wheatmeal bread from flour of 85% extraction and white bread from flour of 75% extraction—fortified in the manner described—do not differ markedly in nutritive value contrasts with Dr. Chick's statement that wholemeal flour of 82% extraction is superior to white flour of 73% extraction corrected for its deficiency of protein, minerals, and vitamin B₁.

A more refined statistical analysis than it is possible to give here somewhat weakens the apparent superiority of the white-flour diet in the first experiment and somewhat strengthens that of the wheatmeal diet in the second, but in both cases the difference between the two diets remains non-significant.

I should like to express my thanks to Dr. D. W. Kent-Jones and to Dr. Magnus Pyke for checking the thiochrome values of the diets used and for their advice and criticism; and to Mr. E. C. Fieller of Boots Ltd., Nottingham, for his statistical analyses of the data.

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A TREATMENT FOR CHRONIC PSORIASIS

BY

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The dermatologist, perhaps more than any of his medical colleagues, views with reserve sweeping claims on behalf of new treatments. The great variation in individual skin sensitivity impresses upon him the truth of the old adage, "One man's meat is another man's poison." Bearing this in mind, I can state that I have been amazed at the uniformity of response of chronic psoriasis to a line of treatment I have recently evolved. The two methods which I have partially combined are those of Madden (1940) and Goeckerman and O'Leary (1932). I will run through these briefly.

Madden's treatment resulted from a most comprehensive investigation of some 259 cases of psoriasis. He divided these into small groups and treated each group by a different method, utilizing the following: vitamin B₁, vitamin B₂, vitamin B whole complex, brewers' yeast, vitamin C, oestrogenic substances, sulphanilamide, bismuth salicylate in oil, anterior pituitary extract, adrenal cortex extract, low-fat diet with vitamin B₁, low-fat diet and liver extract, low-fat diet with vitamin B₁ and anterior pituitary extract, and low-fat diet with vitamin B₁, anterior pituitary extract, and adrenal cortex extract. He came to the conclusion that the best results were obtained with a low-fat diet plus 1,000 international units of vitamin B₁ daily by mouth, combined with an exfoliating ointment. Madden, however, says he realizes that not all cases will respond to this treatment. Goeckerman and O'Leary's line of treatment was as follows: the patient is anointed with a 2% ointment of crude coal tar before retiring at night. In the morning the ointment is removed with olive oil, leaving a thin film on the affected areas, and the body is then exposed to gradually increasing doses of ultra-violet light. In the interval between treatments a bland ointment, such as boric acid salve or petrolatum, should be applied.

Method of Treatment

My method has been as follows. The patient is told to rub 2% crude coal-tar ointment in soft paraffin into all

lesions each night. In the morning, with the ointment still on, the patient goes to the ultra-violet radiation department, where the ointment is removed by means of olive oil, a thin film of which is left on; then the ultra-violet irradiation is carried out. This treatment is given every day. At the same time the patient takes 1,000 units of vitamin B₁ by mouth daily. In some cases the ointment is so removed by movement in bed at night that it has to be reapplied in the morning before going to the radiation department. In other cases in which there are particularly thickened lesions I add 20 to 30 grains of salicylic acid to the tar ointment and advise the patient to scrub off the scales with a stiff brush or by the use of pumice stone. The ointment is reapplied after this exfoliating treatment, and then the radiation treatment is carried out as above. In certain cases I have used, in addition to the above measures, 300,000 units of vitamin D daily, but I have found that patients who have not had this have done just as well as those who have.

A word of warning must be given: care should be exercised in the treatment of children by this method, as the danger of lighting up a tuberculous focus is always present when general light baths are taken by young people.

Commentary

I have treated some 53 cases in this way. Admittedly the number is not large, but I have watched the condition gradually disappear in every case. Furthermore, the patients tell me from their own experience that they have never been so clear in the whole of their psoriatic life, and, incidentally, have never felt so well before. I am convinced there is a future for this method. The only drawback I can see is difficulty of daily attendance for radiation treatment. As, however, more and more large factories, etc., have increased facilities for their workers, including ultra-violet irradiation, something may yet evolve to overcome the loss of time at work. It is necessary to insist on *daily* ultra-violet irradiation, as the treatment will not produce the same results if it is given only once or twice a week. This I have proved.

A good many of the patients who received treatment and responded to it have had psoriasis for over 40 years, 30 years, 20 years, 16 years, and lesser periods. They had been constant in their attendance for treatment, and the measures which they had resisted included exfoliating salicylic and tar ointments, cignolin, etc., high-vitamin dietary, protein-shock therapy (T.A.B. vaccine, aolan, peptone, and whole blood), ultra-violet radiation, autogenous vaccines, oestrogenic substances, tar baths, x-ray therapy, and, in one instance, a course of gold therapy (using solganal B oleosum).

I cannot dogmatize on the prognosis of these cases, but from past experience it has been learnt that once a case of psoriasis has been *completely* cleared that case may remain clear for some considerable time. Should there be a recurrence the patient is warned to attend for treatment immediately, and the prospect is that the condition can be brought under control rapidly while it is still of small extent.

I know that psoriasis can clear for a time without treatment and with almost any treatment, but when it starts to clear in every resistant case dealt with as above I think the treatment must take the credit. Now that I have stated that so far no snags have been encountered I expect they will begin to arrive, but it is the *universal* response to the line of treatment which has caused me to write this short paper.

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