

The Place of the Sun in Treating Tuberculosis

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TO AVOID any misunderstanding we should like to state that what we have to say here regarding Heliotherapy has to do wholly with *Natural* and not *Artificial* heliotherapy and it applies only to the direct use of the sun's rays—not their indirect or reflected use as occurs in so-called sky-shine administration or air baths.

Our interest in heliotherapy was first awakened many years ago after some study of the work of the Danish physician Finsen and a personal knowledge of the work of Dr. J. W. Kime, an American physician, who started his valuable pioneer experiments in 1898. For some reason, which we are at a loss to explain, Dr. Kime's work has never been properly acknowledged in medical literature. (1). It was, however, Rollier's book "Die Heliotherapie der Tuberculose" published in 1913, that gave impetus to our own work in heliotherapy.

Although beginning the use of sun in the treatment of tuberculosis with caution, it did not require long to learn from experience that heliotherapy held many complex problems not mentioned by Rollier or the other early workers. These complexities were especially marked in the extrapulmonary cases with pulmonary lesions and in the uncomplicated pulmonary cases. Having always under our care several hundred tuberculous patients, (with pulmonary cases greatly predominating) it has been possible to use sunlight in treating practically every type of case for 20 years.

The value of this therapeutic agent was evident from the beginning; however, the harm that it could do to a patient was not entirely realized until sometime later. (2). As soon as the latter was realized, it was at once recognized what a big problem lay in differentiating between the patients who would be helped and those who would

be definitely harmed by sun treatment. Technique, we discovered was not the answer; although it is a most important factor in the successful use of the sun, after cases have been properly selected.

For some time this problem of selecting cases seemed unsolvable but finally a scheme was evolved which developed into a plan for the proper selection of cases which has been followed for many years with most satisfactory results. It is perhaps best shown in a chart—(See below). It might be said here that since this classification of tuberculosis was evolved for heliotherapy—no essential change in it has been found necessary—except that fewer and fewer cases of the productive types of pulmonary tuberculosis have been given sun as the years have passed.

Even in those cases where the sun can be of great value, it is in no sense a specific cure for any manifestation of tuberculosis. Rest, good food, and fresh air, are still the fundamentals in treating all forms of the disease; and the sun, where it should be used, is only a valuable adjunct.

Not Used In Pulmonary Cases

With reference to pulmonary patients who were given sun, these salient facts stand out: too often the treatment was detrimental, and only the constant vigilance of the doctor, employing both the stethoscope and the x-ray, and watching their general condition most carefully, enabled these patients to stop the treatment before being irreparably harmed. This situation frequently prevailed even when the sun was prescribed in very small doses with the most careful attention given to technique. The damage produced is sometimes so insidious and rapid that a patient can become seriously ill as a result of this treatment, even before it is realized.

Suffice it to say here that each case should be thoroughly individualized. Patients' reactions to sunlight differ quite as much as their physical appearances. Generally, however, blonds are much more susceptible than brunettes, and titan blonds are particularly sensitive. One often despairs of ever obtaining an appreciable tanning of the skin in those having the fair skin accompanying hair with a reddish tinge. While the benefit of heliotherapy is not always proportionate to the degree of pigmentation resulting therefrom, the result to be desired should always be a marked tanning—burning of even the slightest degree is always to be avoided.

For practical purposes as far as heliotherapy is concerned all tuberculosis can be classified as follows:

Extrapulmonary	
Without pulmonary lesion.....	Class 1
With pulmonary lesion	Class 2
Pulmonary (Infection of lungs and tracheobronchial glands)	
Proliferative:	
Childhood type (tracheobronchial glands)	Class 3
Adult type (lungs)	Class 4
Exudative	Class 5

The indications follow:

Class 1—To use sun treatment in all cases.

Class 2—To use sun treatment in all cases, but be careful to avoid reactions and be especially careful in exposing the chest.

Class 3—To use sun treatment in all cases.

Class 4—To not use sun treatment. Dangerous—Benefit to be obtained does not justify risk of harm.

Class 5—To never use sun treatment.

Summary

Heliotherapy is not indicated in all cases of tuberculosis. The majority of patients with this disease should never use it. In general one may say direct sunlight is indicated in cases of extrapulmonary tuberculosis and contraindicated in cases of pulmonary tuberculosis. It is not a sure cure for any type of tuberculosis, but is often, especially in some of the extrapulmonary cases, a very valuable—or even necessary—aid. Since it is not in itself a cure, it should never be used routinely or to the exclusion of the usual standard therapeutic measures of rest, fresh air and good food.

It should never be forgotten that the direct rays of the sun are extremely powerful, and that, carelessly administered, they can do great harm. Direct sunlight, in the same amount, affects patients differently—especially in the beginning of its use, than almost any other remedy with which we are familiar. It must be used, therefore, in every case, not according to any hard and fast rule, but according to the individual reaction.

It is of the greatest value, and may be practiced with the least chance of doing harm in pure extrapulmonary tuberculosis, that is, in the so-called surgical tuberculosis without pulmonary lesion. It is of great value in extrapulmonary tuberculosis with coincident pulmonary lesion; but in giving it here one must be far more careful than in the uncomplicated surgical type.

It is of great value in hilum gland tuberculosis, and in this type should invariably be used.

It may be of some value in an occasional case of the proliferative type of pure pulmonary tuberculosis; but here it must be employed with the greatest caution, lest it transform a favorable, stationary, or healing lesion into a rapidly progressing and fatal one. Ordinarily the benefit to be expected from its use is too slight and the danger is too great to justify the risk.

It is never of value, and is usually actually harmful, in the exudative type of pure pulmonary tuberculosis, as well as in all acute types; and in such cases, therefore, it ought never to be used.

Finally, whenever heliotherapy is used in tuberculosis the patient should always feel as well, or better, both during and after his sunbath; if he does not, it should be discontinued, for this means danger.

REFERENCES

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- (3) Idem : Evaluation of heliotherapy in tuberculosis, *Arch. Physical Therapy*, 10 : 252-259 (June) 1929.
- (4) Muskat, I.: Eradication of chronic tuberculous middle-ear and mastoid disease in tuberculosis patient, *Am. Rev. Tuberc.* 28 : 447-452 (October) 1933.
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