SkIndia Quiz 3
Scalp swelling in a middle-aged woman

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A 45-year old female presented with a slow growing swelling over the scalp of five years duration, with a recent history of rapid growth over the last six months [Figure 1]. An excision biopsy was done and sent for histopathological examination. Sections from the same revealed an unremarkable epidermis which showed no evidence of any actinic keratosis or any intra epithelial carcinoma. Beneath this was located a well circumscribed, but focally infiltrative neoplasm comprising lobular proliferation of squamous epithelial cells [Figure 2]. Abrupt keratinization without intervening granular layer was noted in these islands. Moderate-to-severe nuclear atypia was noted in these cells with increased mitotic activity [Figure 3]. No cytologically atypical clear cells were seen. Stroma was desmoplastic and showed foreign body giant cell reaction.

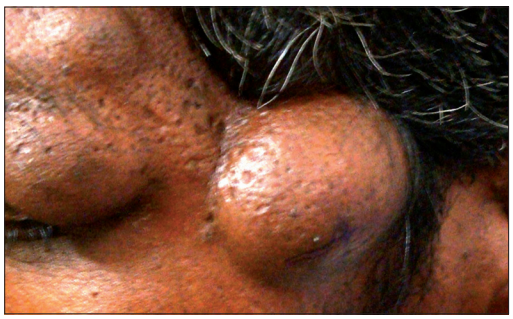

Figure 1: Scalp swelling with recent history of rapid growth

WHAT IS YOUR DIAGNOSIS?

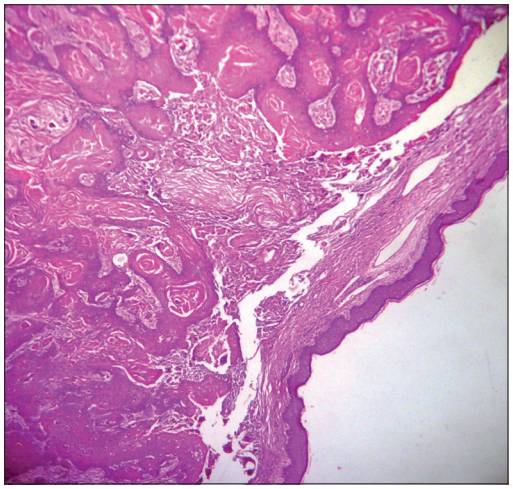

Figure 2: Lobular well circumscribed proliferation of squamous cells with overlying normal appearing epidermis (H and E, ×10)

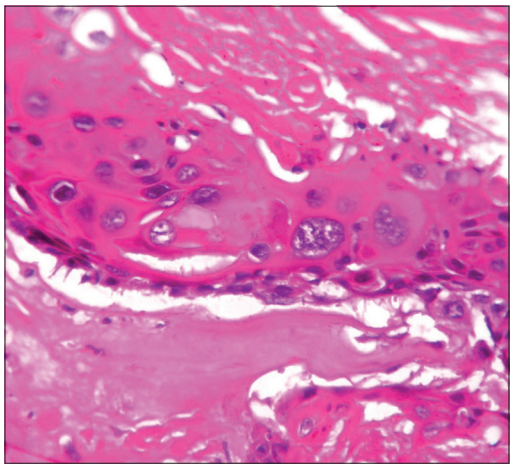

Figure 3: Moderate-to-severe nuclear atypia in the squamous epithelial cells showing abrupt keratinisation without intervening granular layer (H and E, ×40)

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ANSWER

Malignant proliferating tricholemmal tumor

DISCUSSION

Proliferating tricholemmal tumor (PTT) is a solid cystic neoplasm that shows tricholemmal differentiation similar to that of the isthmus of the hair follicle. It is more frequent in elderly women as was seen in the present case. More than 90% of the lesions are situated on the scalp, a point to be remembered while considering the differential diagnosis of this lesion. It clinically presents as a solitary, multilobular, large, exophytic mass with size ranging from 2 to 25 cm in diameter. The overlying skin is usually normal, though alopecia and ulceration may be seen. Grossly, they show a multilobular architecture with cystic structures being filled with compact keratin and focal calcification.[1-4]

PTT occurs on a morphologic spectrum with benign PTT on one end and malignant PTT at the other end.[4]

Benign PTT have well circumscribed borders involving dermis. The cysts show peripheral palisading of small basaloid cells differentiating towards large keratinocytes with ample eosinophilic cytoplasm and abrupt keratinisation without a granular layer. The neoplastic cells are monomorphic with no cytologic atypia and mitosis.[4]

Malignant PTT are placed at the other end of the spectrum. Clinically they can present with history of rapid growth, surface ulceration and regional lymphadenopathy. Morphologically these tumors have malignant features which include invasive growth, moderate to marked degree of nuclear pleomorphism and high mitotic activity. Focal areas of benign appearing cysts may also be seen. All these features were observed in the cells in the present case along with the classical tricholemmal type of keratinisation.[1-4]

The major differential diagnoses to be entertained in this case are squamous cell carcinoma, proliferating epidermoid cyst and tricholemmal carcinoma. In case of squamous cell carcinoma the epithelium overlying the tumor and adjacent to it generally shows frank dysplastic changes including intraepithelial carcinomatous features. Such changes are lacking in the epithelium overlying a malignant PTT. Moreover the typical tricholemmal keratinisation is not seen in squamous cell carcinoma. Proliferating epidermoid cysts are more commonly seen in the anogenital region of male patients and they show morphologically infundibular type of keratinisation. Tricholemmal carcinoma largely is seen on the face or ears as a slow growing epidermal nodule. Morphologically it is an invasive neoplasm comprised of cytologically atypical clear cells with only foci of pilar type keratinisation.[4-6]

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