

General Light Treatment of Leprosy.

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IN Netherlands India, special interest has been aroused by a new method of treating leprosy, based upon the diffuse application of ultra-violet light in such a weak dose, that the patients could be treated with those rays for 8 to 10 hours per day. This original method of treatment, by which the entire body instead of the local affected area is intentionally exposed to the light, was used by Dr. Denis Mulder from 1924 to 1929, for individual treatments in Bandoeng and for mass treatment in the leprosy hospital at Pelantoengan, near Semarang.

Although, according to Mulder's plan, the treatment should be continued for three years at least, the mass treatment at Pelantoengan was not prolonged. Nevertheless good results were seen, partly generally, as for example, improvement of the general condition, increase of body-weight, etc., and partly locally, as for example, the disappearance of macules, the levelling of lepromata, noticeable healing of wounds, etc.

These results were published by the promoter of this method of treatment in a monograph, which appeared in the Dutch language. This monograph entitled "Het Kruis der

¹ This is a short note on a preliminary report by Dr. Lampe of an investigation by him on the scientific and practical technique value of ultra-violet in leprosy, using Mulder's.—EDITOR

Leprozen" (1930), contains among other particulars a number of photographs of patients before and after treatment, that demonstrate very surprising results, which well deserve further attention.

Under instruction from Government, Dr. Lampe prepared a report (1934) on the scientific value and the practical usefulness of Mulder's treatment.

This report ends with the following conclusions :—

1. *Source of Study and Investigation* : The adjudging of the scientific value and the practical usefulness of Mulder's light treatment of leprosy has been based mainly upon a study of the data, reported in monograph.

2. *Theoretical Basis* : The theoretical basis of the method, founded on personal experience with other tropical diseases, can be formulated as an expectation, that also with leprosy the natural powers of defence of the organism will be activated by stimulation with light, and that the localised symptoms of the disease will be lessened ; the present-day views concerning light-therapy as stimulation-therapy are not contrary to this " expectation."

3. *Technique* : The principle of the treatment and its application depend upon a weak dose of an even, diffuse exposure or total-lighting with artificially produced ultra-violet rays ; this method is, under certain circumstances, applied in mass in a room, suitable for the purpose, where the patient has freedom of movement during the treatment. The purely medical precautions to be taken, individual dosage, desired or undesired individual reactions, etc., are not specified ; it does seem, that with the burners placed at a distance of 2.5 m. such a weak dose is used, that the patients apparently can be exposed without inconvenience for as long as 8 to 10 hours daily, during a series of six days of exposure, with a free interval of 10 to 14 days.

4. *Claims of Priority* : This treatment of cases—called general light treatment by Mulder—is original ; no other application in conformance with that principle is mentioned in the leprosy literature and the " very " weak dosage of light employed is on the whole unusual.

5. *Scientific Value* : In view of the present stage of the development of the therapy of leprosy and the modern knowledge concerning the possible reaction of leprosy patients to it, a (new) method of treatment is only to be considered

valuable in so far as a regular and conscientious verification has proved the durability of the effect of treatment. Since Mulder did not check his observations in the above sense, before drawing conclusions and publishing them, the publication, *i.e.*, "Het Kruis der Leprozen" can only be called premature, and the data mentioned therein can never be included in the basis of recognition, that the method has scientific value and supplies a need.

6. *Practical Usefulness*: Only in connection with a recognition of scientific value can investigation show whether this value is of more than academic significance and if the treatment in question lends itself to practical application. *A fortiori*, therefore, it holds true, for Mulder's light treatment of leprosy, as described and explained in "Het Kruis der Leprozen," that through a non-recognition of a proven scientific value, a practical usefulness cannot be accepted.

7. *Further interpretation of the effect of the first general light treatment at Bandoeng*: As far as the effect of treatment ascribed by Mulder to light is concerned, one may consider that neither a casual connection between light-treatment and the course of the disease has been shown, nor has real recovery been proven.

8. *Further interpretation of the effect of the mass-exposure at Pelantoengan*: The circumstances under which this mass-treatment took place were bad; nevertheless, good results were observed. The photographically fixed clinical picture of 12 or 13 patients before and after treatment undeniably points to very important improvements, the duration of which, however, was not verified.

9. *Possible significance of the effect of treatment*: The effect of Mulder's general light treatment of leprosy may apparently—waiving differences of degree and as far as the duration of the observation goes—be compared partly with the general effect of tonic strengthening measures, and partly with the local effect of other methods of physical treatment.

10. *Possible "apparent" value of the effect of treatment*: Without further observations, it cannot moreover be excluded, that the results observed by Mulder, for the greater part have a psychic foundation in direct casual connection with the suggestive power of a new therapy, applied with conviction and great enthusiasm.

11. *Further trial desirable*: The omission up to the

present of a further trial of Mulder's general light treatment of leprosy must be regretted, because, on the basis of the known experience, the practical usefulness of the treatment can not be considered to have been excluded or proved.

12. *Publication of this report recommended* : The further trial is thought to be desirable of the general light treatment of leprosy, especially in combination with other methods of treatment.

Final conclusion : Formulated in reply to the question, asked in the Government resolution of 26th November, 1933, No. 1, the final conclusion of this investigation is :—

(a) The scientific value and the practical usefulness of the light exposure treatment of leprosy, applied by Dr. Denis Mulder, cannot be judged in any other manner than by the data and explanation furnished by Dr. Denis Mulder, as published in "Het Kruis der Leprozen," second edition ;

(b) On the strength of those data and explanations it cannot be determined that that method possesses scientific value or practical usefulness.

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Under Dr. Lampe's supervision the general light treatment of leprosy will again be tried in Netherlands India on a large scale, along with other methods, in a number of leprosy hospitals. With the idea of stimulating others in other places also to test the value of this method, and to report on it, Dr. Lampe has requested the publication of this summary.

Agent : Ultra-violet rays applied as general light bath ;

Dosage : Regulated in such a way that, placing the burners at a height of 2.5m, the patients can be exposed to the light for 8 or 10 hours per day without inconvenient external reaction.

Scheme of treatment : For example, periods of six successive days of exposure, alternating with free intervals of one to two weeks.

Details : During the treatment efforts should be made to obtain free bodily movement and physical exercise in a general way.

Duration : According to Mulder, at least three years.