Dermatology Practical & Conceptual

Dermoscopy of Thick Scalp Melanoma: Is It Always an Easy Diagnosis?

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Introduction

Scalp melanoma (SM) tends to present a greater invasiveness at diagnosis and a worst prognosis compared to cutaneous melanomas at other body sites [1]. Previous studies have investigated the dermoscopic features of SM, mainly focusing on thin melanomas [2,3]. Little is known about dermoscopic features of thick (>0.8 mm Breslow) melanoma of the scalp [4,5,6].

Case Presentation

This was a retrospective case control study conducted at the Dermatology Unit of the University of Campania Vanvitelli, Naples, Italy. We identified 30 cases of scalp melanoma with a Breslow thickness equal to or greater than 0.8 mm and compared them to a control group of 63 dorsal melanomas matched for thickness, age, and ulceration. Clinical characteristics of the patients were gathered and tabulated, dermoscopy images were analyzed by three observers in consensus (EM, SP, CP). Statistical analysis was performed using the R statistical software, version 4.0. Continuous and categorical data are presented as means and frequencies and were compared using T-student test and Pearson's Chi-squared test or the Fisher' Exact test, when appropriate. The Type I error probability associated with all tests in this study was set to 0.05.

Clinical and dermoscopic features are summarized in Table S1. The great majority of patients with SM were men (90%, p-value 0,01). SM presented dermoscopic features related to lentigo maligna subtype in a significantly higher percentage than melanoma on the back. (Table S1). Examining the overall pattern of lesions, we categorized scalp melanoma cases into six main groups. Lentigo maligna melanoma group (n 12, 40%) displaying dermoscopic features typical of lentigo maligna melanoma, such as pseudonetwork and obliteration of hair follicles. Blue-Black positive cases (n 12, 40%) positive to the blue black rule. Basal cell carcinoma-like

cases (n 2, 6,7%) showing arborizing vessels and ulceration. Angioma-like lesions (n 2, 6,7%) showing vascular lacunae.

Two cases displayed typical features for squamous cell carcinoma and seborrheic keratosis, namely white structureless areas and a whitish collar of the lesion and, light brown fingerprint-like parallel structures respectively (Figure 1 and 2).

Only few studies have focused on dermoscopic characteristics of scalp melanoma. In the study by Stanganelli et al. [3] authors concluded that thin SM tends to display network

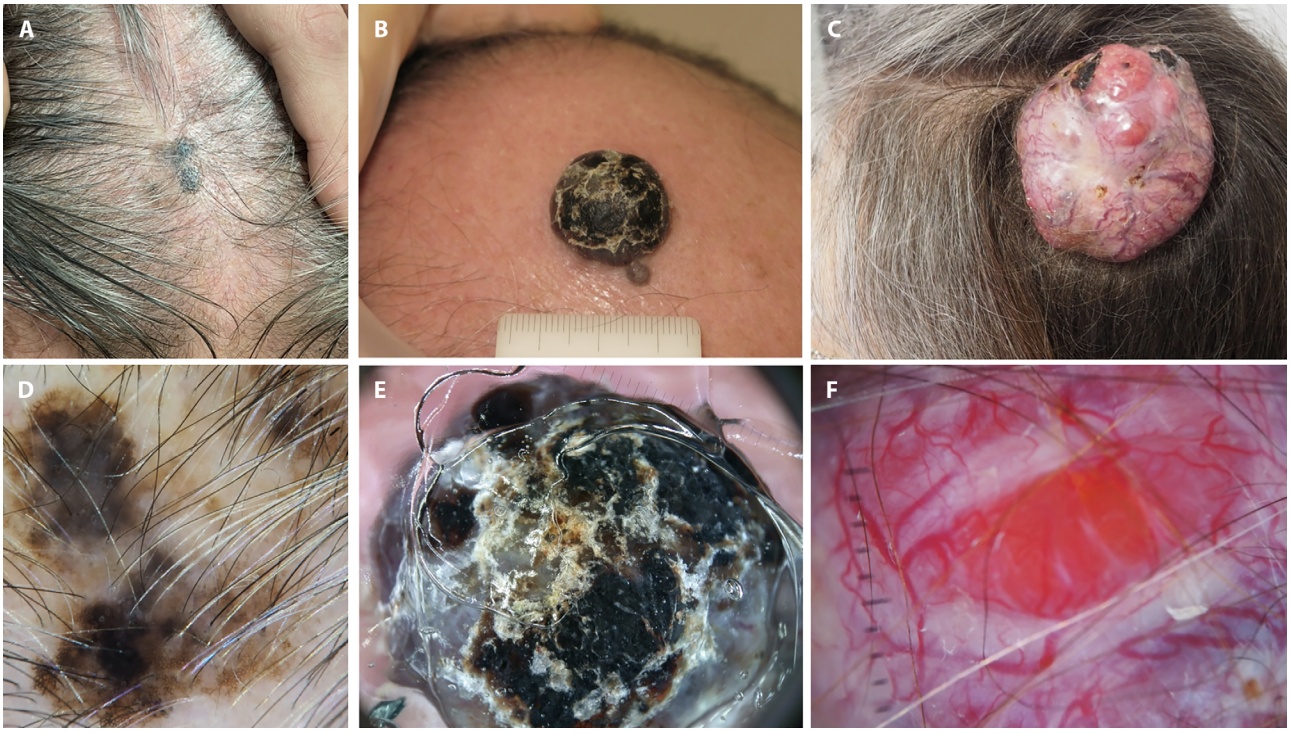

Figure 1. (A, D) Invasive melanoma in a 75 year-old man. The flat brown macule was arising in hair bearing scalp (A). In dermoscopy atypical pseudo-network and regression are detected. (B, E) Invasive melanoma on the parietal region in a 63-year-old man with androgenic alopecia, 2 mm Breslow thickness. Clinically, the lesion appears as a black, eroded nodule and satellitosis is already visible (B). In dermoscopy the lesion is positive for the blue-black rule (E). (C; F) Invasive melanoma on the scalp of a 66-year-old woman, 39 mm Breslow thickness, pT4b.Clinically, the lesion appears nodular and exophytic (C). In dermoscopy milky red areas and large arborising vessels are found on a white background (F).

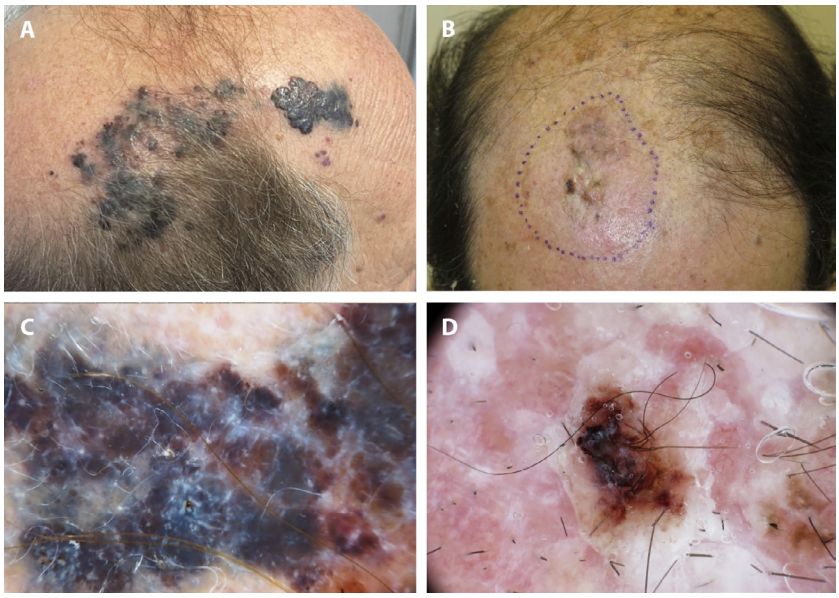

Figure 2. (A, C) Invasive melanoma on the parietal region in a 70-year-old man with androgenic alopecia, Breslow thickness 3 mm. Clinically, it mimics an extended angioma (A). In dermoscopy, white streaks are found all over the lesion (C). (B, D) Invasive melanoma on the frontal region in a 75-year-old man with androgenic alopecia, superficial spreading melanoma 3.3 mm Breslow thickness. Clinically, the lesion appears partially nodular with ill defined borders (B). In dermoscopy a unspecific pattern is detected with brownish pigmentation, white lines and milky red areas (D).

or pseudo network with regression as main features, thick scalp melanoma was categorized as unspecific in its dermoscopic appearance. In our study we confirm the variegated demoscopic appearance of SM that can show features typical for non melanoma skin cancer. Since NMSC are very often found on the scalp, making an accurate preoperative diagnosis is crucial because the tumors may need a different management approach. As expected, the main features differentiating thick SM from melanomas located on the back were those related to the lentigo maligna subtype of melanoma. Regarding the other dermoscopic features, micro ulceration, arborizing blood vessels and pink structureless areas were more frequent in SM, even if the data were not statistically significant.

Conclusion

Thick SM often exhibit characteristics typical of head and neck melanomas. Most of our cases demonstrated features resembling lentigo maligna melanoma (40%) or were positive for the blue-black rule (40%). A smaller number of cases (20%) could be indistinguishable from non-melanocytic lesions such as basal cell carcinomas, squamous cell carcinomas, angiomas, or seborrheic keratoses, making clinical-dermoscopic diagnosis challenging.

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