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Case Report

Transient acantholytic dermatosis (Grover's disease) - a case report

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Abstract Transient acantholytic dermatosis was described by Grover. Its definite cause and pathogenesis is unknown. A 22-year-old man presented to our out-patient department with multiple itchy vesicles and pustules on the neck and chest. The biopsy was done and histopathology findings revealed focal acantholytic dyskeratosis. Case was diagnosed as Grover's disease. Patient was given vitamin A 50000 IU per day and later dapsone was added. Patient was advised to avoid sunlight and heat. This is the first case of biopsy confirmed Grover's disease from Nepal.

Key words
Transient acantholytic dermatosis, Grover's disease, vitamin A.

Introduction

Transient acantholytic dermatosis was originally described by Grover in 1970.[1] The primary lesions are discrete papules and papulovesicles, distributed mainly on the chest, back, thighs and may be intensely pruritic.[2] Etiology is unknown. Histologically focal acantholytic dyskeratosis is seen.[3] We report herein the first case of biopsy-confirmed Grover's disease in Nepal.

Case report

A 22-year-old male presented with multiple itchy lesions over neck and chest for 3 days. There was no history of febrile illness or precipitating factors and itching in the family members. He had similar lesions over the thighs and genitals in the past and was treated as scabies.

Cutaneous examination revealed multiple pruritic papulovesicles and pustules over the neck and chest (**Figures 1**). Few pruritic erythematous papules were present over the scrotum and penis and healed hyperpigmented lesions over the inner aspect of right thigh. Systemic examination was noncontributory.

Grover's disease, dermatitis herpetiformis and scabies were considered for the differential diagnosis. Pus for gram stain and culture sensitivity showed growth of *Staphylococcus aureus* sensitive to

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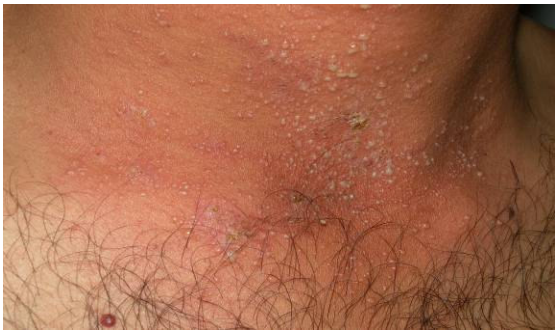

Figure 1 Papulovesicles and pustules on anterior aspect of neck and chest.

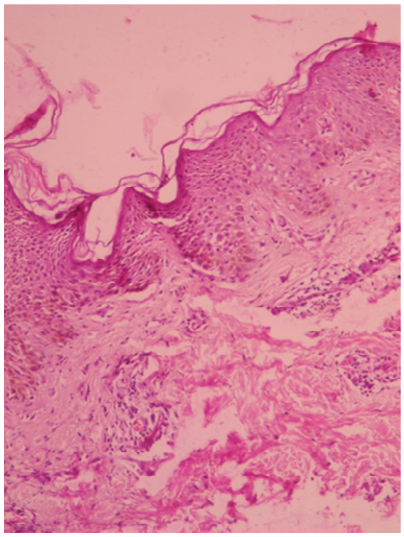

Figure 2 Histopathological changes showing spongiosis, acantholysis and suprabasal clefting.

cloxacillin. Histopathological examination of skin biopsy showed epidermis with acanthosis, focal suprabasal clefts, acantholysis, few spongiotic foci and dyskeratosis (**Figure 2**). Papillary dermis showed lymphocytes, few neutrophils, eosinophils and nuclear debris. Thus, the biopsy features were consistent with transient acantholytic dermatosis.

Patient was initially treated with topical and systemic antibiotics and following biopsy report was kept on oral vitamin A 50,000 IU three times daily for two weeks, oral cetirizine 10mg at night for ten days and topical betamethasone dipropionate and

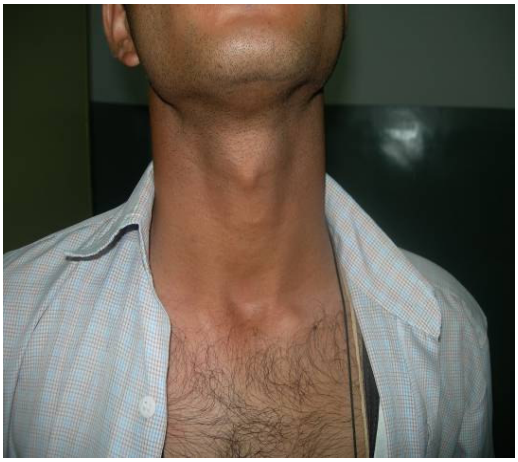

Figure 3 Improvement after treatment.

gentamicin sulphate combination over the lesions for ten days.

Patient was followed up after nineteen days with healed previous lesions (**Figure 3**) and few new lesions over the right thigh. Then oral dapsone 100mg once daily was added along with above medication. Patient was briefed about the course and the nature of the disease and was advised to avoid sunlight and heat. Patient is now in good condition, a month after the start of treatment.

Discussion

Although the definite cause of Grover's disease is unknown, a number of precipitating factors and associated diseases have been suggested. Exposure to sunlight, heat, exercises and sweating,[4] ionizing radiation and 2-chlorodeoxyadenosine have also been noted as precipitating factors. An association with internal malignancy and renal transplant[5] has been reported several times but may be nonspecific. Grover's disease secondary to ribavirin has also been reported.[6] No relation with any of the above mentioned factors was present in our patient.

The pathogenesis of disease is unknown but a recent electron microscopy study has demonstrated that dissolution of desmosomal attachment plaques probably causes the acantholysis in Grover's disease.[7]

More common in males[4] with male:female ratio of 3:1, the disease occurs predominantly in persons over 50 year.[2] However, relapsing linear acantholysis dermatosis has also been reported in a 4-year-old boy[8] and patient which we have reported is also just 22-year-old. The disease should clinically be differentiated from dermatitis herpetiformis, folliculitis, miliaria rubra, scabies, herpes simplex and herpes zoster. The lesions are histologically polymorphous and four distinct patterns are seen in the biopsy specimens: 1. Darier-like with focal acantholysis and dyskeratosis overlying suprabasal clefts; 2. Pemphigus vulgaris-like with few acantholytic cells above discrete suprabasal clefts having a mostly intact overlying epidermis; 3. Hailey-Hailey-like with numerous acantholytic cells overlying suprabasal clefts; 4. Spongiotic pattern with few acantholytic cells within or contiguous with spongiotic foci. Some cases show a predominance of one pattern but more frequently two or more of these patterns can be found in a single biopsy specimen.[2] Thus in the biopsy specimen of our patient it was a mixed pattern of Darier-like and spongiosis.

Immunofluorescence studies would be negative. Electron microscopic studies will show intradesmosomal separation, diminution in the number of desmosomes and perinuclear aggregation of tonofilaments. But both are not available in our setup. Overall, for a precise diagnosis to be rendered, clinicopathologic correlation is needed.

In mild cases, symptomatic treatment of pruritus and topically applied steroids may be all that is required. The successful use of calcipotriol is recorded.[9] In more troublesome cases, etretinate, isotretinoin, systemic steroids and PUVA[10,11] have been used. Dapsone has been beneficial in some patients.[12] It was also beneficial in our patient.

Conclusion

Patient should be advised to avoid aggravating factors, if present, to prevent such lesions. Because of the clinical similarities with other entities and variable histopathologic findings, the disease is underdiagnosed and the exact number regarding the prevalence of the disease is not available. So practitioner should be aware of this disorder.

References

1. Grover RW. Transient acantholytic dermatosis. *Arch Dermatol* 1970; **101**: 426-34.
2. Chalet M, Grover R, Ackerman AB. Transient acantholytic dermatosis. A reevaluation. *Arch Dermatol* 1977; **113**: 431-5.
3. Ackerman AB. Focal acantholytic dermatosis. *Arch Dermatol* 1972; **106**: 702-6.
4. Davis MDP, Dinneen AM, Landa N, Gibson LE. Grover's disease: Clinicopathologic review of 72 cases. *Mayo Clin Proc* 1999; **74**: 229-34.
5. Boutli F, Voyatzi M, Lefaki I *et al.* Transient acantholytic dermatosis (Grover's disease) in a renal transplant patient. *J Dermatol* 2006; **33**: 178-81.
6. Antunes F, Azevedo J, Mesquita-Guimaraesc J *et al.* Grover's disease

secondary to ribavirin. *Br J Dermatol* 2000; **142**: 1257.
7. Hashimoto K, Fujiwara K, Harada M *et al*. Junctional proteins of keratinocytes of Grover's disease, Hailey-Hailey's disease and Darier's disease. *J Dermatol* 1995; **22**: 159-70.
8. Arora S, Arora G, Ranjan P. Relapsing linear acantholytic dermatosis in a four-year-old boy. *Indian J Dermatol Venereol Leprol* 2005; **71**: 351-3.
9. Mota AV, Correia TM, Lopes JM, Guimaros JM. Successful treatment of Grover's disease with calcipotriol. *Eur J Dermatol* 1998; **8**: 33-5.
10. Parsons JM. Transient acantholytic dermatosis (Grover's disease) A global perspective. *J Am Acad Dermatol* 1996; **35**: 653-66.
11. Breuckmann F, Appelhans C, Altmeyer P, Kreuter A. Medium-dose ultraviolet A phototherapy in transient acantholytic dermatosis (Grover's disease). *J Am Acad Dermatol* 2005; **52**: 169-70.
12. Docrat ME. Skin focus: Grover's disease-transient acantholytic dermatosis *Curr Allergy Clin Immunol* 2006: **19**: 32.