

Malignant eccrine spiradenocylindroma and parotid gland involvement in Brooke Spiegler syndrome

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Abstract

Brooke-Spiegler syndrome is a rare disorder, characterized by the development of skin adnexal tumors, including cylindromas, trichoepitheliomas, spiradenomas. Although these neoplasms are benign in most patients, a malignant transformation can rarely occur. Furthermore, an occasional association between cutaneous adnexal tumors and basal cell adenoma as well as adenocarcinoma of the parotid gland has been rarely described, with approximately 20 cases reported. We report a case of BSS presenting with a malignant eccrine spiradenocylindroma, in a patient with previous history of parotid basal cell tumor.

Introduction

Brooke-Spiegler syndrome (BSS) is a rare autosomal dominant disorder, characterized by the development of skin adnexal tumors, including cylindromas, trichoepitheliomas, spiradenocylindromas, and spiradenomas.¹

Although these neoplasms are benign in most patients, a malignant transformation can rarely occur.² Up to now, less than 50 cases of malignant evolution have been reported in literature.³⁻⁵

Furthermore, an occasional association between cutaneous adnexal tumors and basal cell adenoma as well as adenocarcinoma of the parotid gland has been rarely

described, with approximately 20 cases reported.⁶⁻¹⁰

We report a case of BSS presenting with a malignant eccrine spiradenocylindroma, in a patient with previous history of parotid basal cell tumor.

Case report

A 61-year-old Caucasian man was referred to our hospital with an occipital skin lesion, progressively increasing in size over the last 2 years, without any evidence of previous local trauma. He was diagnosed elsewhere with von Recklinghausen's disease based on the presence of several papules on the face, clinically interpreted as neurofibromas, and on the family history including his father and his daughter with similar lesions on face and scalp. No other comorbidities were reported except a previous surgery for the removal of a parotid basal cell tumor of uncertain malignant potential 5 years before.

At clinical examination, a painful, soft nodular swelling of approximately 3×3 cm in the occipital area was present (Figure 1A). Neither secretions nor skin changes were detected. The lesion was firm and adherent to the deeper planes. In the surrounding skin, multiple pink, firm, smaller papules of the same appearance could be appreciated. Skin biopsy of the occipital nodule was consistent with a malignant eccrine spiradenocylindroma (Figure 1B-D).

On the frontal area many other similar but smaller skin-colored papules with a smooth surface were also observed (Figure 2). On histological examination, these lesions were found to be cylindromas and spiradenomas.

The malignant spiroadenocylindroma was circumferentially excised after marking for surgical excision with 2-cm free-margins. The raw area was covered with a full thickness skin graft taken from the groin and sutured over the raw area. The surgical procedure was performed under local anesthesia and postoperative course was uneventful. Our patient refused to perform the molecular genetic testing for CYLD mutation. However, based on the histological findings and the suggestive family history, the patient was diagnosed with BSS with malignant transformation.

Discussion

BSS is a rare genetic disorder, resulting from a mutation in the CYLD gene located

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on chromosome 16q12-q13, and marked by the development of skin tumors, including cylindroma, spiradenoma, spiradenocylindroma and trichoepithelioma.¹¹ As in our patient, this syndrome typically becomes clinically apparent in adolescence or young adulthood.¹

It's not always easy to recognize the disease, also due to its rarity. Our patient was previously misdiagnosed as neurofibromatosis. Other similar cases of diagnostic error have been described in the literature,¹²

mainly resulting from an inaccurate collection of the medical history or a superficial clinical examination. However, considering the lack of other clinical features typical of neurofibromatosis, the long-time history of multiple adnexal skin neoplasms, the positive family history and the histological find-

ings, it was possible to correctly orient the diagnosis.

Although skin neoplasms in BSS are usually benign, very few cases of malignant transformation have been described,^{2-5,7,10,13,14} occurring approximately in 5% of the patients.¹² Malign evolution occurs in

older patients with BSS, ranging from 50 to 80 years old. Scalp seems to be the most commonly affected site.⁵ Rapid growth, ulceration, bleeding and pain should be viewed with suspicion.^{7,14}

Moreover, salivary gland involvement is a condition that can be very rarely associated with BSS, with no more than 20 cases reported in the literature.^{1,6-10,15} In his large series on BSS, Kazakov described 2 out of 106 patients who developed salivary gland cancer in addition to skin lesions.¹ Salivary gland neoplasms are mainly represented by basal cell adenoma as well as adenocarcinoma of the parotid gland, less frequently by submandibular or other minor salivary glands involvement.^{1,8}

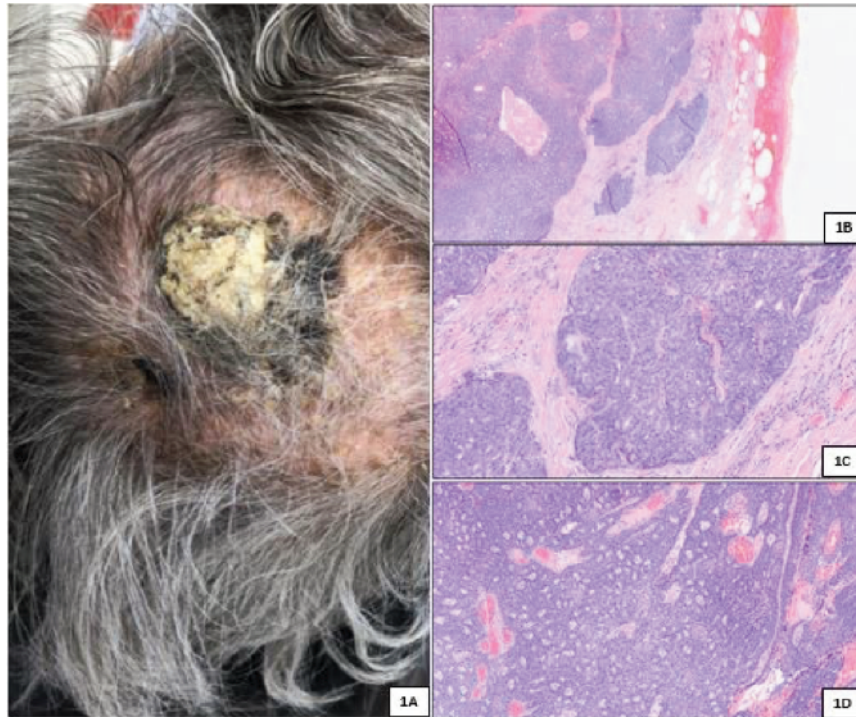


Figure 1. A) Parieto-occipital spiroadenocylindroma. B) Malignant clues include infiltrative growth (H&E, 4x). C) Other features of malignancy are loss of the dual cell population, cytological atypia and increased mitotic activity (H&E, 20x). D) Histology displays round nodules composed of two types of cells, clear cells and dark cells (H&E, 10x).



Figure 2. Skin-colored papules on the frontal area.

Conclusions

Our case represents a very rare example of BSS associated with both parotid involvement and malignant transformation of a skin adnexal tumor. Malignant evolution, although infrequent, should always be excluded through long-term follow-up of BSS patients, to ensure an early treatment and a better prognosis.

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