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Multiple familial trichoepithelioma: A case report

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Abstract

Trichoepithelioma are benign epidermal appendageal tumour with follicular differentiation. Tumor has been categorized into solitary, multiple and desmoplastic types. The multiple familial trichoepithelioma is autosomal dominant inheritance and rarely seen.

Key words: Trichoepithelioma, tumor, inheritance.

Introduction

The multiple familial trichoepithelioma is a skin tumour of autosomal dominant inheritance. We report family with multiple trichoepithelioma. Tumor causes only cosmetic disfigurement to the patients but occasionally basal cell carcinoma (BCC) can develop in association with trichoepithelioma.

Case history

A 19 year old female student attended in our clinic with asymptomatic multiple rounded skin coloured, firm, papulonodular lesions over face since 2 years of age. Multiple skin lesions first appeared at nose, gradually increased in number and size to involved nasolabial fold and adjacent area of cheek bilateral (figure 1). Her younger sister, who is 15 years old, also had similar lesions at nose and started at the age of 5 years (figure 2). Her father has multiple lesions of similar characteristics at face since the age of 6 years (figure 3). No other family members had similar lesions. There is no history of consanguinity in family.

Examination of lesion revealed multiple skin colored, firm papulonodular lesions of varying size at nose, nasolabial folds and adjacent skin at cheeks bilaterally. No telangiectasia and ulceration of lesions were observed at any time. General physical examination did not reveal any abnormality. She had normal intelligentsia. Routine lab investigation including x-ray skull was normal.

Skin biopsy from the lesions showed multiple horn cysts and tumor island composed of basophilic cells, which were normal in size separated by fibrous stroma and no cellular atypia and mitosis seen (figure 4). Diagnosis was consistent with trichoepithelioma.

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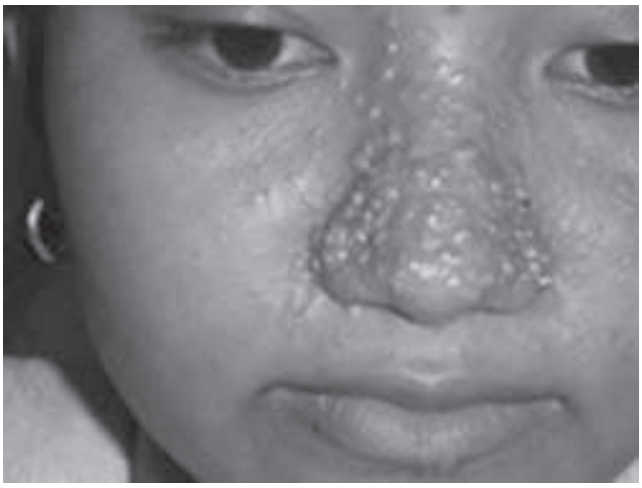

Figure-1. Patient- Multiple skin colour firm papulonodular lesions of varying size at nose, nasolabial fold and adjacent area of cheek bilateral.

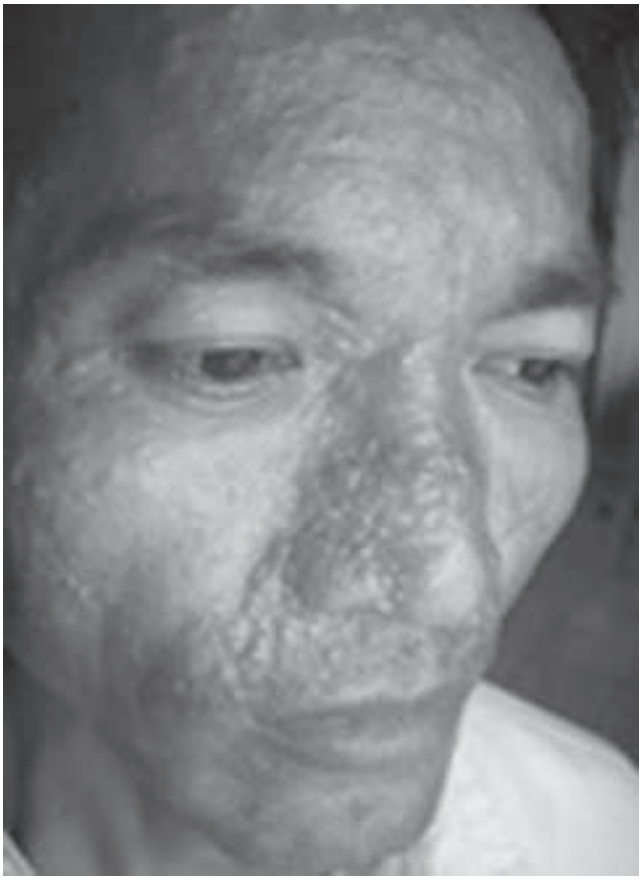

Figure-2. Father- Similar lesions at nose and nasolabial fold bilateral.

Figure-3. Younger sister- Similar lesion at nose

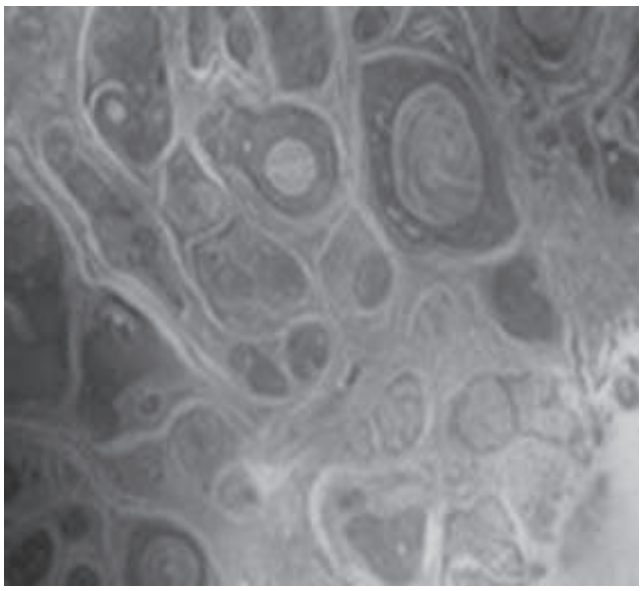

Figure- 4. Skin biopsy showing multiple cornified cysts.

Discussion

Brooke[1] and fordyces [2,3] first described hereditary trichoepithelioma or epithelium adenoids cysticum. The primary lesions of trichoepithelioma are characterized by rounded, skin-colored, firm papules or nodules 2-8 mm in diameter, typically concentrated around the nasolabial folds, forehead and are usually bilateral. 50% of lesions occur on the face and the scalp. Small papules may coalesce to form larger nodules and tumors as large as 2-3 cm. However unilateral, dermatomal and atypical large plaque types have also been reported. Tumor causes only cosmetic disfigurement to the patients but occasionally basal cell carcinoma (BCC) can develop in association with trichoepitheliomas.[4] Occasionally, lesions also occur on the neck and the upper part of the trunk. Heller et al. reported a rare case of trichoepithelioma of the vulva.[5] The lesions first appear in childhood and gradually increase in numbers and are located mainly on the nasolabial folds, nose, forehead, upper lip, and the scalp. Ulceration is rare. These tumour usually appear around puberty and enlarge slowly for several years and then stabilize. Our patient also had multiple asymptomatic lesions at nose, nasolabial folds and one of the sisters and father had similar lesions, suggested familial type of disease. In cases of multiple trichoepithelioma, the lesions may cause disfigurement because of involvement of the face. The rare cases of trichoepithelioma may have aggressive behaviour (i.e., ulceration, recurrence). Since trichoepithelioma is inherited as an autosomal dominant fashion, males and females receive the gene equally but because of lessened expressivity and penetrance in men, most patients are women as in our patients. The gene involved in the familial form of trichoepithelioma is located on band 9p21.Other cases are associated with mutations of the cylindromatosis oncogene (CYLD), which maps to 16q12-q13.[6,7]

Recent studies reported a novel missense mutation in the CYLD gene (cylindromatosis oncogene).[8] The gene associated with the familial type of trichoepithelioma links to the short arm of chromosome 9 and several tumor suppressor genes (ie, p16, p15, and the gene for the basal cell nevus syndrome) are encoded in this region. The gene for the development of familial trichoepithelioma also encodes for a tumor suppressor therefore if altered, cellular proliferation may be up-regulated because of a poorly functioning or absent tumor suppression.

Brooke–Spiegler syndrome (BSS, familial cylindromatosis or turban tumor syndrome) is an inherited disease characterized by neoplasms of the skin appendages such as cylindroma, trichoepithelioma, and spiradenoma. The disease has been mapped to 16q12-13, and mutations in the CYLD gene have been identified in families with this disorder. Of interest, multiple familial trichoepithelioma (MFT) has been described as a distinct disorder characterized by the familial occurrence of trichoepithelioma and has been mapped to 9p21. However, to date a candidate gene has not been identified. In this report, describe a four-generation family with BSS presenting predominantly with trichoepithelioma (resembling MFT phenotype). These findings exemplify clinical heterogeneity within BSS and mutations in CYLD are implicated in this disease. Although not conclusive, these findings suggest that BSS and MFT may represent a single entity.[9]

Tricoepithelioma should be differentiated clinically with basal cell carcinoma, colloid milium, syringoma, trichilemmoma, trichofolliculoma.

Multiple trichoepithelioma are benign and causes only cosmetic disfigurement to the patients but occasionally basal cell carcinoma (BCC) can develop in association with trichoepithelioma. Clinically, ulceration,

inflammation, necrosis, suggest a diagnosis of BCC and histologically, primitive hair structures, cornified cysts, cribriform pattern and stromal fibrosis favour a diagnosis of trichoepitheliom where as presence of mucine, stromal edema and retraction or claft around the basaloid islands suggest diagnosis of BCC.[10]

Furthermore, focal positive CD34 staining of fibroblastic stroma has been reported in skin sections from trichoepithelioma and such staining is not seen in basal cell carcinoma.[11]

Treatment

Solitary lesions can be excised. In the case of multiple tumors, this surgical approach may not be feasible. Split-thickness skin grafting, dermabrasion, and laser surgery have been proposed, but the results of these procedures vary.[12,13]

Recurrence of solitary trichoepithelioma is uncommon. When the multiple facial lesions are surgically flattened by dermabrasion or laser therapy, they tend to regrow into elevated papules or nodules. This regrowth may occur rapidly within months, or it may take several years. Some patients find a prolonged cosmetic improvement and worthwhile even if repeated procedures are necessary. However, partial response for trichoepithelioma to 5% imiquimod cream has been reported.

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