

TUBERCULOSIS.

BY

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DIAGNOSIS.

THE diagnosis of tuberculosis in the earliest stages of the disease is very difficult and baffles the most experienced physicians. A low form of fever rising sometimes to 99° to 100°, a quick pulse, gradual loss of weight and loss of appetite are the characteristic symptoms, which should attract the attention of the physician. If it is pulmonary Tuberculosis, in addition to these symptoms there is a slight hacking and dry cough with slight impairment of resonance at the apex of the lungs and sometimes hectic fever. There is more frequently a slight hæmoptysis or spitting of blood with the sputum. On bacteriological examination of the sputum tubercular bacilli are sometimes detected. This is not always to be relied upon. The absence of bacilli does not necessarily indicate the absence of tuberculosis, whereas their presence in the sputum is a positive sign of pulmonary tuberculosis.

TREATMENT.

The treatment of Tuberculosis may be divided under four heads: viz. (1) The natural and spontaneous cure; (2) General measures; (3) Measures, which by their general or local action, influence the tubercular process; and (4) treatment of special symptoms in pulmonary tuberculosis.—(1) The natural and spontaneous cure is an everyday affair. Dr. Osler, in his "Principles and Practice of Medicine" sixth edition, says "Many cases of adenitis and disease of the bone or of the joints terminate favourably. The healing of pulmonary tuberculosis is shown clinically by the recovery of patients in whose sputa elastic tissue and bacilli have been found; anatomically, by the presence of lesions in all stages of repair. Lænnec understood thoroughly this natural process of cure in tuberculosis, and recognized the frequency with which old tuberculous lesions occurred in the lungs. The investigations of Nageli in Robert's Laboratory show how frequent tuberculous infection is, and how common recovery must be. A special examination was made of every organ of the body. In a series of cases tuberculous lesions were found in 99 per cent. of the bodies of adults.

(2) The cure of tuberculosis is a question of nutrition: digestion and assimilation control the situation; make a patient grow fat and the local disease may be left to take care of itself. There are three indications: first, to place the patient in surroundings most favourable for the maintenance of a maximum degree of nutrition; second, to take such measures as, in a local or general way, influence the tuberculous processes; third, to alleviate symptoms.

The open-air treatment of tuberculosis may be carried out at home, by change of residence to a suitable climate, or in a sanatorium.

(a) *At home.*—In a majority of all cases the patient has to be cared for in his own home, and if in the city, under very disadvantageous circumstances. Under such circumstances the patient's bed should be in the room with most

sunshine. While there is fever he should be at rest in bed, the windows should be open so that the patient may be exposed freely to the fresh air. If there is a balcony or a suitable yard the patient may be wrapped in a blanket and put in a reclining chair or on a sofa, provided there is no rain or excessive blast. The important thing is for the physician to emphasize the fact that neither the cough, fever, night-sweats, nor even hemoptysis contra-indicate the full exposure to the fresh air. At night the room should be cool and thoroughly ventilated. In the early stages of the disease with high temperature, it may require several months of this rest treatment in the open air before the temperature falls to normal.

(b) *Treatment in Sanatoria.*—Perhaps the most important advance in the treatment of tuberculosis has been in the establishment, in favourable localities, of institutions in which patients are made to live according to strict rules."

SANATORIA.

It has been found that fresh, dry air, and open sun-light have a powerful effect in killing the tubercle bacilli. This has led to the adoption of what is called the open air or sanatorium treatment. This system of treatment is of very modern origin, being not more than 15 years old. Its principles were suggested as early as 1840 by Drs. G. Bodington and Henry MacCormac in England, and later on by Drs. Brehmer and Trudeau, in Germany. It was however, feared that phthisis being a lung disease, exposure to air might aggravate cold and cough, and it was not until 1895 that the merits of the open air treatment were fully recognized and became an accepted article of medical faith. It is interesting to note that the ancient works of Sushruta and Waghbhatta, the leading authors on Aryan Medicine, contain what may be called a nucleus of the open-air treatment. They had of course no knowledge of the germ theory, but it would seem they had found by observation that phthisis yielded to a treatment in which a plentiful supply of fresh air was the predominant factor. They prescribe living in places in which flocks of goats live, and even accompanying the flocks to their places of pasture. They also extol the milk and flesh of goats as most conducive to the cure of phthisis. They thus, it would seem, fully recognized that the methods adopted in the open-air or sanatorium treatment are the only means of arresting and curing phthisis. The name of sanatorium treatment is no longer considered essential, as the treatment might well be given at home, provided the methods are strictly adhered to, though a sanatorium is always better for the observance of the methods than a private house. Similarly, particular climates are not insisted on, provided the air is pure and invigorating and has the capacity of tempting the patient out of doors. Dr. Burton-Fanning, in his book on the "Open-air Treatment of Pulmonary Tuberculosis," writes: "The open-air treatment simply makes use of all the various agents which are proved to exert a beneficial influence on patients affected with pulmonary tuberculosis. It is not implied that any single remedy has been discovered for the disease, but the sanatorium system avails itself of all the factors which according to experience conduce towards the patient's recovery." Sir James Chrichton-Browne, another great authority on the subject of phthisis, read a paper on Sanatoria before the British Congress on Tuberculosis, in which he observes,

"These measures, which may be summed up under fresh air, feeding, rest and medical regulation, these measures alone, we now believe, skilfully employed, are capable of effecting a cure in a very large proportion of cases of consumption, if taken in time." To enable patients to resort to such a climate and give them the benefit of systematic treatment on the open-air principle, sanatoria are built at particular places, especially health-resorts on mountains, where poor and middle class patients are admitted free to the benefit of the treatment. In the United Kingdom there are 70 sanatoria with accommodation for 2,760 patients. In Germany there are 83 public sanatoria, giving accommodation to numerous patients. Manufacturers, Insurance Companies, Sickness Banks, and many Departments of the State such as Forests and Railways have built sanatoria for their own employes. Other European countries, such as Russia, Sweden, Norway, Denmark, Austria, Italy, and France as well as the United States and Australia, have got sanatoria working with more or less success. During the dispensary stage the patient lives at his own home, but for the open-air treatment residence at a sanatorium is almost indispensable, since it is not easy to arrange for the details of the treatment at a private house with that exactitude and regularity which are possible at a public institution. In the German sanatoria a minimum residence of 90 days is found sufficient, with an extra month in the year following for confirming the previous good effects. The patient has all his requisites supplied to him at the expense of the sanatorium, and there is usually a bank attached which helps the family. There are sanatoria on open plains and near cities as well as in secluded spots on hills. After reviewing the work of the sanatoria in different countries, Dr. Brouardel concludes: "All nations have obeyed the same generous impulses, and the time will come when instead of the tuberculous patient being given up to his sad lot, he will find, if he is only in the first stage of disease, that by means of dispensaries and sanatoria there is always hope and often realization of his recovery." Sir James Chrichton-Browne on the same subject remarks: "It cannot be too loudly proclaimed, too widely known, that the sanatorium treatment has already largely extended the curability of consumption, and that in suitable cases it holds out hopes of recovery, and of prolongation of life that could never have been entertained before its introduction.

(3) Under this heading we may consider the specific, the dietetic and the general medicinal treatment of tuberculosis.—

(a) *Specific treatment.*—This consists in the injection of tuberculin. The recent publications of Koch and others have called the attention again to the possible value of this treatment. Dr. A. E. Wright advises injections of Koch's Tuberculin to stimulate the formation of protective substance or opsonins, and has shown that in patients so treated the phagocytic index increases remarkably; in fact, by the method devised by himself and Douglas the progress of the case may be accurately followed. It is well to begin with doses 1 to 1.5 milligrammes.

(b) *The dietetic treatment.*—The favourable progress in tuberculosis depends much upon the digestion of the patients. Many patients loathe food of all kinds. A change sometimes does good. If fever is present the patient should

be placed at rest in the open air nearly all day and fed at stated intervals with small quantities of milk, buttermilk or kumyss and egg-albumen. The Germans generally overfeed their patients with good results.

(c) *Medical treatment*.—This consists in the administration of creasote in capsules, in increasing doses, beginning with one minim three times a day and increasing the dose to eight minims. Guiacol may be given as a substitute and the air of the room may be saturated with creasote.

Cod Liver Oil and its various preparations, the hypophosphites in their various forms, are very useful tonics. Arsenic as a general tonic is very useful and may be given in five minim doses.

(4) (a) The fever may be treated with diaphoretics, phenacetine, antipy-rine or antifebrin or cold sponging.

(b) In excessive sweating atropine may be used in $\frac{1}{160}$ gr. doses. If there is cough and nocturnal restlessness $\frac{1}{8}$ gr. of morphia with atropine may be given; syrup of codeia or glyco-heroin may be used with advantage.

(c) *Diarrhoea*.—Bismuth and Dover's powder may be used.

(d) *Hemoptysis*.—Ergotine and solution Adrenaline Chloride may be used with advantage.

CROWS—SOLD!

A REPLY TO "C. R. M."

THE Crow, delighted and self-confident at the success of his looting, next day set off to another of Bombay's hospitals, where lived more of those wonderful sticks of shimmering glass that seem to be the nurses' talisman and the weal or woe of the patients, and where also abounds that pit-fall of the unwary, Red Tape!

He watched and he waited, he crowed and he cawed. Would the hour *never* come for the "magic" to come forth? At last, a big bell rings, nurses become more alert and two, watch in hand, approach the ward table. A neat little glass jar stands on a brass tray, with a neat little glass top, the jar is three parts filled with lotion, and at the bottom rests a piece of cotton wool. One nurse lifts off the lid, and each takes out a thermometer. The crow shrieks with joy and flies straight into the ward, and not all the "shoo-ing" in Bombay will dislodge him from his coign of vantage, head first on this side, then on that, with an impatient flutter of his wings, or a discordant caw, he can scarce contain himself while the nurses take each a side of the ward and mark down the four-hourly T.P.Rs.

At last it is over, and too anxious to keep still the crow rushes past a nurse with a swoop, almost snatching the longed-for prey from her fingers.

The nurses went to wash the thermometers for the last time: both again approach the table. In fear and trembling he watched, unsatisfied greed glittering in his eye. It was all over in a trice. One nurse lifted the glass lid, each gently slid her thermometer into the lotion, on went the little glass top, and the crow with a positive yell of rage flew back to his more successful hunting ground, revenge on someone, (anyone with a thermometer) and that quickly, his one desire.

"Ware Nurses!" indeed,

"SYMPATHY."