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Brief Note

A Case of Fixed Drug Eruption Due to a Mixed Vitamin B Preparation

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Key words : fixed drug eruption — vitamin B

Neolamin 3B^R contains thiamine disulfide (Vit. B1), pyridoxine hydrochloride (Vit. B6), and hydroxocobalamine (Vit. B12) as its chief ingredient. We describe a patient with fixed drug eruption due to this mixed vitamin B preparation.

CASE REPORT

The patient was a 35-year-old Japanese nurse. Her family history and past medical history were unremarkable. Since about October 1985, a coin-sized erythematous lesion with accompanying local warmth had repeatedly appeared at the left lateral palpebral fissure. The erythema always resolved after one to two weeks, leaving regional pigmentation. On February 22, 1986, she presented to our department because of recurrence of the eruption. At the first examination we observed slate pigmentation in the region of the left palpebral fissure (Fig. 1) and suspected a fixed drug eruption from the history and examination. Since her past drug intake was uncertain, we asked her to return following the onset of a further attack of erythema. On April 5, 1986, she presented again with erythema and sensation of warmth in the same region. She reported that the erythema appeared about 1 hr after an injection of Neolamin 3B^R.

Patch test : The test was performed on the medial aspect of the upper arm using 0.3% thiamine disulfide (Vit. B1), 3% pyridoxine hydrochloride (Vit. B6), and 0.1% hydroxocobalamine (Vit. B12), but the result were negative. Provocation test : After the disappearance of erythema, Neolamin 3B^R 1/2 ampoule was administered intravenously to the patient. A sensation of warmth plus erythema appeared at left lateral palpebral fissure starting about 30 min after injection. This erythema reaction maximum intensity after 7-8 hr. We thus made a diagnosis of fixed drug eruption on basis of the positive result of this provocative test.

COMMENT

Neolamin 3B^R contains thiamine disulfide (Vit. B1), pyridoxine hydrochloride (Vit. B6), and hydroxocobalamine (Vit. B12) as its chief ingredient. In addition, hydrochloric acid is added, to adjust the pH and urea is added as a stabilizer. Thiamine disulfide is formed by S-S linkages between two molecules thiamine, and its antigenicity is said to lie either in the pyridine nucleus or the whole thiamine molecule. Nakamura *et al.*[1] have reported two cases of local purpura due to thiamine disulfide. As its mechanism, they suggested chemical stimulation

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by the injected preparation. Yoshikawa *et al.*[2] have reported allergic contact dermatitis due to pyridoxine hydrochloride. For hydroxocobalamine, shock, urticaria, and acne-like eruption have been reported.[3] Since the results of the provocation test were positive in this patient, it is certainly reasonable that she had a fixed drug eruption due to at least one of the ingredient of the mixed vitamin B preparation. The possibility of the reaction being caused by the hydrochloric acid or urea cannot be ruled out. There has been no previous report of a fixed drug eruption due to a vitamin B preparation as far as we know.

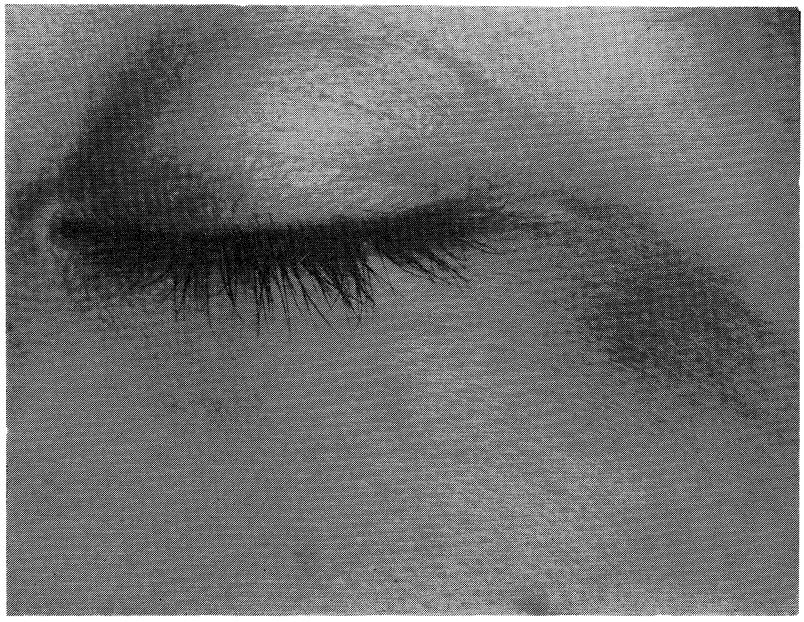

Fig. 1. Slate pigmentation in the region of left palpebral fissure.

About one billion vials of Neolamin 3B^{R} have been produced in Japan over the 20 years. Despite this very extensive use, fixed drug eruption has not been reported previously. This may be because sensitization is not established by the usual intravenous method of administration. Our patient was a nurse by profession and there are probably many chances of contact with such

preparations in her duties, so transcutaneous sensitization may have been established in this case. It is suggested that persons engaged in medical care should take precautions regarding contact with all drugs including vitamin preparation.

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REFERENCES

1) Nakamura, Y. and Aoki, T. : Thiamine sulfide induced local purpura. Jpn. J. Clin. Dermatol. **37** : 1105–1108, 1983 (in Japanese)
2) Yoshikawa K., Watanabe, K. and Mizuno, N. : Contact allergy to hydrocortisone 17-butyrate and pyridoxine hydrochloride. Contact Dermatitis **12** : 55-56, 1985
3) Westerholm, B.: Meyler's side effect of drugs, 9th ed. ed. by Dukes, M.N.G. Amsterdam, Excerpta Medica. 1980, pp. 634-635