PRELIMINARY AND SHORT REPORTS

TREATMENT OF LUPUS ERYTHEMATOSUS WITH VITAMIN B₁₂

PRELIMINARY REPORT OF 4 CASES

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The changes in the clinical picture, laboratory findings and vibratory profile (1-2) which occurred in 3 males with chronic, discoid lesions and 1 female with severe, disseminated, subacute lupus erythematosus following the administration of Vitamin B₁₂, were of such a nature and occurred with sufficient rapidity as to suggest that this agent might be therapeutically efficacious in this disease.

In view of the small number of patients treated and the comparatively short observation period the following case reports are presented tentatively to indicate the results of the preliminary study and to stimulate further inquiry of this therapy by others.

Case 1. Chronic Discoid Lupus Erythematosus: C. H. white, male, aged 28, noted in August 1950 an eruption consisting of a group of 4 discrete, raised, flat, slightly scaly, dusky red papules arranged in a circle 1 cm. in diameter in the left temporal region, and a more superficial symmetrical, red, scaly, papular eruption on both cheeks. The eruption, 30% loss of vibratory sense, findings in the blood, and biopsy on February 24, 1951 were consistent with a diagnosis of chronic discoid lupus erythematosus. From March 9, 1951 he received, intramuscularly, Bevidox 15 micrograms weekly. After the 4th dose, the erythematous, scaly lesions on cheeks had disappeared and the lesions on the temple had regressed more than 50%. After the 8th treatment, the temple lesion disappeared leaving only a slightly red, slightly scaly, atrophic scar.

Cases 2 and 3 are similar to Case 1 in that they are also examples of chronic lupus erythematosus limited to the face and showed all of the characteristic signs of this condition. They differed from Case 1 chiefly in that they had received much previous treatment with gold, bismuth, liver extract and tocopherol and had sustained numerous recurrences of lupus erythematosus lesions during the five year period of treatment which preceded the institution of Vitamin B₁₂ therapy. The response of both these patients to B₁₂ therapy though good, was not nearly as dramatic as was the result obtained from treatment in Case 1.

Case 4. Subacute Disseminated Lupus Erythematosus, Severe: R. C. white, housewife, age 25 on April 27, 1951 stated that in August 1949 she noted three discrete lesions on forehead and cheeks resembling mosquito bites which spread gradually in spite of topical medication. In November 1949 the lesions of the face became suddenly much worse and an eruption appeared on the left arm. This was diagnosed erythema multiforme and treated with ultra violet irradiation and penicillin intramuscularly. The eruption spread to the face, neck, upper chest, back shoulders. Oral panthenol treatment was without effect and she discontinued therapy in March 1950 with lesions unchanged. On April 6, 1951 she noted a gradual extension of the lesions. On April 23 she was exposed to much sunlight. The eruption progressed explosively involving the entire body in two days. She complained of weakness, fatigue and occasional dizziness and her menses were delayed five days. Pregnancy dating from April 6 was subsequently determined. She presented a variegated, generalized eruption extending from the hairline of the scalp to the dorsum of the toes. Normal appearing skin was seen on the soles, knees, popliteal, antecubital and axillary spaces, right palm, inguinal region and in a sharply demarked area over breasts, shoulders, and back which was covered with the brassiere. The eruption on the face, neck, shoulders, upper chest and upper back simulated erythema multiforme. On the lower anterior chest and abdominal wall hyperpigmentation was interspersed with areas of vitiligo and red, scaly papules. The breaking out on the arms, thighs, and legs consisted of large, plaque-like, red and scaly

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lesions. All of these eruptions were separated by vari-sized, irregular, normal appearing or hyperpigmented or vitiliginous patches of skin. On the dorsum of the fingers and toes the localization of the erythema and hyperkeratosis simulated the appearance of pityriasis rubra pilaris. No lesions were noted on the mucous membranes.

The heart, lungs and other viscera were not remarkable. Blood pressure was 120/70, the pulse rate, 104. The vibratory profile was reduced irregularly about 30%. The biceps, periosteal and upper abdominal reflexes were not elicited. The patellar jerks were sluggish.

Biopsy was obtained from 3 separate sites on the back May 14, 1951 and May 21, 1951 and was reported by Dr. Daniel Richfield as consistent with acute lupus erythematosus.

Treatment was begun May 3, 1951 with 15 micrograms Vitamin B12, intramuscularly given 3 times weekly. Following each injection a very noticeable fading of the lesions from bright red to dusky red to brown could be seen. The elevated borders of the erythema multiforme-like lesions changed color and began to lose their elevation and induration. The blood picture showed some further depression in red cell count and hemoglobin content which after several weeks attained its pretreatment level and is presently improving rather rapidly.

Normal areas of skin are appearing within the large plaques and on the arms, legs, chest and upper back. Many of the lesions have faded into a slight dusky pink coloration. On the right forearm a single large, red, irregular plaque covered with scales persists. The lesions of the face have faded so that only an increased scaliness over the zygomata persists.

On June 24, the patient exposed herself to excessive sunlight. Sunburn on the face and neck and an extension of the lesions over the breast areas which had previously been clear resulted. She complained of marked fatigue and dizziness. Vitamin B12 was increased to 30 micrograms at this time and after 2 injections the sensation of fatigue and dizziness disappeared and the erythema faded rapidly. On July 9 the return of right biceps and periosteal reflexes and an increase in the abdominal and patellar reflexes was noted, although the left biceps and both tendo-achilles reflexes were not elicited.

**DISCUSSION**

The administration of Vitamin B12 intramuscularly, in doses as high as 5000 micrograms has been reported to cause no toxic or untoward symptoms. The very rapid clearing of the chronic discoid lesions in case 1, and the somewhat slower regression of similar lesions in cases 2 and 3 indicate that this drug has a healing action on the skin manifestations of chronic discoid lupus erythematosus.

The fading of the skin lesions in the patient with severe subacute lupus erythematosus and the rapid elimination of the toxic symptoms, even though this patient had exposed herself to excessive sunlight on two occasions is noteworthy. The influence of the pregnancy in keeping the erythrocyte count depressed cannot at present be evaluated. The influence of the Vitamin B12 therapy on the sluggish and absent tendon and abdominal reflexes was very favorable. The vibratory sense in this patient was elevated in a rather specific manner to the highest level ever obtained during my investigation of the pallesthetic sense.

It seems that a much larger dosage of Vitamin B12 than was used in the patients of this series would probably be even more effective in combating the various manifestations of lupus erythematosus. The painlessness of the intramuscular injections, comparatively low cost and lack of toxicity will favor the use of Vitamin B12 if its therapeutic efficacy in this disease can be confirmed. However, much further investigation and a very much longer period of observation will be required before any conclusion as to its actual effectiveness may be drawn.

**REFERENCES**

1. **Goldblatt, Samuel:** "Pallesthesia Levels in Dermatology" Exhibit at Annual Meeting American Academy of Dermatology and Syphilology, Chicago, December 1950.