Cutaneous Ciliated Cyst of Right Popliteal Fossa

Vikas S Kavishwar*, Ramesh S Waghmare**, GV Puranik***, Kirti Chadha†

Sir,

Cutaneous ciliated cyst (CCC) is an unusual cystic lesion of skin, which affects the lower limb of young female. CCC presents as a single unilocular or multilocular subcutaneous cyst lined by epithelium, histologically reminiscent of fallopian tube mucosa.

A 38 year old female presented in orthopaedic outpatient department with history of swelling over right popliteal fossa. It was gradually increasing in size over period of one year. The swelling was 3 x 2 cm in size, soft to cystic, nontender, and slightly mobile. Overlying skin was unremarkable. The cyst was separate from knee joint. The lesion was completely removed under local anaesthesia. We received a skin covered specimen measuring 3 x 2 x 1 cm with unilocular cyst containing serous fluid. The cyst wall was thin, smooth and grayish in colour. On light microscopy the cyst was seen in dermis and subcutaneous tissue. It was lined by columnar to cuboidal ciliated epithelium. There were small papillae projecting into the cystic lumen. The cyst was surrounded by inflammatory infiltrate was absent. Stains for mucin were negative. Diagnosis of cutaneous ciliated cyst was made. On Immunohistochemistry Oestrogen Receptor (OR) and Progesterone Receptor (PR) showed positivity (Figure 1).

Cutaneous ciliated cyst is first described by Hess in 1890 and later named by Farmer.1-5 These are very unusual benign lesions and only about 41 cases have been documented in the literature.2 This exclusively occurs on the lower extremity of young females shortly after puberty. According to the literature, the most common age range affected is between 12 and 42 years but

---

*Additional Professor, ‡Assistant Professor, §Professor, Department of Pathology, Topiwala National Medical College and BYL Nair Ch. Hospital, Mumbai, Maharashtra; §Consulting and Head, Department of Histopathology, Metropolis Health Care Ltd, Mumbai, Maharashtra

Received: 27.09.2013; Revised: 12.11.2013; Accepted: 19.11.2013

Fig. 1: Cutaneous ciliated cyst. A and B: Thin walled cyst lined by ciliated cuboidal to columnar cells (H and E, X 100); C: Closer view of ciliated epithelium (H and E, X 1000); D: Epithelial cells are positive for oestrogen receptor (IHC, X 400); E: Epithelial cells are positive for progesterone receptor (IHC, X 400).
also reported in 51 years old female. Lee et al have reported a rare case of CCC occurring in a male.

In most cases CCC is believed to arise from sequestered portion of the paramesonephrons in the developing lower limb. Histologically CCC is an uncapsulated dermal and/or subcutaneous cyst, with variable surrounding fibroadipose tissue with smooth muscle wall resembling fallopian tube. The cyst may be unilocular as seen in our case or may be multilocular. The cyst walls are lined by columnar ciliated epithelium which is occasionally pseudostratified and is often arranged in papillary projections. Areas of squamous metaplasia can be seen but there is absence of skin appendages. Lack of mucin producing cells is the rule. Evidence for müllerian origin of these cysts includes the strong association with female gender, and Oestrogen Receptor (OR) and Progesterone Receptor (PR) positivity as observed in our case. Some authors have suggested ciliated metaplasia of the sweat gland as an alternate aetiology of CCC but it lacks connection with adnexal structures and has an immunohistological profile more in keeping with fallopian tube. This includes OR, PR positivity and negativity with CEA and GCDFP-15, where as in the eccrine glands the pattern is reversed. Cutaneous müllerian cyst has been offered as preferred name over CCC to reflect that ciliated epithelial lining can be seen in other cutaneous cyst such as bronchogenic cyst, thyroglossal duct cyst, thymic cyst, perianal caudal gut cyst and vulvar cyst, however all these cysts are defined by their peculiar clinicopathological features and lack evidence for müllerian origin. Among these, vulvar cyst may be a variant of müllerian cyst related to CCC.

To conclude, cutaneous ciliated cyst is a rare distinct clinicopathological entity occurring in females. In this case immunohistchemistry for ER and PR was positive, which supports the histogenetic theory of heteropia of the ciliated müllerian epithelium. Since this lesion can enter in the differential diagnosis of various other cystic lesions lined by ciliated epithelium, correct diagnosis is necessary for proper management by dermatologist. Surgical excision under local anaesthesia is the recommended treatment for cutaneous ciliated cyst. Spontaneous regression of the cyst does not occur and the recurrence has not been reported in the literature. The present case also followed up for 10 months without any signs of recurrence.

References