

# A Case of Transient Acantholytic Dermatitis Improved with Tetracycline Hydrochloride

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We report a case of transient acantholytic dermatosis which occurred on the neck and clavicular areas of eighteen-year-old female and was improved with systemic administration of tetracycline hydrochloride.

She had mild pruritic and crusted erythematous papules. Family history was not contributory. Histopathologic findings were acantholytic dyskeratotic pattern with circumscribed suprabasal clefts, corps ronds, and grains in the epidermis of papular lesion.

She obtained incidental improvement of lesions on the neck and clavicles during medication with tetracycline hydrochloride which was prescribed for acne vulgaris on the face.

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*Key Words:* Transient acantholytic dermatosis, Tetracycline hydrochloride

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Transient acantholytic dermatosis (TAD) is pruritic papular or papulovesicular skin disease which was first described in 1970 by Grover<sup>1, 2</sup>. It usually disappears spontaneously in a few weeks to a few months. In cases of chronic and pruritic TAD, oral or topical corticosteroid and Grenz irradiation may be effective treatment<sup>2</sup>.

Even though the mechanism is unknown, several dermatoses such as acne vulgaris<sup>3</sup>, Hailey-Hailey disease<sup>4</sup>, pityriasis lichenoides et varioliformis acuta (PLEVA)<sup>5</sup> are improved by systemic administration of tetracycline hydrochloride (TC).

We, herein, present a case of TAD that showed improvement of lesions with systemic administration of TC.

## REPORT OF A CASE

A 18-year-old female patient presented with 4 month history of crusted erythematous papular lesions of neck area. She was born by normal vagi-

nal delivery. Four months prior to visit, mild pruritic papular skin lesions are suddenly appeared on the neck area. As time goes on, the lesions are turned to the crust and new lesions developed continuously on the both clavicular regions. She has not been treated with any medication during past 4 months, but a few lesions were cleared without any treatment, and followed by hypo-or hyperpigmentation.

The initial examination revealed match-head sized, crusted erythematous papules on the both neck and clavicular areas (Fig. 1) and acne vulgaris on the face. Examination of oral mucosa and nails showed no abnormal findings. Complete blood count, liver function test and urinalysis revealed within normal limit or negative findings. On the histopathologic studies of papular lesion, acantholytic dyskeratosis was major characteristic. The epidermis showed basket weave patterned hyperkeratosis, focal crust, parakeratosis, and two circumscribed parts of vesicle (Fig. 2). On an intraepidermal vesicle, acantholysis leading to the formation of suprabasal cleft was seen (Fig. 3). And a few corps ronds are present in the granular layer, and grains in the horny layer. On the other site, thick scaly crust, upward protruding

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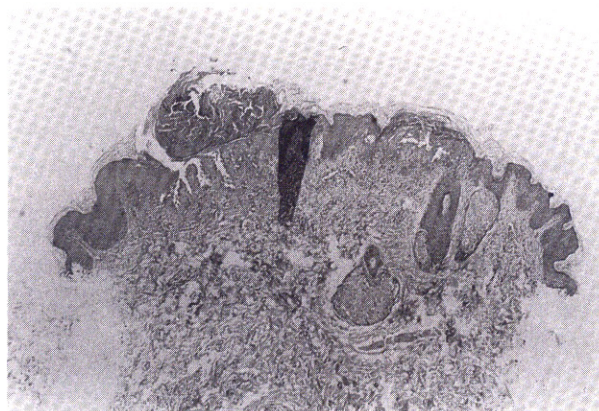
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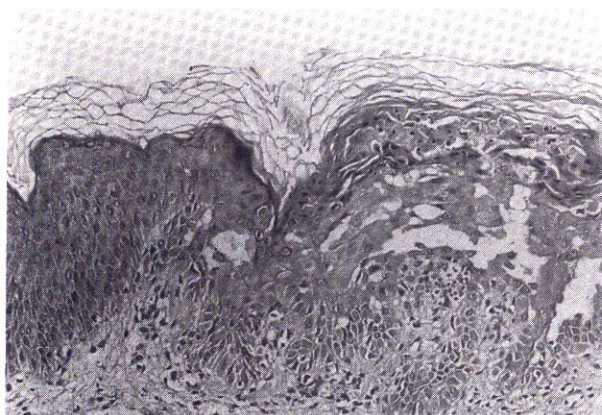
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**Fig. 1.** Match-head sized, yellow-brownish crusted erythematous papules on the left neck.



**Fig. 2.** Photomicrograph of the papule showed basket weave patterned hyperkeratosis, focal scaly crust, parakeratosis, and two circumscribed parts of vesicle (H&E stain,  $\times 40$ ).



**Fig. 3.** Acantholytic suprabasal clefts, a few corps ronds, and grains were seen (H&E stain,  $\times 200$ ).



**Fig. 4.** Recurring papular lesions on the right neck after withdrawal of tetracycline hydrochloride.

villi and acantholytic suprabasal separation were also seen (Fig. 2).

Waiting for the skin biopsy report, TC (750mg/day) was prescribed for acne vulgaris on the face. At two weeks after medication, TAD as well as acne lesions began to improve. 2 weeks later, erythematous papular lesions were disappearing. Neck and clavicular lesions were cleared during next 2 weeks of medication and hypo- or hyperpigmentation remained. However, TC was withdrawn by herself on May, 1990. And then, when she revisited to department on June 1990, we found that neck lesions recurred (Fig. 4). Thereafter, improvement of lesions was accomplished by retreatment of TC. We thought that the improvement of skin lesions depended on the administration of TC.

## DISCUSSION

TAD, first described in 1970 by Grover, most often appears as a pruritic, discrete papules and occasionally also papulovesicles<sup>1, 2</sup>. The papules are characteristically found about the clavicles and at the root of the neck. The back, arm, and thigh can be also involved<sup>2</sup>. Our case showed slight pruritic, crusted, erythematous papular lesions on the neck and clavicular area, which were consistent with clinical manifestation of TAD.

Most patients were middle-aged or elderly men<sup>1, 2, 6</sup>. Chalet et al<sup>1</sup> emphasized that one should be alert to the possibility of TAD in patients who are over 40 years old who have pruritic papular or papulovesicular lesions. However, it was possible to develop in adolescent age<sup>7</sup>. This case was 18-year-old age, which was younger than peak

onset of TAD.

The course of this disease is generally self-limited, lasting from only one or two week to a few months<sup>1,2,6</sup>, but there was a case which has persisted for more than three years<sup>8</sup>. In our case skin lesion persisted for 4 months, but partial spontaneous remission occurred.

Owing to clinical manifestation and normal laboratory findings, initial presumptive diseases were TAD, Darier's disease, Hailey-Hailey disease and pemphigus foliaceus. Darier's disease characterized dirty, warty keratotic papules with almost the color of normal skin<sup>9</sup>. The typical palmar and nail changes of Darier's disease were not observed in this case. Primary lesion of Hailey-Hailey disease is easily erosive vesicle or bulla on the flexural area. Pemphigus foliaceus begins with small flaccid bullae which usually confluent with time<sup>10</sup>. We thought this case was clinically TAD, because she showed discrete erythematous papular lesions on the neck and clavicles with history of partial spontaneous resolution.

TAD has diverse histologic patterns: Darier's disease-like, pemphigus vulgaris-like, Hailey-Hailey disease-like, pemphigus foliaceus-like, and spongiotic pattern<sup>6</sup>. These patterns may occur singly or in combination<sup>1</sup>. According to her histopathologic feature, we speculated Darier's disease-like and Hailey-Hailey disease-like patterns were combined. Histopathologically, we could rule out Hailey-Hailey disease and pemphigus as the epidermis of this patient showed highly circumscribed acantholytic change. Darier's disease might be ruled out as showed followings: slight dyskeratotic change, no parakeratotic column and combined pattern. Thus, we decisively diagnosed this case as transient acantholytic dermatosis.

There are several regimens for TAD, for example, corticosteroid, Grenz irradiation, vitamin A and photochemotherapy<sup>2</sup>. TC has a broad spectrum of antibiotic activity and also is effective to acne, rosacea, Hailey-Hailey disease, PLEVA and pustulosis palmaris et plantaris in dermatologic area<sup>11</sup>. This case showed the response to TC by unknown mechanism. Nonspecific irrita-

tion and inflammation seem to be etiologic factors of TAD<sup>2</sup>. Recently, Baar et al<sup>12</sup> revealed that TC had the potent elimination effect of the superoxide radical which was released from neutrophils during inflammation process. We thought scavenger action of TC to take away superoxide anions during development of inflammation in TAD lesions might improve our case.

In conclusion this case showed incidental improvement of lesions by administration of TC. After ward, we will try to treat with TC to the more case of TAD, and we attentively recommend tetracycline hydrochloride as a regimen of TAD.

## REFERENCES

1. Chalet M, Grover R, Ackerman AB: Transient acantholytic dermatosis. *Arch Dermatol* 113:431-435, 1977.
2. Demis DJ, McGuire J: Transient acantholytic dermatosis. In *clinical dermatology*. Harper and Row, Publishers, 1984, unit 6-16.
3. Ramsay DL, Hurley HJ: Acne and acneiform dermatosis. In Moshella SL, Hurley HJ (eds): *Dermatology*. W.B. Saunders Company, Philadelphia, 1985, pp1312.
4. Arnold HL, Odom RB, James WD: Familial benign chronic pemphigus. In *Disease of the skin*. W.B. Saunders Company, Philadelphia, 1990, pp651-652.
5. Ramsay DL, Hurley HJ: Papulosquamous eruptions and exfoliative dermatosis. In Moshella SL, Hurley HJ (eds): *Dermatology*. W.B. Saunders Company, Philadelphia, 1985, pp540.
6. Lever WF, Schaumburg-Lever G: Transient acantholytic dermatosis. In *Histopathology of the skin*. J.B. Lippincott Company, Philadelphia, 1990, pp141-142.
7. Curth HO, Curth W: Transient acantholytic dermatosis (Grover disease). *J Am Med Wom Assoc* 32:307-309, 1977.
8. Simon RS, Bloom D, Ackerman AB: Persistent acantholytic dermatosis. *Arch Dermatol* 112:1429-1431, 1976.
9. Arnold HL, Odom RB, James WD: Darier's disease. In *Diseases of the skin*. W.B. Saunders Company, Philadelphia, 1990, pp669-671.
10. Arnold HL, Odom RB, James WD: Pemphigus foliaceus. In *Disease of the skin*. W.B. Saunders Company, Philadelphia, 1990, pp540-541.
11. Humbert P, Treffel P et al: The tetracyclines in dermatology. *J Am Acad Dermatol* 25:691-697, 1991.
12. Van Baar H.M.J., Van de Kerkof P.C.M. and Mier P.D.: Tetracyclines are the potent scavengers of the superoxide radical. *Br J Dermatol* 117:131, 1987.