Squamous cell carcinoma arising in mature cystic teratoma: A rare case

Sir,

Mature cystic teratoma (MCT) is the most frequent germ - line tumor of the ovary and accounts for 10-20% of all ovarian tumors in women of reproductive age. It is composed of mature tissues derived from 3 germ cell layers (ectoderm, mesoderm, and endoderm).[1] Malignant transformation of ovarian (MCT) is very rare and is reported to occur in about 1-4% of cases. The most common malignancy is that of squamous cell carcinoma (SCC) which represents about 75% of the malignant transformations followed by adenocarcinoma and melanoma. The least common malignancy is that of small cell carcinoma.[1,2] Malignancies of somatic type should be diagnosed in MCT when there is evidence of stromal invasion by malignant epithelium. The prognosis is generally poor when disease has spread beyond the ovary. At the time of presentation, the most frequent symptom associated with malignant transformation is lower abdominal or pelvic pain and increasing abdominal girth.[3] Old age, large tumor size, and solid portion in MCT seem to predict the malignant transformation of MCT.[2,4] In the present report, we describe a case of SCC arising in an MCT in a premenopausal woman due to its rarity.

A 37-year-old woman presented with a mass in the abdomen and progressing abdominal pain since 1 year. An ultrasound was performed which revealed an encapsulated mass in the right ovary with solid and cystic components. Pap smear cervix was negative for malignancy. Ultrasound - guided fine needle aspiration cytology of the ovarian mass was performed, which was suggestive of dermoid cyst. Clinical diagnosis of MCT was made and the mass was removed in toto. The cut - open specimen of the involved ovary was received along with the attached tube measuring 10 × 9 × 8 cm. The ovarian mass measured 10 × 7 × 7 cm in dimension. The lumen of the mass showed cheesy material along with entangled hair. The inner surface of the wall was smooth and shiny. The wall was thickened at places (multifocal) giving solid gray white appearance. The thickened area varied from 1.5 to 3 cm [Figure 1].

Sections from the ovarian cyst wall revealed mature columnar lining glands, few hair follicles, glial tissue, and adipose tissue. Sections from the thickened areas revealed well-differentiated SCC along with numerous keratin pearls. The cells showed nuclear pleomorphism, hyperchromasia, and mitotic figures and were invading into the ovarian stroma. The pattern of infiltration was alpha mode in which the tumor cells invaded the stroma expansively with a well - defined border between the tumor and the stroma, thus indicating a good prognosis for the patient. Dense lymphocytic inflammation was also evident. No benign epithelium was found in continuity with the malignant focus [Figure 2].

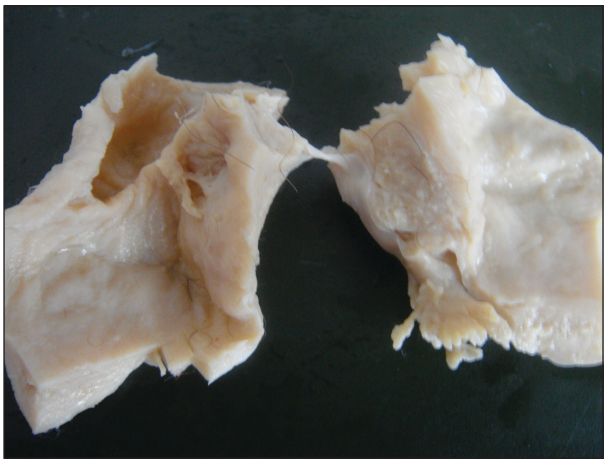

Figure 1: Gross view of the cystic ovary showing thickened wall and hair

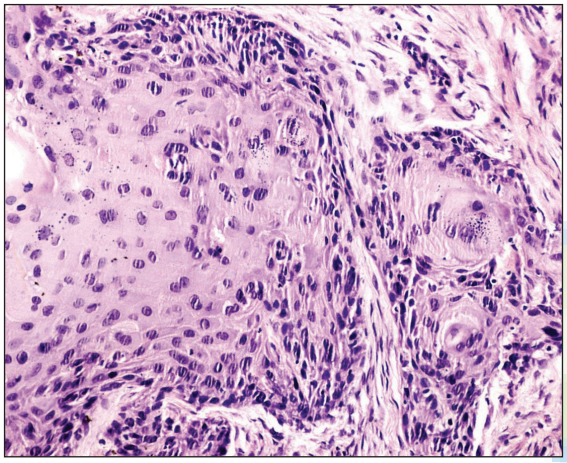

Figure 2: High power view showing a nest of malignant squamous cells and keratin pearls

Fine needle aspiration slides were reviewed again, however, no malignant focus was found.

Malignant transformation of an MCT is very rare and this should be borne in mind by the clinicians when faced with MCT, especially in older patients, with larger than usual cysts and presenting with increasing pain and abdominal girth. SCCs arising in MCT are commonly large ovarian neoplasms and usually present as an incidental pathologic finding. The prognosis is generally poor so early detection is important for long-term survival. The preferred therapeutic approach in these cases is surgical; however, the optimal treatment of this cancer should be individualized based on clinical findings of the patient and experience of the care providers.

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