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Case Report

Rare Case of Trichogenic Tumor: Trichoblastic Carcinoma

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Abstract

Adnexal tumors of the hair follicle demonstrate differentiation toward hair follicle structures. Trichoblastic carcinoma is a rare malignant adnexal tumor that is characterized by two distinct forms, low- and high-grade forms, which have been reported in the literature. A 59-year-old man visited our clinic with a 25-year history of an asymptomatic papule in the region of the right temporal fossa. The diagnosis of a low-grade trichoblastic carcinoma was made on the basis of histopathological examination. The history and overall behavior of this tumor remains unknown because of the low incidence rate; therefore, it is important to differentiate it from basal cell carcinoma. We report this case because of its rarity in the literature.

Keywords: Trichoblastic carcinoma, trichogenic tumor, basal cell carcinoma

Introduction

Trichogenic tumors are derived from embryogenic precursors of hair follicles and are often benign. Trichoblastic carcinoma (TC) is a rare malignant trichogenic tumor (1). Because there are only a few case reports on TC in the literature, its nature remains obscure. A case of low-grade TC is presented here, and the differential diagnosis is discussed.

Case Report

A 59-year-old male patient admitted with the complaint of a bulging in the scalp in the right temporal area (Figure 1). The lesion started 25 years ago and grew slowly over time. The patient has a medical history of ulcerative colitis diagnosed 5 years ago for which he used mesalazine 500 mg 2 × 1. On dermatologic examination, an infiltrated, pale pink plaque, 2 cm in diameter, with unclear boundaries was observed, and at the medial edge of this plaque, a hard, irregular, pink papule, 1 cm in diameter, that was elevated by 5 mm, with black pigmentation in the middle, was observed (Figure 1). No palpable lymphadenopathy was detected on physical examination. A 5 mm punch biopsy specimen was taken from the surface of the papule. A tumor composed of basaloid cell islands forming peripheral palizatic sequencing was detected on histopathological examination of the biopsy specimen. Although the histopathologic findings suggested BCC, due to the mismatch of the clinical characteristics of lesion, the entire lesion was excised by plastic and reconstructive surgery. On histopathological examination, a tumor composed of basaloid cell islands forming palizadic sequencing around settled in the dermis, with no relationship with the epidermis and showing infiltrative growth pattern was found. Necrosis in the midst of some cell islands and significant increase in mitotic figures in the islands where cells with vesicular nuclei resembling supramatriksiyel cells and cells with prominent nuclei and narrow cytoplasm were present. Minimal invasion into the superficial subcutaneous adipose tissue was found. Cell populations reminiscent of the hair follicle bulb could be spotted in some areas. Cellular stroma reminiscent of immature papillary mesenchyme intensifying around the basaloid cell islands was drawing attention. Retraction artifact was not found. Focal ductal differentiation areas were observed. These areas were stained immunohistochemically with carcinoma embryonic antigen in the form of luminal border. While the stroma around the cell islands were stained with CD10, the basaloid cell islands were not stained. In addition, the androgen receptor was negative. In the light of these findings, a diagnosis of low-grade TC containing focal ductal differentiation areas was made (Figure 2, 3). The tumor was progressing beyond the area palpated on physical examination, and re-excision was performed because it was adjacent to the neighboring surgical margins. The surgery limits were cleaned in the histopathological examination of the re-excised material, and the lesion was detected 2.5 mm away from the closest surgical margin. The patient was started to be followed. A written informed consent was received from the patient.

Discussion

Headington and French were the first to identify the neoplasm of hair matrix in 1962; then, Ackerman et al. (2) described the subtypes of trichoblastoma (3).

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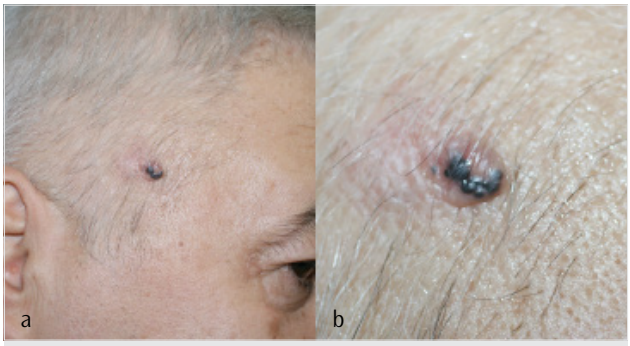

Figure 1. a, b. A plaque in the right temporal region of the scalp and papules on which uneven pigmentation is observed

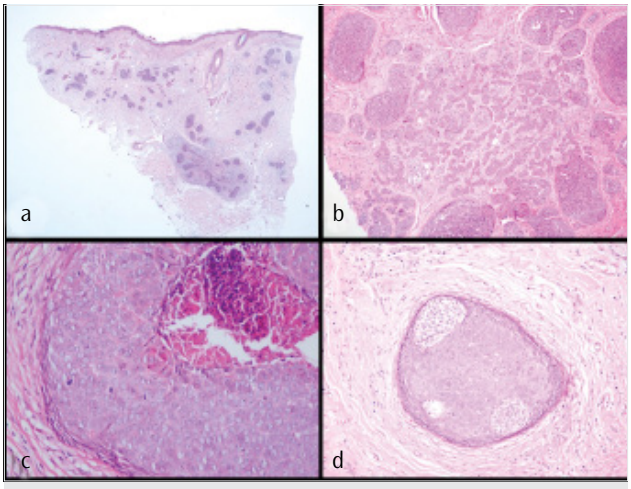

Figure 2. a-d. (a) Tumor composed of basaloid cell islands showing infiltrative growth pattern (HE×20); (b) Characteristic leaf-like growth pattern for trichoblastoma (HE×100); (c) Small necrotic area in the middle of tumor cell island and increase in mitotic figures (HE×400); (d) cells balls reminiscent of the hair follicle bulb (HE×400)

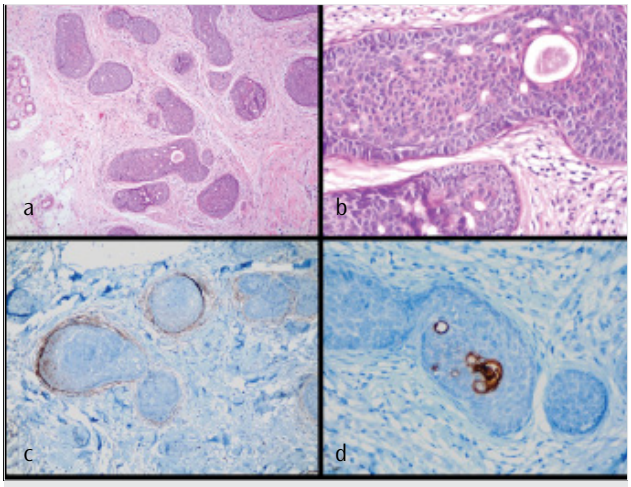

Figure 3. a-d. (a) Stroma intensifying the basaloid cell islands reminiscent of primitive papillary mesenchyme (HE×100); (b) Ductal differentiation areas (HE×200); (c) Stroma stained positively with CD10 (immunohistochemical staining ×200), (d) Ductal differentiation indicated by carcinoma embryonic antigen staining (immunohistochemical stain ×400)

Trichoblastoma is important in the histopathological definitive diagnosis of skin tumors since it can be similar to the morphological and histological features of BCC (4). Different from trichoblastoma, reminiscent of BCC, and with more infiltrative growth pattern, TC is a malignant epithelial adnexal tumor growing from the outer root sheath (5, 6).

The major histopathological characteristics separating TC from BCC are that it does not have an epidermal origin, papillary mesenchymal structures are at the forefront, and retraction artifact is not seen (7). It can be confused with BCC because not all the histologic features required to establish a definitive diagnosis, especially in the punch or incisional biopsy material, can be evaluated.

Trichoblastic carcinomas were described as slowly progressive, asymmetric, solitary lesions usually located on the face and occurring in advanced ages (8). In our patient, the lesion characteristics were consistent with those reported in the literature.

Two different forms of TC were described low and high grade (1). As in our patient, while low-grade TC shows trichoblastoma morphology as well as tumor proliferation in a more infiltrative pattern, undifferentiated carcinoma morphology deriving from trichoblastoma or trichoepithelioma is observed in high-grade TC trichoblastoma (9). Local recurrence, but not distant metastasis, was reported in low-grade TC. Metastases may occur in high-grade TC (10).

The therapy of low-grade TC is total excision (8). Re-excision was planned for our patient because tumor cells were seen at surgical margins in the total excision material.

Conclusion

Trichoblastic carcinomas can easily be confused with BCCs, especially on punch or incisional biopsies where the whole lesion cannot be evaluated. Therefore, it is necessary to keep the differential diagnosis in mind. We present this case to emphasize that TCs can be histologically confused with BCCs and because only a small number of cases were reported in the literature.

Informed Consent: Written informed consent was obtained from patients who participated in this study.

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