

## TREATMENT OF VITILIGO WITH A COMBINATION OF ISONIAZID AND THIA CETAZONE - A PRELIMINARY REPORT

UMA MATHUR\* AND S. K. MATHUR †

### Summary

The present clinical study comprised 60 vitiligo patients. In these patients, no clinical sign or symptom or investigations revealed pulmonary or extra-pulmonary tuberculosis. Irrespective of the duration, extent and associations of vitiligo, fresh pigmentation occurred in all the cases kept on combination of thiacetazone and isoniazid. The dose was doubled in a few cases. Deposition of the pigment occurred in these cases without any toxic or hypersensitive reactions. Initial anorexia, weight loss and vertigo etc. disappeared spontaneously on withdrawal of the drugs.

### Introduction

While working at a large out-patient tuberculosis clinic (T.B. Demonstration and Training Centre, Agra), it was observed that 8 per cent patients developed hypersensitive reactions to isoniazid and thiacetazone combination, of which 5 per cent developed hyperpigmented erythematous rashes. The idea of giving these drugs to vitiligo cases came from this observation. So far the use of isoniazid and thiacetazone in vitiligo has not been reported in literature. The work is still in progress.

### Material and Method

60 patients were investigated thoroughly to rule out Tuberculosis by doing

\* Lecturer in Pharmacology,  
S. N. Medical College, Agra.

† Ex. Lecturer and Medical Officer,  
T.B. Demonstration and Training Centre  
Physician,  
The India Centre,  
Japan Leprosy Mission for Asia,  
Tajganj, Agra.

Received for Publication on 11—2—1976

various investigations like Mantoux test, X-Ray Chest, Sputum examination and E.S.R. Liver function test (SGPT) was done before starting the treatment, as thiacetazone is metabolized in the liver.

Patient's history regarding vocation, drug intake, helminthic infestation, nutritional status and syphilis were taken to assess the associations of vitiligo. Stool examination, haemoglobin and V.D.R.L. were done. Earlier treatment was without significant improvement. The vitiligo macules were varying in size, extent and duration. Consecutive photographic records were made for follow-up to observe the effect of these drugs. In two cases, biopsies were taken from areas of depigmentation, repigmented spots and normal skin.

### Drug Administration

Adult patients were given a single dose of isoniazid (300 mgms) and thiacetazone (150 mgms) before retiring. Children were given half the adult dose.

### Observations

There was first a change in colour of vitiligo patch from white to pink in 15 days, followed by appearance of pigmented spots from periphery towards centre. Within 3-4 months small patches disappeared completely, while there was 20-50% improvement in bigger patches in 6 months to 2 years period, complete recovery did not take place.

In two patients with moderate vitiligo after two years of treatment all the patches disappeared. In these patients, initially there was rapid improvement which slowed down after 6 months. Thereafter, the dose was made double the initial dose which resulted in further improvement without any complications. So far the two patients have not shown recurrence of vitiligo, even after stopping the drugs.

It may be mentioned that about 60 more patients are being treated with thiacetazone and isoniazid at present - all showing marked to moderate improvement. Transient side effects in the form of anorexia and nausea disappears after a few days, and drug can be continued safely.

6 patients showed initial weight loss probably due to anorexia; so far none of them developed impairment of liver functions. Various tests to determine the mode of action of the drug and the duration of treatment and doses etc. is under progress.

In the present study, the well-known anti-tuberculosis drugs - Isoniazid and Thiacetazone in combination - have been found to be very effective in treating vitiligo. The influence of this drug combination, on melanin pigment metabolism has not been reported so far in literature.

It has been noted that thiacetazone causes hyperpigmentation in cases treated with the drug for tuberculosis.

This may be due to the fact that thiacetazone is partly excreted through skin (Reference). While coming out of skin, probably it stimulates melanocytes, giving rise to hyperpigmentation. May be, it increases melanin deposition either by increasing the synthesis of melanin or through ACTH & MSH feed-back mechanism which in turn stimulate Melanocytes leading to fresh pigment deposition in depigmented macule. In cases of hypersensitive reactions in tuberculosis patients the hyperpigmented erythematous rashes never turns to normal skin colour till the drug is withdrawn. It may be presumed that thiacetazone stimulates migration of melanin or melanin synthesizing cells from neighbouring normal skin area to depigmented vitiligo patch. The further detailed study will give the answer why hyperpigmentation is so intense in tuberculosis patients and just like normal skin colour in vitiligo patients. It will also be noted whether after complete recovery and withdrawal of the drug recurrence occurs or not. The effective dose, toxicity and duration of treatment will be determined. The study is in progress.

### Acknowledgment

It is with deep sense of gratitude that I express my thanks to Professor K. N. Saxena, Professor and Head of the Skin Department, S. N. Medical College, Agra and Associate Director, JAIMA for his time to time valuable and expert guidance.

I am thankful to Mr. M. L. Mehrotra, Chest diseases (London), Director, T. B. Demonstration and Training Centre, Agra and Dr. T. Saito, Director, Japan Leprosy Mission for Asia, India Centre, Agra, for permitting me to carry out this work in their Institution.

I am deeply indebted to Mr. O. Fuse and Mr. J. P. Gupta, Mr. Ved Mitra, Mr. R. S. Srivastava for doing photography and staining etc. for us.

My sincere thanks to Mr. Bhaikam Singh and Dhan Bahadur for typing and preparing this manuscript.