratin deposits, inflammation and mitotic figures. As there were no evidence of squamous cell lesion anywhere in the patient, the final diagnosis of mature cystic teratoma with squamous cell carcinoma was made.

## Discussion

Mature cystic teratoma of ovary comprises about 25% of all ovarian tumors[4]. They usually contain putty-like material and various organised mature tissues. Malignant transformation can occur from any germ layer[2]. Much more often the malignant lesion, derived from one of the elements of an otherwise benign teratoma is a carcinoma and in the series of cases studied by Peterson (1956) the commonest carcinoma was of squamous cell type of all instances[5]. Matz MH(1961) reported 85% of mature cystic teratoma in the age group of 16-55 years, mean age being 35 years[6]. Kikawa *et al* in his study of 37 cases of squamous cell carcinomas arising from mature cystic teraoma of ovary observed that mean age of squamous cell carcinoma was 55.2 years as compared to 37.5 years in patients with benign cystic teratoma. The mean size of malignant dermoid tumor in his study was 152.3 mm compared to 88.4 mm in benign dermoids. Women older than 45 years and tumor size greater than 99 mm were the criteria for malignancy[7]. Pure squamous cell carcinoma arising from metaplasia of surface epithelium of ovary and malignant transformation of ovarian endometriosis is still rare[8]. Metastasis from cervical squamous cell carcinoma is again an uncommon occurrence, the incidence being 0.5%[9]. An interesting occurrence of synchronous cervical, endometrial, tubal and ovarian squamous cell carcinoma and cervical intra epithelial neoplasia due to HPV infection has also been reported[10].

## Conclusion

Primary squamous cell carcinoma of ovary is rare. Metastasis of squamous cell carcinoma to the ovary is still rare. The malignant transformation being common from the 4th decade of life. The case presented here is a pure malignant transformation in a mature cystic teratoma and due to its rarity has been reviewed in the literature.

Department of Pathology, Mandya Institute of Medical Sciences, Mandya, Karnataka 571401

[1]MD, DNB, Assistant Professor

[2]MD, Consultant Pathologist, Manipal Northside Hospital, Bangalore 560003

## References

1 Evan's Histological Appearance of Tumors, David T. B. Ashley. 4th edition. Churchill Livingstone.

2 Wu RT, Torng PL, Chaang DY — Mature Cystic Teratoma of Ovary : A Clinicopathological Analysis of 253 cases. *Chung Hua I H Sich Tsa Chih (Taipei)* 1996; **58:** 269-74.

3 Okada S, Ohaki Y, Ogura J, Ishiha M — Imaging Finding in cases of Dermoid cysts coexisting with surface epithelial tumors in same ovary. *J Comput Assist Morg* 2004; **28:** 169-73

4 Zaloude KC — Tumors of ovary. In Christopher DM. Fletcher,

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eds. Diagnostic histopathology of tumors. 2nd edition. Churchill livingstone. Harcout Publication Ltd. 2000: 611.

5 Petersen WF, Prevost EC, Edmunds FT, Hurdley JM, Morris FC — Epidermoid Carcinoma arising in a benign cystic teratoma. *American Journal of Obstetrics and Gynecology (St. Louis)* 1956; **71:** 173.

6 Matz MH — Benign Cystic Teratoma of the Ovary : A review". *Obstet Gynecol Surv* 1961; **16:** 591-605.

7 Kikawa F, Nawa A, Tamakashik — Diagnosis of Squamous cell carcinoma arising from mature cystic teratoma. *Cancer* 1998; **82:** 2249-55.

8 Wu HS, Yen MS, Lai CR, Ng HT — Ovarian metastasis from cervical squamous cell carcinoma. *Int J Gynecol Obstet* 1997; 173-8.

9 Ray S, De A, Barvi G — *Ind J Pathol Microbiol* 2006; **49:** 420-2.

10 Pims MR, Young RH, Crum CP, Leach IH, Scully RE — Cervical squamous cell carcinoma in situ with intra epithelial extension to upper genital tract and invasion of tubes and ovaries. Report of a case with human papilloma virus analysis. *Int J Gynecol Pathol* 1997; **16:** 272-8.