

# THERAPEUTIC TRIAL

## VITILIGO & VITAMIN B GOMPLEX

By

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### INTRODUCTION

The process of pigment formation in the mammalian skin, has been elucidated considerably. Yet the exact mechanism involved in the depigmentation in vitiligo in human beings is not well understood. It is well established that an abnormal increase or decrease in the formation of melanin is associated with a variety of nutritional deficiencies<sup>2</sup>. However it is difficult to pin-point a single factor responsible for the condition, as several dietary factors are lacking in deficiency states. Rats on a synthetic diet poor in pantothenic acid and cystine become depigmented<sup>5</sup>. Synthetic diets deficient in filtrate factors of the vitamin B complex also produce similar results,<sup>1,4</sup>. The process is reversible on addition of adequate amounts of these substances. In some instance biotin exerts a curative effect, though to a lesser extent than pantothenic acid.

Definite statements concerning the mechanism by which vitamin B complex regulates melanin formation, cannot be made. In-vitro studies of the effects of the B complex factors on the enzymatic oxidation of tyrosinase and dopa to melanin, may clarify some aspects of the problem. On the basis of this knowledge, it was decided to undertake a study of the effects of vitamin B complex on vitiligo.

### MATERIAL AND METHOD

Patients attending an out-patient department of dermatology in a general hospital were taken up for the study. This work was simultaneously undertaken when a controlled trial of the effects of tolbutamide in formation of pigment in vitiligo was under way. No special criteria were used in the selection of cases, nor were they selected by random sampling. They were picked up so as to form a group comparable with the tolbutamide and placebo cases (under publication)<sup>3</sup>.

Detailed case histories were maintained and case notes entered from time to time. The following investigations were done before starting the treatment and were repeated periodically. (1) Body weight (2) Stool examination for cysts and ova (3) Routine urine examination (4) Haemogram (5) Liver function tests (6) Serological test for syphilis.

Vitamin B complex was administered as intra-muscular injections twice a week. The dosage varied from 0.5 ml to 2.0 ml at a time, depending on the age of the patient. The composition of the commercial vitamin B complex used was as follows:— Vit. B<sub>1</sub> 25 mg., Vit. B<sub>6</sub> 5 mg., Riboflavin B. P. 2 mg., Nicotinamide B. P. 100 mg., Phenol (as preservative) B. P. 0.5%; Benzyl alcohol B. P. 1.5%.

Supplementary treatment with anthelmintics and iron was given wherever indicated. On the basis of previous observations and to keep in line with other therapeutic trials, a case was considered as failure if no signs of pigmentation were observed after a therapy of twelve weeks.

### RESULTS

This report details the results of 16 cases of vitiligo treated with vitamin B complex injections. Of these nine were males and seven were females. The age varied from 3 to 50 years in the male group and from 3 to 28 years in the female group. Serological test for syphilis was negative in all the cases. Hemoglobin ranged from 8.0 g% to 17.0 g%. Urine of all the patients was normal. Serum proteins varied from 5.5 g% to 7.40 g%. Round worm infestation was present in 4 cases.

Out of 16 cases treated with vitamin B complex 8 developed pigment within 12 weeks and one patient as late as 22 weeks.

### DISCUSSION

As already mentioned this trial was conducted simultaneously with that of tolbutamide. In that study 16 cases of vitiligo were given tolbutamide and an equal number were given a placebo. In the placebo group one patient developed pigment. If the results of the present trial are evaluated against the results of the placebo group, an impression is formed that vitamin B complex has a stimulatory action on the process of pigment formation.

### SUMMARY

Sixteen cases of vitiligo were treated with intra-muscular injections of vitamin B complex. Of these eight developed pigment.

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### REFERENCES

1. Fritz, J. C., J. H. Hooper, J. L. Hapin and H. P. Moore. *J. Nutrition* 31 : 387, 1946.
2. Frost, D. V., *Physiol. Rev.* 28 : 368, 1948.
3. Gokhale, B. B. & Gokhale, Tara B (to be published *Ind. J. Dermat. & Venerol.*)
4. Morgan Agnes F and Helen D Simms. *J. Nutrition* 19 : 233, 1940.
5. Pavcek, P. L. and H. M. Baum, *Proc. Soc. exper. Biol. & Med.* 47 : 271, 1941.