SQUAMOUS CELL CARCINOMA ARISING IN MATURE CYSTIC TERATOMA

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INTRODUCTION

Teratomas are tumors in which more than a single cell type is derived from more than one germ layer. Teratomas may be benign cystic to solid and immature. Benign cystic teratoma is common and comprises 12-15% of all ovarian neoplasms.^{1,2} In contrast, squamous cell carcinoma of the ovary, which generally has its origin in mature cystic teratoma is extremely rare and only a few cases occur at any one institution.³ We report another case of squamous cell carcinoma arising in mature cystic teratoma in a 57-year-old woman.

CASE REPORT

A 57-year-old woman presented to the Dhulikhel hospital with complaint of dull aching continuous pain in the lower abdomen since 2 months. She had experienced spontaneous menopause 10 years back. The abdomen was soft and mildly tender to deep palpation. A pelvic examination revealed a 8-cm mass in the suprapubic region. Per vaginal examination revealed a normal size uterus with a separate mass above it.

Fig. 1

Fig. 1 : Gross specimen. The arrow shows exophytic mass.

Fig. 2

Fig. 2 : The figure shows cyst wall, lined by stratified squamous epithelium. Invasion into the wall by strands of squamoid cells is also shown. Hematoxylin & Eosin stain. Magnification x 40.

All routine hematological and biochemical tests were within normal limits. Ultrasound revealed a 9 x 8-cm right ovarian mass. The uterus, left ovary and all other parenchymal organs were ultrasonographically normal.

At laparotomy, right salpingo-oophorectomy with removal of 8.5 x 8-cm ovarian mass was performed. The specimen was received in Advanced diagnostic centre and polyclinic (private) for histopathological examination.

The post-operative period was uneventful and patient was discharged. No chemotherapy or radiotherapy was done. Patient was lost to follow-up.

PATHOLOGIC FINDINGS

Gross Examination

The ovarian mass measured 9 x 8 cm. The mass was cystic and filled with pultaceous material and tufts of hair. The

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Fig. 3

Fig. 3 : Squamous cell carcinoma arising in mature cystic teratoma, showing nests and strands of squamoid cells. Hematoxylin & Eosin stain. Magnification x 100.

Fig. 4

Fig. 4 : High power view of Fig. 3, showing nests of squamoid cells with stratification and keratin (arrow). Hematoxylin & Eosin stain. Magnification x 200.

external surface was smooth. The inner surface revealed soft exophytic, friable and elevated mass, measuring 4.5 x 4 cm (Fig. 1).

Microscopic Examination

The wall of the cyst revealed a fibrous wall lined by stratified squamous epithelium (Fig. 2) with sebaceous glands and hair follicles typical of mature cystic teratoma. Mature bone was also present. The mass described grossly (Fig. 1) revealed nests and strands of squamoid cells lacking polarity (Fig. 3). The stratification was evident. Keratin was present in the center of some of the nests (Fig. 4). Invasion into the wall was present (Fig. 2). The nuclei were highly pleomorphic and hyperchromatic. No immunohistochemical analysis was performed.

The diagnosis of squamous cell carcinoma arising in mature cystic teratoma was made.

DISCUSSION

Mature cystic teratoma is the most common ovarian tumor. However, squamous cell carcinoma arising in mature cystic teratoma is extremely rare.^{3,4} The frequency of this type of malignant transformation is age related and is most common in the fifth and sixth decades of life.⁵ Our patient was postmenopausal and 57-year-old. The patient may be asymptomatic or may develop abdominal pain or mass, swelling or uterine bleeding. These symptoms are also found in uncomplicated mature teratomas. Hence, malignant transformation is rarely diagnosed clinically. Our patient presented with abdominal pain and mass.

In general, malignant ovarian tumors are larger than benign tumors. In a study of Kikkawa F et al. the mean tumor size of mature cystic teratoma was 88.4 mm, whereas that of 37 squamous cell carcinoma arising from mature cystic teratoma was 152.3 mm.⁶ The tumor size in this case was 90 mm. The sampling from solid areas is mandatory to diagnose malignant change. The most common malignant change is squamous cell carcinoma (80%), with a few adenocarcinomas and malignant melanomas.^{7,8,9} This case was complicated by squamous cell carcinoma. The tumor may extend beyond the ovary and even to distant sites. In our case, distant or local spread was not found.

The optimal management strategy appears to be a staging laparotomy with total abdominal hysterectomy and bilateral salpingo-oophorectomy along with omentectomy and pelvic lymphadenectomy. Adjuvant radiation and chemotherapy should be added in advanced cases. In our case, simple salpingo-oophorectomy was done. No chemotherapy or radiotherapy was done. The patient was lost to follow-up.

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