Chapter 41
A Bleeding Nodule on the Scalp

Uwe Wollina

An 88-year-old male patient was referred to the Department of Dermatology with an exophytic, bleeding nodule on the scalp. His medical history was positive for cutaneous squamous cell carcinoma with field cancerization on the scalp, diabetes mellitus type 2, renal insufficiency, atrioventricular block with pacemaker implantation, hypertension, hypothyreosis, gonarthrosis, and partial pulmonary resection during World War II.

On physical examination we observed a firm large scalp tumor with bleeding (Fig. 41.1). We performed a wide complete excision with 2 cm safety margins. The defect was closed with a meshed skin graft. Healing was uneventful (Fig. 41.2). A histological examination demonstrated a connective tissue derived tumor with spindle cells (Fig. 41.3). The tumor thickness was 18 mm. The spindle shaped lesion demonstrated nuclear polymorphism and atypia. The tumor cells expressed vimentin, CD68, and partially smooth-muscle actin. Numerous mitoses including typical were seen. The tumor was well vascularized. There was no relapse during 24 months of follow-up.

Based on the case description and the photographs, what is your diagnosis?

Differential Diagnoses

1. Merkel cell carcinoma.
2. Basal cell carcinoma.
3. Atypical fibroxanthoma.
4. Pleomorphic dermal sarcoma.
5. Squamous cell carcinoma.

Diagnosis

Atypical fibroxanthoma.

U. Wollina (✉)
Department of Dermatology and Allergology, Municipal Hospital of Dresden, Academic Teaching Hospital, Dresden, Germany
e-mail: Uwe.Wollina@klinikum-dresden.de

© The Author(s), under exclusive license to Springer Nature Switzerland AG 2022

A. Waśkiel-Burnat et al. (eds.), *Clinical Cases in Scalp Disorders*, Clinical Cases in Dermatology, https://doi.org/10.1007/978-3-030-93426-2_41

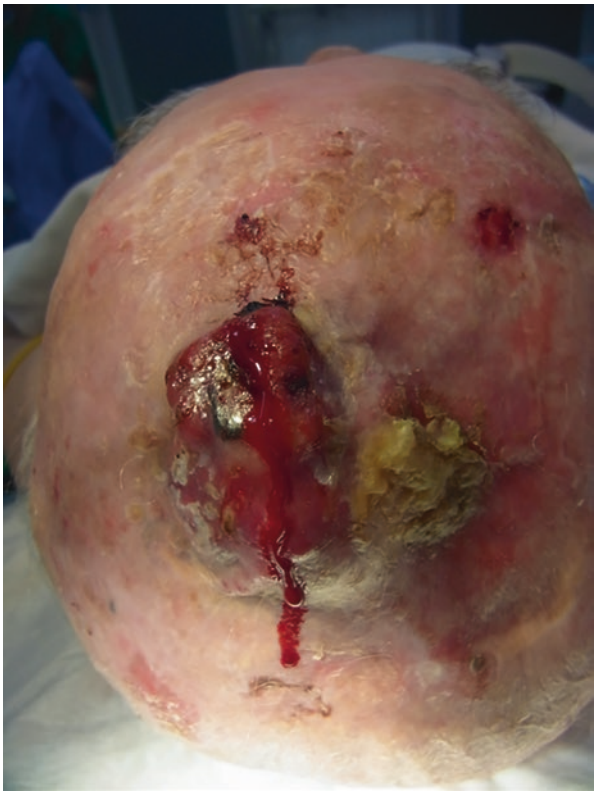

Fig. 41.1 A bleeding, exophytic nodule surrounded by field cancerization on the scalp

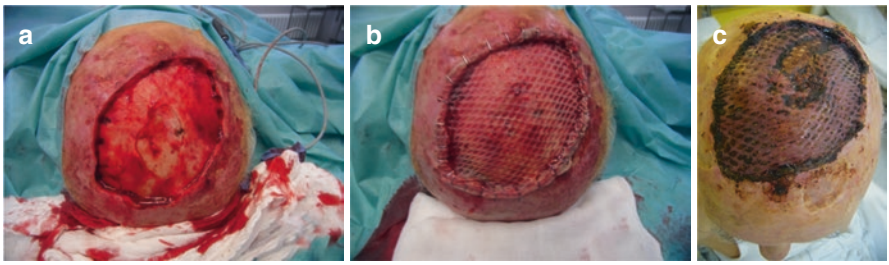

Fig. 41.2 A surgical excision of the nodule on the scalp. (**a**) Defect after wide excision. (**b**) Meshed graft transplantation. (**c**) Seven days after surgery, stable transplant with 100% take rate

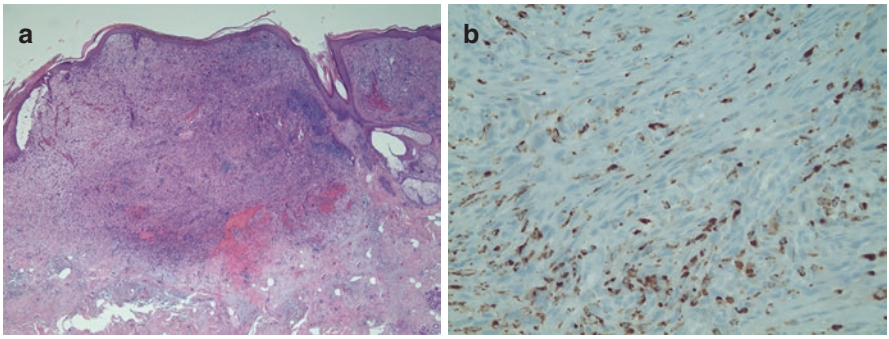

Fig. 41.3 Histology of atypical fibroxanthoma. (**a**) Dermal tumor without infiltration of the subcutaneous tissue (hematoxylin-eosin, ×2). (**b**) Immuno-peroxidase stain for CD68 (×20)

Discussion

The presented patient had been treated for years by dermatologists due to his field cancerization the scalp. Most lesions were classified as actinic keratoses or carcinoma in situ. Two years ago, the first squamous cell carcinoma was surgically removed. Therefore, the primary suspicion in the patient was squamous cell carcinoma [1].

However, histology showed a connective tissue tumor with the presence of spindle cells (Fig. 41.3). The tumor thickness was 18 mm. Spindle cells demonstrated both, cell and nuclear, polymorphism. The tumor cells expressed vimentin, CD68, and partially smooth-muscle actin. Numerous mitoses were seen. The tumor was well-vascularized. Based on the histology, the diagnosis of atypical fibroxanthoma was established.

Atypical fibroxanthoma is a rare mesenchymal neoplasia characterized by a rapid and exophytic growth with frequent ulceration of the overlying epidermis. The mean age of patients with atypical fibroxanthoma is about 80 years. The tumor typically occurs on the sun-exposed body areas. Men are more often affected than women. Histologically, atypical fibroxanthoma is well-circumscribed, dermal-based neoplasm composed of a variable amount of large histiocytoid cells, enlarged spindled and epithelioid cells, and multinucleated giant cells [2, 3].

Treatment of choice for atypical fibroxanthoma is complete surgical excision with a safety margins of 2 cm. Alternatively, Mohs surgery can be used [4].

Key Points

- Atypical fibroxanthoma is a rare mesenchymal tumor of the elderly.
- It is usually localized on the head and neck areas.
- Rapid growth and ulceration/bleeding are commonly presented, however clinical features of atypical fibroxanthoma are non-specific.
- Treatment of choice is complete surgical excision.
- Patient with atypical fibroxanthoma often develop other skin cancers thus follow-up is recommended.

References

1. Leibovitch I, Huilgol SC, Selva D, Hill D, Richards S, Paver R. Cutaneous squamous cell carcinoma treated with Mohs micrographic surgery in Australia I. Experience over 10 years. J Am Acad Dermatol. 2005;53(2):253–60.
2. Mentzel T, Requena L, Brenn T. Atypical fibroxanthoma revisited. Surg Pathol Clin. 2017;10(2):319–35.
3. Bitel A, Schönlebe J, Krönert C, Wollina U. Atypical fibroxanthoma: an analysis of 105 tumors. Dermatol Ther. 2020;33(6):e13962.
4. Wollina U, Schönlebe J, Ziemer M, Friedling F, Koch A, Haroske G, Kaatz M, Simon JC. Atypical fibroxanthoma: a series of 56 tumors and an unexplained uneven distribution of cases in southeast Germany. Head Neck. 2015;37(6):829–34.