Neutrophillic eccrine hydradenitis with psoriasiform lesions

N P Madarasingha[1], **P H Abeygunasekera**[1]

Sri Lanka Journal of Dermatology, 2019/2020, **21**: 54-56

Abstract

Neutrophillic Eccrine Hydradenitis (NEH) is an uncommon cutaneous disease which usually occurs in patients with Acute Myeloid Leukemia (AML) often undergoing chemotherapy. Although the first case was reported in association with AML later it has been reported in association with other malignancies with or without chemotherapy, infections, inflammatory disorders and even in healthy people. Cutaneous eruption is nonspecific, varying from solitary to multiple, erythematous papules, plaques and nodules. A skin biopsy demonstrating the typical pathological changes in the eccrine glands is required for the diagnosis. It is a self limiting condition but recurrences are known to occur specially with reintroduction of the chemotherapy drug. Herein, we describe a case of NEH with psoriasiform lesions, who was undergoing chemotherapy with cytarabine for AML.

Case report

A sixty four year old male, who was diagnosed with AML three months back, presented with a cutaneous eruption which occurred after the third cycle of cytarabine. He was having asymptomatic erythematous scaly, hyperkeratotic plaques scattered through the body (Figure 1). There was scaling on the scalp, but no mucosal or nail changes. He had no systemic symptoms. All basic investigations were normal except for the granulocytopenia, which has occurred after the chemotherapy. He had no personal or family history of psoriasis. Clinically the working diagnosis was psoriasis and psoriasisform eczema. A skin biopsy was done and NEH was included in the differential diagnosis as it is known to be associated with AML and cytarabine. The patient was treated with topical steroids in combination with salicylic acid.

The histology revealed focal acanthosis and parakeratosis of the epidermis and a largely edematous dermis with numerous scattered neutrophils. The neutrophils were infiltrating the skin appendages and adnexial structures (Figure 2). Histologically it was compatible with neutrophillic eccrine hydradenitis.

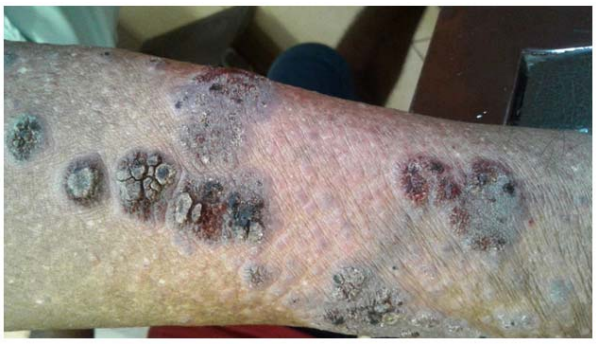

Figure 1. *Erythematous scaly hyperkeratotic plaques clinically resembling psoriasiform lesions.*

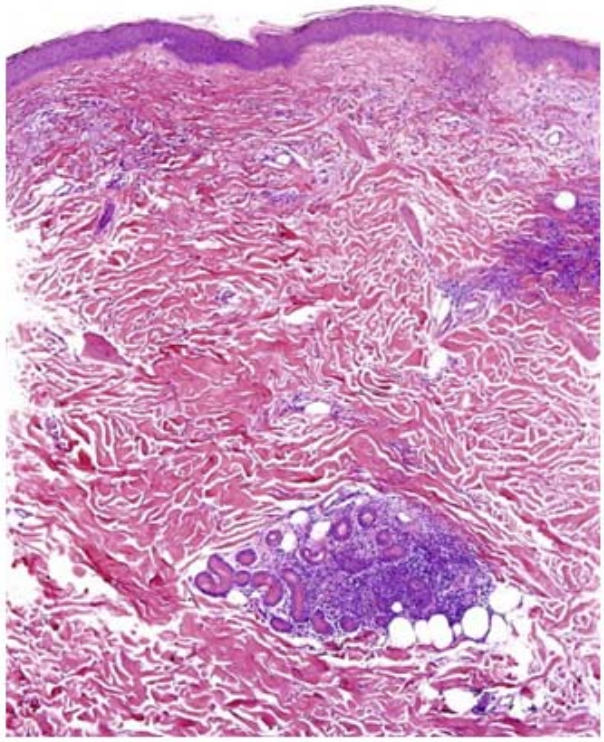

Figure 2. *Lower dermal neutrophillic infiltration surrounding the adenexal structures (H&E 10×100).*

The patient was seen two weeks later, and there was a remarkable improvement of symptoms.

[1]*Apeksha Hospital, National Institute for Cancer, Maharagama, Sri Lanka.*

Discussion

NEH was first described in 1982 by Harrist et al, occurring in patients with AML undergoing chemotherapy[1]. It is being reported to occur before the diagnosis of AML, during chemotherapy and proceeding a relapse of AML[2-3]. There are other associations, haematological and non haematological malignancies, inflammatory and infective causes[4-8]. The commonest drug association is cytarabine as in our patient[4]. Other drugs as bleomycine, granulocyte colony stimulating factor, BRAFF inhibitors, azothiaprin are reported[6, 9,10]. NEH has also been reported in completely healthy individuals[11].

The etiology is unknown. A direct toxic effect of the chemotherapeutic agent or paraneoplastic process is postulated when NEH occurs in the setting of malignancy or chemotherapy[4].

Lesions can be single or multiple. The commonly found morphological variants are erythematous macules, papules and nodules occurring in the body, face or limbs[4]. Lesions can be tender. Annular lesions, hyperpigmented patches, and sclerodermoid changes, orbital and facial cellulitis like lesions are also reported[12-15]. Our patient had psoriasiform lesions including the sclap and body, with no past or family history of psoriasis. To our knowledge, psoroasiform lesions in NEH are not yet reported.

There was a clear temporal relationship with the chemotherapeutic agent cytarabine. Cytarabine is an antimetabolite chemotherapeutic agent and is known to be beneficial in psoriasis[16]. The temporal relationship of the onset of psoriasiform skin lesions and the fact that psoriasis was said to improve with cytarabine paved the way to perform a skin biopsy in our patient. The diagnosis of NEH is mainly from characteristic histology which shows a lower dermal neutrophilic infiltrate surrounding the eccrine sweat glands as in our patient. There can be necrosis and destruction of eccrine glandular structure. In severely neutropenic patients with NEH the neutrophillic infiltrates could be sparse but the eccrine gland destruction will give the clue to the histological diagnosis[17].

NEH is a self limiting condition but recurrences are reported when the chemotherapeutic agent is reintroduced[4]. There is a case where dapsone has been used to successfully prevent the occurrence of NEH[18]. Topical steroids, non-steroidal anti-inflam-matory drugs, colchicine and systemic steroids are reported in the management, specially when NEH is associated with fever and painful skin lesions[19].

The awareness of this rare disorder and its varied clinical presentations is important to identify this entity.

References

1. Harrist TJ, Fine JD, Berman RS, *et al*. Neutrophilic eccrine hidradenitis. A distinctive type of neutrophilic dermatosis associated with myelogenous leukemia and chemotherapy. *Arch Dermatol.* 1982; **118**(4): 263-6.
2. Pierson JC, Helm TN, Taylor JS, *et al*. Neutrophilic eccrine hidradenitis heralding the onset of acute myelogenous leukemia. *Arch Dermatol.* 1993; **129**(6): 791-2.
3. Saada V, Aractingi S, Leblond V, *et al*. Neutrophilic eccrine hidradenitis associated with relapse of acute myeloblastic leukemia. *Ann Dermatol Venereol* 1998; **125**(6-7): 420-2.
4. Cohen PR. Neutrophilic dermatoses occurring in oncology patients. *Int J Dermatol.* 2007;. **46**(1): 106-11.
5. Gomez Vazquez M, Peteiro C, Toribio J. Neutrophilic eccrine hidradenitis heralding the onset of chronic myelogenous leukaemia. *J Eur Acad Dermatol Venereol.* 2003; **17**(3): 328-30.
6. Bachmeyer C, Chaibi P, Aractingi S. Neutrophilic eccrine hidradenitis induced by granulocyte colony-stimulating factor. *Br J Dermatol.* 1998; **139**(2): 354-5.
7. Bilic M, Mutasim DF. Neutrophilic eccrine hidradenitis in a patient with Behçet's disease. *Cutis.* 2001; **68**(2): 107-11.
8. Sanke S, Chander R. Neutrophilic Eccrine Hidradenitis in a Child with Chronic Granulomatous Disease. *Indian J Dermatol.* 2016; **61**(6): 683-4.
9. Herms F, Franck N, Kramkimel N, *et al*. Neutrophilic eccrine hidradenitis in 2 patients treated with BRAF inhibitors: a new cutaneous adverse event. *Br J Dermatol.* 2016.
10. Schmutz JL. Neutrophilic eccrine hidradenitis and azathioprine hypersensitivity syndrome. *Ann Dermatol Venereol.* 2014; **141**(11): 738-9.
11. Morice A, Penven K, Comoz F, et al. Neutrophilic eccrine hidradenitis in a healthy patient. *Ann Dermatol Venereol.* 2005; **132**(8-9 Pt 1): 686-8.
12. Headley CM, Ioffreda MD, Zaenglein AL. Neutrophilic eccrine hidradenitis: a case report of an unusual annular presentation. *Cutis.* 2005; **75**(2): 93-7.
13. Yasukawa K, Kato N, Aikawa K, et al. Neutrophilic eccrine hidradenitis with sclerodermoid change heralding the relapse of acute myelogenous leukemia: is this a paraneoplastic phenomenon?. *Dermatology.* 2007; **215**(3): 261-4.
14. Bardenstein DS, Haluschak J, Gerson S, Zaim MT. Neutrophilic eccrine hidradenitis simulating orbital cellulitis. *Arch Ophthalmol.* 1994 ; **112**(11): 1460-3.

15. Srivastava M, Scharf S, Meehan SA, Polsky D. Neutrophilic eccrine hidradenitis masquerading as facial cellulitis. *J Am Acad Dermatol.* 2007; **56**(4): 693-6.

16. Hall TC. Use of cancer chemotherapeutic agents in non neoplastic conditions. *Cancer* 1973; **31**(5) 1256-59.

17. Wlodek C, Bhatt N, Kennedy C. Two neutrophilic dermatoses captured simultaneously on histology. *Dermatol Pract Concept.* 2016; **6**(3): 55-7.

18. Shear NH, Knowles SR, Shapiro L, Poldre P. Dapsone in prevention of recurrent neutrophilic eccrine hidradenitis. *J Am Acad Dermatol.* 1996; **35**(5 Pt 2): 819-22.

19. Belot V, Perrinaud A, Corven C, *et al*. Adult idiopathic neutrophilic eccrine hidradenitis treated with colchicine. *Presse Med.* 2006; **35**(10 Pt 1): 1475-8.