Chapter 35
A Male with an Erythema, Pustules, and Crusts on the Scalp

Pei-Yu Liao and Lin Dang

A 22-year-old Asian man presented with an eight-year history of recurrent pustules, erosions and crusts on the scalp (Fig. 35.1a). No improvement after topical and oral antimicrobials was observed. Progression of the lesion was reported. The patient had positive family history of androgenic alopecia.

A physical examination revealed small pustules and crusts on the parietal region of the scalp. After crusts removal, superficial erosions with yellowish discharge

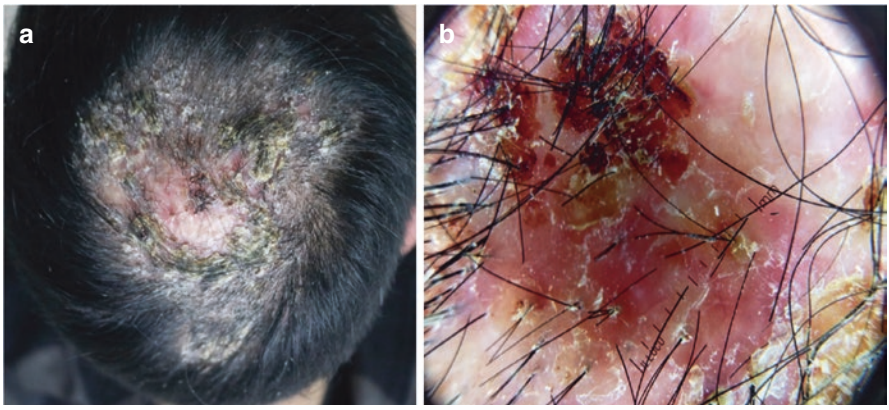

Fig. 35.1 (**a**) A 22-year-old man with superficial erosions and crusted lesions on the atrophic skin. (**b**) Trichoscopy shows erosions, yellowish and hemorrhagic crusts and milky-red areas lacking of follicular openings

P.-Y. Liao · L. Dang (✉)
Department of Dermatology, Shenzhen People's Hospital, The Second Clinical Medical College of Jinan University, The First Affiliated Hospital of Southern University of Science and Technology, Shenzhen, China

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_35

were observed. Moreover, a recession of frontal hair line was presented. No other skin lesions were detected.

Dermoscopy showed erosions, yellowish and hemorrhagic crusts as well as milky-read areas lacking of follicular openings (Fig. 35.2b). Routine laboratory tests were normal. A skin biopsy showed acanthosis in the epidermis, the absence of hair follicles and sebaceous glands and an inflammatory infiltrate in the dermis mainly consisting of neutrophils and lymphocytes (Fig. 35.2).

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

Differential Diagnoses

1. Pyoderma gangrenosum.
2. Pemphigus.
3. Pustular psoriasis.
4. Bacterial and fungal infections.
5. Erosive pustular dermatosis of the scalp.

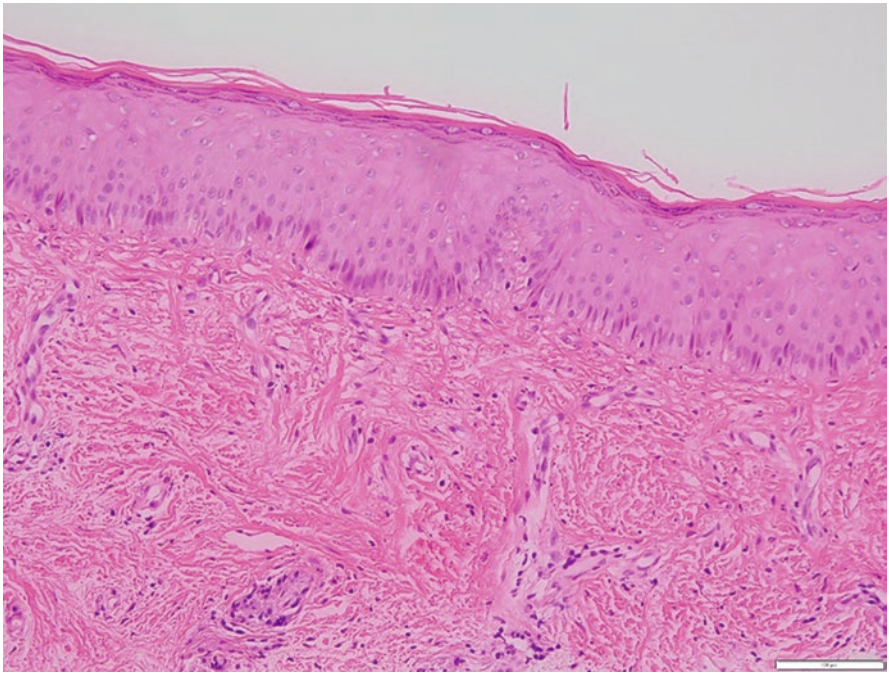

Fig. 35.2 Histopathology shows an epidermal acanthosis, the absence of hair follicles and sebaceous glands and an inflammatory infiltrate in the dermis mainly consisting of neutrophils and lymphocytes (HE × 200)

Diagnosis
Erosive pustular dermatosis of the scalp.

Discussion

Erosive pustular dermatosis of the scalp is a rare entity first described in the late 1970s. A female predominance is observed, with an estimated female to male ratio 3:2 [1]. The etiopathogenesis of the disease remains uncertain. Local trauma, skin grafting, prolonged exposure to sunlight, and the presence of autoimmune diseases have been reported as the predisposing factors [2].

Erosive pustular dermatosis of the scalp predominantly affects elderly individuals at the age of 60–70 years. However, a few cases in children have been reported [3, 4]. Clinically, erosive pustular dermatosis of the scalp is characterized by the presence of multiple pustules, erosions and crusts. With the disease progression, after several months or years, scarring alopecia occurs. The vertex is most commonly affected. No other skin lesions are observed [4].

Erosive pustular dermatosis of the scalp is the diagnosis of exclusion [5]. Histopathological features of usually nonspecific. Histology shows erosions, hyperkeratosis, skin atrophy and occasionally subcorneal pustules. In the dermis, a diffuse or focal inflammatory infiltrate containing lymphocytes and plasma cells is observed. In long-lasting lesions, a loss of hair follicles, fibrosis, and foreign-body giant cells are observed. A direct immunofluorescence test, bacteriologic and mycologic studies are negative [6]. However, secondary colonization with *Staphylococcus aureus* or *Candida albicans* may occur.

Erosive pustular dermatosis of the scalp is a chronic relapsing disease which requires an extended therapy, ranging from weeks to months. Therapeutic options include oral isotretinoin, nimesulide and zinc sulfate, as well as topical corticosteroids, calcipotriol, and tacrolimus [5].

Based on the patient's medical history, clinical feature, and biopsy results, the diagnosis of erosive pustular dermatosis of the scalp was established.

The patient was instructed to avoid the sun exposure, physical trauma and chemical reagents. Tretament with topical tacrolimus and oral isotretinoin 10 mg twice a day was recommended with good results (Fig. 35.3).

Key Points
- Erosive pustular dermatosis of the scalp is characterized by pustular, erosive and crusted lesions on the scalp with progressive scarring alopecia, is a diagnosis of exclusion.
- It responds very well to systemic retinoids and topical tacrolimus, which may be considered as an alternative treatment to corticosteroids.

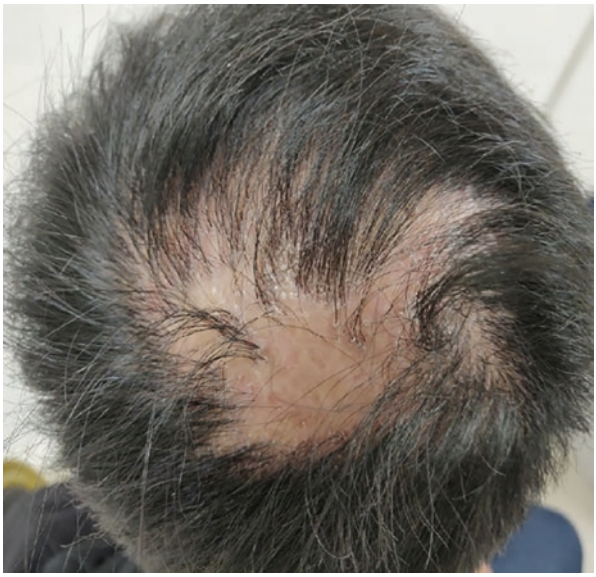

Fig. 35.3 Areas of diffuse scarring alopecia on the scalp with no the disease activity after nine months of treatment

References

1. Ena P, et al. Erosive pustular dermatosis of the scalp in skin grafts: report of three cases. Dermatology. 1997;194(1):80–4.
2. Mastroianni A, et al. Erosive pustular dermatosis of the scalp: a case report and review of the literature. Dermatology. 2005;211(3):273–6.
3. Fertig R, et al. Erosive pustular dermatosis of the scalp after aplasia cutis congenita in a 9-year-old patient: A 5-year follow-up. Pediatr Dermatol. 2017;34(6):695–6.
4. Starace M, et al. Erosive pustular dermatosis of the scalp: challenges and solutions. Clin Cosmet Investig Dermatol. 2019;12:691–8.
5. Allevato M, et al. Erosive pustular dermatosis of the scalp. Int J Dermatol. 2009;48(11):1213–6.
6. Starace M, et al. Erosive pustular dermatosis of the scalp: Clinical, trichoscopic, and histopathologic features of 20 cases. J Am Acad Dermatol. 2017;76(6):1109–14. e2