Journal of Pakistan Association of Dermatologists 2005; **15**: 207-9.

Case Report

Multiple familial trichoepitheliomas

Amer Ejaz*, Naeem Raza, Majid Sohail†**

* Dermatology Department, Combined Military Hospital, Malir Cantt, Karachi.
** Dermatology Department, Combined Military Hospital, Abbottabad.
† Dermatology Department, Combined Military Hospital, Kharian Cantt.

Abstract Trichoepithelioma (TE) is a benign cutaneous tumor that originates from hair follicles and occurs either in multiple or solitary forms. Multiple familial trichoepitheliomas (MFT) is transmitted as an autosomal dominant trait, and a region at 9p21 is thought to be involved in the tumorigenesis. Solitary TE occurs more commonly than multiple TE, is not inherited and rarely seen in perianal region. We present a family with MFT, of which several members; both male and female were affected. The tumor is benign but is important to recognize because of histopathological significance.

Key words
Trichoepithelioma, familial.

Introduction

Multiple familial trichoepitheliomas (MFT) is an autosomal dominant skin condition characterized by the presence of many small tumors with pilar differentiation, occurring predominantly on the face. The first locus has been previously mapped to chromosome 9p21, but no gene for MFT has been identified to date.[1] The tumor is so rare that determination of incidence is very difficult. In a series of 28 patients with benign adnexal skin tumors on face, only one was found to be MFT.[2] Solitary trichoepithelioma occurs more commonly than MFT and is not inherited. We present a family with MFT, of which several members; both male and female were affected. The tumor is benign but is important to recognize because of its histopathological significance.

Address for correspondence
Dr. Amer Ejaz
Consultant Dermatologist,
Combined Military Hospital,
Malir Cantt, Karachi.
Email: amer_ejaz@yahoo.com

Case report

Our patient, a 45-year-old lady, presented with multiple skin colored, firm and rounded papulonodular lesions over her face since 12 years of age. To start with, she developed small pin-head sized, skin-colored papular lesions on her face. These lesions were asymptomatic. Over a period of several years the lesions had been slowly enlarging in size (**Figure 1**). Her family history revealed that several family members were afflicted with the same condition. She was the third child among 7 siblings, 3 daughters and 4 sons. One of her brothers and one sister were also affected. She was married for the last 20 years, and had 3 sons and 2 daughters. Out of her 5 children, the eldest son (**Figure 2**) who was 19-year-old also had started developing small papular lesions on the muzzle area of face. Second son, who was 17-years-old, had these lesions for the last 1 year. Rest of her children were asymptomatic, their ages ranging from 8

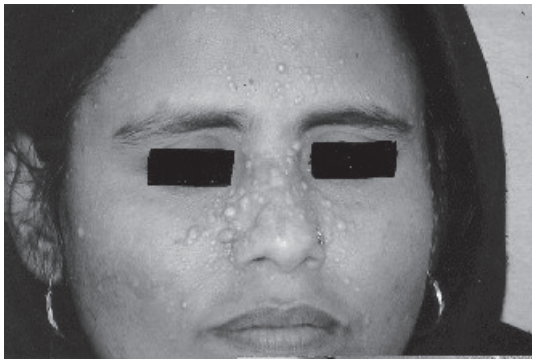

Figure 1 Multiple rounded papulonodular lesions on the face distributed on periorbital and paranasal areas.

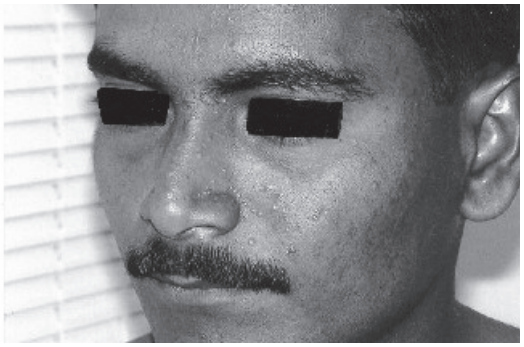

Figure 2 Similar but smaller multiple papular lesions on the face of her eldest son.

years to 13 years. She had had several treatments without much effect.

Discussion

Trichoepithelioma (TE) is a benign cutaneous tumor that originates from hair follicles and occurs either in multiple or solitary forms. Multiple familial trichoepitheliomas is transmitted as an autosomal dominant trait, and a region at 9p21 is thought to be involved in the tumorigenesis. Solitary TE occurs more commonly than multiple TE, is not inherited and rarely occurs in perianal region. Histologically, TE tumors contain horn cysts and abortive hair papillae. A basal cell carcinoma appearance in some or all regions of a TE tumor can happen. Diagnostic differentiation from basal cell carcinoma presents notable difficulty, and the use of immunohistochemical studies often is necessary for correct differentiation. The concomitant presence of giant solitary trichoepithelioma and basal cell carcinoma raises the question of whether there is a possibility of malignant transformation, or if it is simply an encounter between the two types of neoplasia.[4]

Multiple familial trichoepitheliomas and familial cylindromatosis are two clinically distinct cancer syndromes. MFT patients develop trichoepitheliomas mostly on the face while patients with cylindromatosis develop cylindromas predominantly (approximately 90%) on the head and neck. However, multiple familial trichoepitheliomas are occasionally associated with familial cylindromatosis while the converse may also be true. This has led to the speculation that the 2 types of tumors may be caused by dysfunction of a common pathway. Previously, a candidate MTF locus had been mapped at 9p21 while disease gene for familial cylindromatosis (the CYLD gene) had been identified at 16q21-13.[5] Coexistence of such tumor syndromes has also been reported in Pakistani literature.[6] Trichoepitheliomas have also been described as part of Brooke-Spiegler syndrome, which is a rare, autosomally dominant disease characterized by the development of multiple cylindromas, trichoepitheliomas, and occasional spiradenomas.[7] Desmoplastic trichoepithelioma is a rare tumor that usually exhibits the distinct clinical features of a solitary granuloma annulare-like growth on the face.[8]

Apart from being a blemish on face, the most important clinical and histological significance of trichoepithelioma (multiple or solitary) is the histological differentiation from basal cell carcinoma. This might prove to be a trickier job than expected and will require histological expertise. The decision will naturally affect the outcome of the diagnosis. The most helpful differentiating features are the presence of retraction effect (in 100% of RC-BCC vs. 37% of TE), myxoid stroma (in 80% of RC-BCC vs. 12% of TE) and papillary mesenchymal bodies (in 20% of RC-BCC vs. 81% of TE).[3] Another diagnostic modality short of skin biopsy which can give a fair idea of histological diagnosis of certain adnexal tumors is aspiration cytology. In a study of 12 adnexal tumors, 10 were correctly diagnosed by this technique, later confirmed by histopathology.[9] Although exact subtyping of tumors of skin adnexa may not always be essential, certain benign adnexal tumors have aggressive counterparts (e.g. eccrine spiradenomas), while others clinically mimic metastases or small round cell carcinomas (e.g. Merkel cell tumors). Thus, correct cytodiagnosis and awareness of the limitations of cytology (such as in the assessment of local invasion) in these instances help to outline surgical management.

References

1. Harada H, Hashimoto K, Ko MS. The gene for multiple familial trichoepithelioma maps to chromosome 9p21. *J Invest Dermatol* 1996; **107**: 41-3.
2. Marrogi AJ, Wick MR, Dehner LP. Benign cutaneous adnexal tumors in childhood and young adults, excluding pilomatrixoma: review of 28 cases and literature. *J Cutan Pathol* 1991; **18**: 20-7.
3. Bettencourt MS, Prieto VG, Shea CR. Trichoepithelioma: a 19-years clinicopathologic re-evaluation. *J Cutan Pahtol*; **26**: 398-404.
4. Martinez CA, Priolli DG, Piovesan H, Waisberg J. Nonsolitary giant perianal trichoepithelioma with malignant transformation into basal cell carcinoma: report of a case and review of the literature. *Dis Colon Rectum* 2004; **47**: 773-7. Epub 2004 Apr 13.
5. Zheng G, Hu L, Huang W *et al*. CYLD mutation causes multiple familial trichoepithelioma in three Chinese families. *Hum Mutat* 2004; **23**: 400.
6. Kanjee A, Saeed S, Wasim J, Qurieshi G. Trichoepitheliomas and Cylindromas in three generations of a family. *J Pak Assoc Dermatol* 2002; **12**: 51-3.
7. Uede K, Yamamoto Y, Furukawa F. Brooke-Spiegler syndrome associated with cylindroma, trichoepithelioma, spiradenoma, and syringoma. *J Dermatol* 2004; **31**: 32-8.
8. Matsuki T, Hayashi N, Mizushima J *et al.* Two cases of desmoplastic trichoepithelioma. *J Dermatol* 2004; **31**: 824-7.
9. Rege J, Shet T. Aspiration cytology in the diagnosis of primary tumors of skin adnexa. *Acta Cytol* 2001; **45**: 715-22.