CASE REPORT

Malignant Melanoma and Atypical Fibroxanthoma: An Unusual Collision Tumour

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ABSTRACT

Two different neoplasms in the same biopsy material, called collision tumour, were studied. These tumours are rarely seen in the skin. We report the case of a 79-year-old female with a collision tumour composed of amelanotic malignant melanoma and atypical fibroxanthoma of the face. The histological and immunopathological features observed are discussed.

Keywords: Atypical fibroxanthoma, collision tumour, melanoma.

INTRODUCTION

A 'collision tumour' is the presence of two different neoplasms in the same biopsy material (1–3). Collision tumours are rarely seen in the skin, but different combinations are reported as case presentations. A combination of atypical fibroxanthoma (AFX) and malignant melanoma (MM) is a rarely reported type of collision tumour (1–4). In this study, we prescent an amelanotic melanoma and lentigo MM case associated with AFX; then, clinical and histopathological findings are described.

CASE REPORT

A 79-year-old woman was referred to the Department of Plastic Surgery and Reconstruction at Dicle University, Diyarbakir, Turkey. She stated that a black lesion had been present on her face for nearly 20 years. Last year, she treated it with an herbal mixture, the name of which she did not know, due to an increase in the dimensions of the lesion. She said that after the treatment, the lesion got smaller, but nodules with discharge appeared on it during this period. She presented to our hospital with a nodular discharging lesion. In the dermatological examination, a black tumoural mass lesion, 2 × 2 cm in diameter, including a 0.5-cm bulging part from the skin on erythematous ground and an additional lesion, which was a 2-cm diameter lentigo MM, located in the same plane, next to the aforementioned lesion were observed. Partial telangiectasia and widespread actinic changes were present around the lesion (Fig. 1). There were no peculiar characteristics in the patient's background or family history, and she did not use any medication before the lesions appeared.

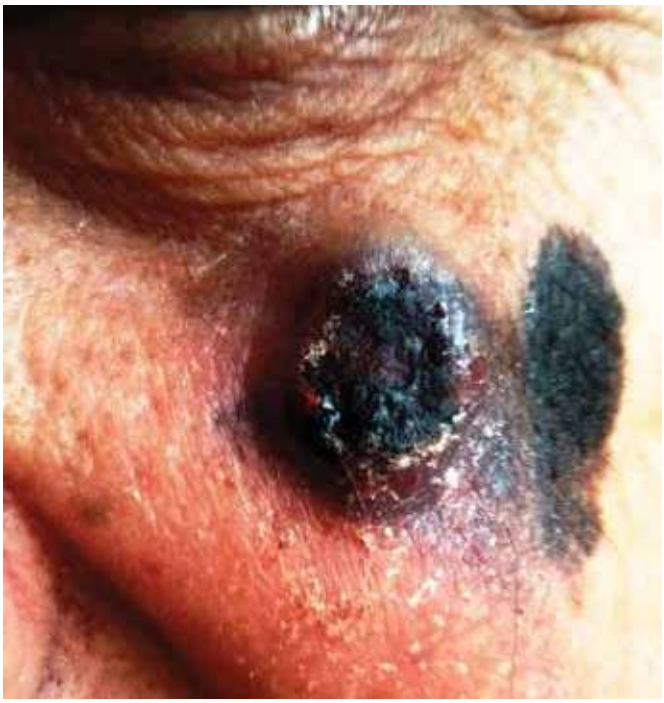

Fig. 1: Clinical view of the exophytic, ulcerated nodule and the pigmented neighbouring lesion compatible with 'lentigo maligna melanoma'.

Excision material consisting of skin and subcutaneous tissue with dimensions of 5 × 4.6 cm and a depth of 1.2 cm was sent to the pathology lab. In the gross evaluation, a 2 × 2 cm nodular lesion with an ulcerative

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surface bulging 0.5 cm from the skin and a neighbouring black lesion with dimensions of 2.5 × 1.5 cm at the same level with the skin were observed.

In the histopathological examination, a proliferation of pleomorphic polyhedral and spindle cells filling the entire dermis were observed in the cross sections of the nodular lesion. The proliferation demonstrated partial nesting, partially haphazard and fascicular growth patterns and contained multiple mitoses, many of which were atypical (Fig. 2A and 2B). Bizarre and multinuclear cells were observed in the tumour. The epidermis covering the surface of the nodule was ulcerative. It was observed that the tumour consisted of two components. The tumour exhibited strong diffuse staining with vimentin in each component. The component of the tumour comprising mostly nests stained strongly and diffusely with S100, HMB-45 and Melan-A. The other component stained strongly and diffusely with CD68 and focally and weakly with CD10 (Fig. 3A and 3B). There was no staining with CD99, desmine, cytokeratin or epithelial membrane antigen.

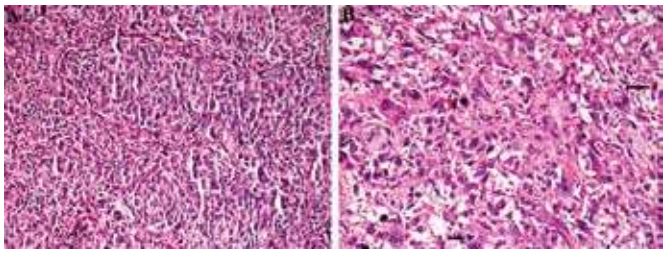

Fig. 2: (A) Polygonal cells with prominent nucleoli demonstrating nestings constituting MM component (HE, ×200); (B) pleomorphic and mitotically active spindle cells constituting the AFX component. The arrow shows atypical mitosis (HE, ×200). MM = malignant melanoma; AFX = atypical fibroxanthoma.

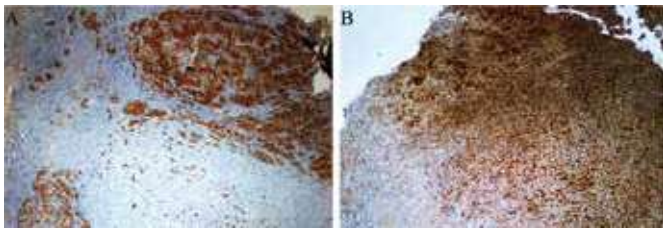

Fig. 3: (A) MM is highlighted by an immunostain for Melan-A, whereas the AFX component is negative for Melan-A (×40); (B) positive staining with CD68 is observed in the AFX component (×40). MM = malignant melanoma; AFX = atypical fibroxanthoma.

The histological examination of the macule revealed lentigo malignant melanoma with single and nested atypical melanocytes at the basal layer of the epidermis (Fig. 4). The dermis showed prominent solar elastosis, melanophages and irregular collections of lymphocytes and plasma cells.

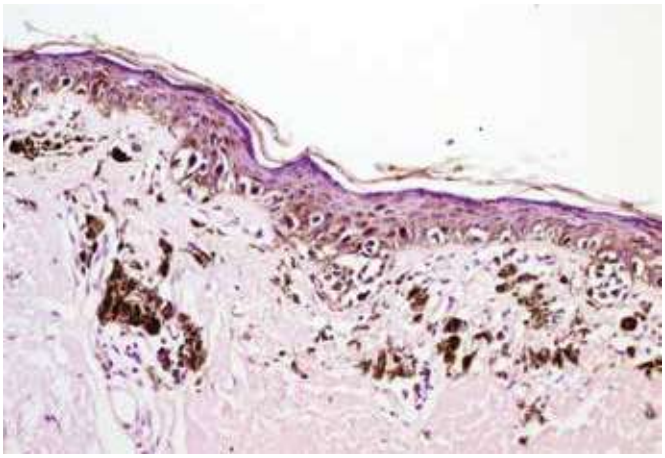

Fig. 4: Lentigo maligna melanoma with atypical melanocytes along the dermal-epidermal junction and solar elastosis and melanophages in the dermis (HE, ×200).

Clinically, the patient underwent screening and no systemic findings were determined to be compatible with MM metastasis. Five months later, she did not have any lesions or complaints in the control inspections. The patient is alive without any complications to date.

DISCUSSION

Different combinations of different skin tumours have been reported in the literature. We here report a collision malignant tumour, one component of which was an amelanotic MM and lentigo maligna melanoma, and the other AFX. The MM case observed together with AFX has rarely been reported (1–3).

Although MM constitutes 4% of all skin cancers, it accounts for 80%–85% of skin cancer-related deaths. It is observed more commonly in females under 40 years of age and in males over 40 years. A higher incidence of MM localized to the body and lower extremities compared to MM localized to head and neck was observed (1, 2, 5).

Atypical fibroxanthoma is a pleomorphic fibrohistiocytic tumour commonly seen in the head–neck area in older males. Generally, the diagnosis cannot be made with dermoscopic examination. Usually, a histopathological exclusion diagnosis is required. Its prevalence is not known definitively, but a study reports that it constitutes 0.024% of all skin cancers. Until now different methods have been used for the treatment of AFX. Various recurrence rates were reported depending on the quantity of the removed tumour. When a wide, local excision with clear surgical borders is possible, the chance of recurrence is low (2, 4, 6, 7).

Collision tumours are rarely seen in the skin; however, anaplastic sarcoma, chronic lymphocytic lymphoma

and basal cell carcinoma cases accompanying MM have been reported in the literature (2, 3). These combinations tend to become apparent accidentally during surgery or screenings and generally the definitive diagnosis is made during post-surgery pathological examinations. A combination of MM and AFX related to ultraviolet exposure and immunosuppression is very rarely reported, and there are just three cases in the literature. The first is amelanotic melanoma, the second is lentigo melanoma and the third is a combination of melanoma and AFX (1–4).

Immunohistochemical staining is used in the diagnosis of these tumours, but no specific staining method can be used in the differential diagnosis of AFX tumours. AFX tumours may be confused with squamous cell carcinoma, basal cell carcinoma or MM, so these should be excluded during the diagnosis. Atypical fibroxanthoma tumours can demonstrate positive staining with vimentine, CD10, CD99 and CD68, but this staining is nonspecific (2, 4, 6, 8). Negative staining with S-100 is important to distinguish it from MM, and negative staining with cytokeratin is important to distinguish it from spindle cell SCC (6, 7). Also, in our case, while a component of the tumour demonstrated positive staining with S-100, HMB-45 and Melan-A, the other component demonstrated staining with CD10 and CD68.

Collision-type tumours should therefore be listed in the differential diagnosis of skin tumours, as in our case. Since the prognosis and treatment of different types of tumours differ from each other, all the components must be mentioned separately in pathology reports.

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