

sis," and we all know that the majority of cases will get well if taken in an incipient stage, and if the points in treatment as above stated are carried out. This necessitates close supervision, for every particular point must be gone over many times, and certain details have to be modified from time to time to suit individual needs. This need of supervision is still frequently not made clear, and even to-day we hear of patients who are sent away with the general direction to live out of doors and take milk and eggs. Such advice is never to the best interest of the patient and frequently is disastrous to the doctor as well. Solly has shown that of patients coming to Colorado, the mortality is much less among those under supervision than among those who consult a physician only when they think it necessary. This is natural, since with tuberculosis it is so frequently needful to change certain details of the treatment for particular patients and at different times for the same patient. Doubtless it is far and away to the patient's interest to spend a time at some properly conducted sanatorium, at least in the beginning. Here he can learn all the necessary details of the life as it would be impossible for him to do elsewhere, even with good medical attention and counsel. Manifestly this cannot be in the majority of cases, and it is usually the case that needs it most that can get away least easily. Reliance must then be given to such shifts as the doctor and patient can agree upon, the former always remembering that the earlier he makes the diagnosis and brings the patient under treatment the better, and the latter realizing that he must not try to work alone, but must rely on his medical adviser in all things.

### THE SUCCESSFUL TREATMENT OF TUBERCULOSIS.

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FIVE years ago the writer was called upon to treat a case of pulmonary tuberculosis in a far advanced stage. The patient had been treated at the Rutland Sanitarium without success and had been in Asheville, N. C., with a like result. It was at this time that I began to read with absorbing interest the reports of Dr. John Russell of the New York post-graduate dispensary. My interest was awakened to the extent of proposing to this patient a trial of the treatment as outlined in this paper, and the experience then gained made me a convert to the method.

The theory upon which the originator of this method bases his treatment is that pulmonary tuberculosis is the result primarily of malnutrition. Further, that the malnutrition which favors the growth and development of tubercle bacilli differs from other forms of malnutrition, namely, scurvy and rickets. The malnutrition of scurvy differs from that of rickets and both are produced by a deficiency of suitable food.

Malnutrition is defined as a condition of starvation, either partial or complete. All physiologists teach that to maintain proper nutrition, it is necessary to partake of a diet composed of proteids, carbohydrates, fats and salts in certain proportions; consequently, if the necessary proportion of any one of these essential elements of food stuffs is not maintained, nutrition suffers, and the degree must vary with the variation in the supply of an essential element. The form of malnutrition is determined by the definite deficient element. As yet we do not know the element lacking in scurvy, but it is well known what brilliant results follow the administration of certain foods.

Beside an insufficient supply of suitable food, malnutrition depends as surely upon defective absorption. Now to the careful observer of tubercular symptoms one of the commonest is the great distaste, if not entire repugnance for, fat foods. Patients almost without exception cut the fat away from their meats. This distaste arises from the inability to digest fat, and Russell believes, and I am now prepared to agree with him, that the malnutrition which renders the tissues favorable to the growth of the tubercle bacilli is produced by a deficient absorption of fat and that the *successful administration of fat* will correct this form of malnutrition. The conditions being no longer favorable the bacilli will not thrive and the disease is relieved.

Now and then there is a patient who, although to all outward appearances is well nourished and robust, will suddenly develop tuberculosis. This can be explained by nature's power of compensation, for both carbohydrates and proteids may be transformed into fat, and in this way a deficiency in fat is compensated for; but either compensatory fat is wanting in some essential quality, or else its manufacture weakens nutritive changes at other points.

Now, as has been said, the cure depends upon the successful administration of fats, and to accomplish this several things have been found necessary; namely, that a large part of the fat given shall be previously rendered absorbable or predigested; that a large quantity be given daily; and that there be a great variety of fat in the diet. Russell has found by experimenting that the greater the variety in the fats ingested, the greater the opportunity presented to the body in the process of selecting its necessary proportion of constituents, and the emulsion of mixed fats which bears his name contains beef-fat, cocoanut, peanut and olive oils and a small quantity of clove oil. The emulsifying favors the absorption, and for the sake of quantity and variety, raw eggs and milk are added to the diet. During the first week of treatment the emulsion alone is given, beginning with one-half ounce twice a day, increasing a half-ounce on each dose every three days until two ounces are administered twice a day. It is taken from one and one-half to two hours after the morning and evening meals. By this time the absorbents are accustomed to taking up fat and the patient is instructed to

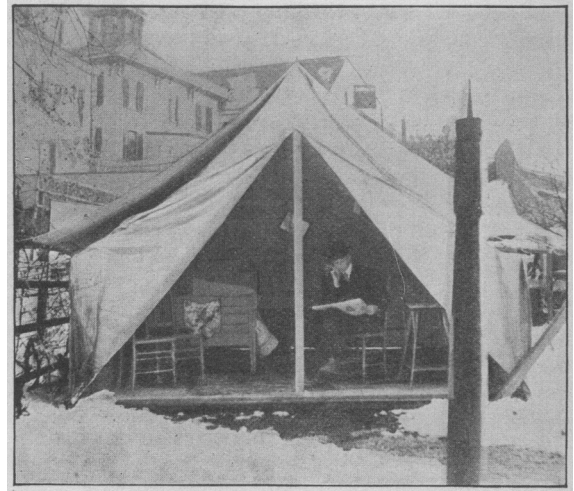
take immediately after each meal one raw egg beaten in a glass of milk, and at the end of every three days add one more egg after each meal until four eggs are taken three times a day; then one egg additional is given at bed-time and this dose increased by one, until four eggs are taken four times a day. The next increase is to add one egg to any of the two meals thought most desirable. This last increase makes the total eighteen eggs a day. As the eggs increase the amount of milk is decreased, but never less than four ounces is used, and a bowl is employed instead of a glass. With a patient on this large amount of food a frequent unloading of the bowel is necessary, and it is here that the physician must have the courage of his convictions. He must explain and see to it that the patient understands that no matter how many times a day there is a movement of the bowels, if there is nausea, vomiting, abdominal pain or distress, or diarrhoea, that these conditions call for castor oil. It is necessary for some patients to take it in full doses every day; others require it only twice a week. On the days that castor oil is not taken, a pill such as the cascara or compound rhubarb pill is given. There are some patients who cannot take milk and eggs without nausea and vomiting, and who are not relieved by cathartics. For such, a mixture of sodium phosphate and sodium carbonate, 2 gr. to the teaspoonful of water, is given. From one to three teaspoonfuls is added to each glassful of the egg mixture. By these methods I have yet to find the patient who cannot be prevailed upon to take the requisite amount of food.

In well advanced cases and those which are running a high temperature, the patient should be confined to bed and given the emulsion and milk only. All other food is withdrawn. It is usually necessary to keep patients in bed from six to eight weeks. They are allowed to get up to use a commode conveniently placed to the bed. We begin by giving one quart of milk a day and gradually increasing the amount until our patient is taking five quarts daily. The emulsion is given as previously stated. At the end of about five weeks solid food is cautiously added, and the amount of milk diminished. When the patient has arrived at the point of taking his three meals a day, the forced feeding with the eggs is commenced. It has been found that in some patients after taking eggs for a long time, the condition of the lungs instead of improving commences to advance. The eggs are then withdrawn and the quantity of milk is increased, and cheese (I prefer the Swiss Gruyere) is added. The amount of animal flesh is also reduced to a minimum.

My personal experience is that most patients do well on the egg diet. Those patients who are lithemic do better on the milk and cheese. In all classes of cases one of the required conditions is, that the patient should remain out of doors constantly. The absorption of fat is greatly aided by an open-air life.

The illustrations show the manner in which I

require my patients to live. The tent has a wooden floor and end and costs twenty-five dollars. The shack has wooden floor, end and roof. The sides and other end are so curtained that they may be raised or lowered at will. The cost is thirty-five dollars.



Patients who live in the poorer districts can have the little piazza which is usually built on the back of tenement houses curtained with canvas and a bed placed there.

All patients are instructed as to the care of their sputum. Dishes are reserved for the patient's use and once every day those dishes are boiled. The patient's mouth is to be frequently rinsed in boric acid solution, and the face and



hands kept scrupulously clean. Of all the symptoms common to this disease but one is specially treated, and that one is hemorrhage. If a patient has a hemorrhage he is given ten grains of calcium chloride, in a teaspoonful of water, with each meal. This is continued for a long time, usually several months.

I believe this treatment to be applicable not only to uncomplicated pulmonary tuberculosis, but also to any form of tuberculosis, surgical as well as medical, and its more frequent employment will diminish the number of operations for tuberculosis. The following table will show that I have secured recoveries from pulmonary tuberculosis, tubercular peritonitis, periostitis, fistula and tubercular abscess. In these cases all physical signs have disappeared and there are no tubercle bacilli to be found in the sputum. They have been well for two years.

I have several more cases in whom there have been no physical signs and no bacilli for almost a year, and I have a number of cases now under treatment, all of whom are doing well.

I believe this plan of treatment to be very superior to climatic or sanitarium treatment. In sending a patient to another climate we ask him to make sacrifices which he is often unable to make. Moreover, we add the element of nostalgia, which is a very serious one in an already depressed patient, for, "Be it ever so humble

edge that he has guided many formerly hopelessly incurable patients to a healthy life, and thus done his share in eradicating the "great white plague"; that he has done by his fellow man as he would be done by. This is making use of his *science* in the spirit of *Christianity*, the only true *Christian Science*. Oh! How superior to that "bubble of the dream box," Eddyism.

### Clinical Department.

#### A REVIEW OF FIVE CASES OF OVARIAN CYST WITH TWISTED PEDICLE.\*

BY CHARLES M. GREEN, M.D., BOSTON.

CASES of axial rotation of ovarian cysts, with twisting of the pedicle, are not as frequently observed as formerly, for the obvious reason that in these days such tumors are discovered and removed early, before the size of the cyst and other conditions that may produce rotation become operative. It may, therefore, be of interest briefly to review the following five cases which

	No.	Sex.	Occupation.	Condition.	Weight Beginning of Treatment.	Weight End of Treatment.
Case	I.	Man	Cigar maker	Pulmonary tuberculosis.	102 lbs.	150 lbs.
"	II.	Woman	None	Pulmonary tuberculosis. Tubercular abscess of thigh. Severe hemorrhages.	78 "	152 "
"	III.	Woman	None	Tubercular peritonitis.	75 "	148 "
"	IV.	Woman	School teacher	Pulmonary tuberculosis	102 "	146 "
"	V.	Woman	Bookkeeper	Pulmonary tuberculosis	114 "	138 "
"	VI.	Woman	None	Pulmonary tuberculosis. Fistula.	75 "	155 "
"	VII.	Child	None	Tubercular periostitis	25 "	45 "
"	VIII.	Man	Lawyer	Pulmonary tuberculosis	130 "	175 "
"	IX.	Man	Clerk	Pulmonary tuberculosis	108 "	128 "

there's no place like home." These same remarks are also true of a sanitarium, even if it be situated in the patient's home city. Furthermore, by treating patients at home we are practically instructing whole neighborhoods in the prevention and care of tuberculosis, and thus accomplishing much toward stamping out the disease in the only manner in which it will ever be done, viz.: by *education*. If philanthropists would donate their money to the establishment of a fund for the supplying of fresh eggs and pure milk to the tubercular poor, I believe very much more would be accomplished than by the establishment of sanitarium.

One important factor in the successful carrying out of this treatment is the personality of the physician. He must be kindly, sympathetic yet firm, and have the courage to maintain discipline. He should state to his patient that he is tubercular, and explain to him fully the treatment and all its hardships. It is not enough to tell a patient in a general way to take milk and eggs and to keep in the open air. The doctor must enter upon the systematic treatment as above outlined, examine his patient frequently, *avoid the administration of drugs*, keep his patient encouraged, acknowledging no outcome but a successful one. If the physician will do this, he will go to bed a tired man indeed, but happy in the satisfaction of a day well spent, and as the years pass by, he will be rewarded by the knowl-

have come under my care during the past year, and to examine them especially with reference to symptomatology and to the pathological changes found at operation.

CASE I. L. S., aged thirty-eight, had had six full-term, normal labors, the last, five months prior to my seeing her. She sought advice on account of an abdominal tumor which she had first noticed a month or two after her last puerperium; during these three or four months she had observed that the tumor was growing larger. The menstrual periods were normal, and she complained of no symptoms except constipation. The uterus was found to be of normal size and in normal axis; in the right lower quadrant was a movable tumor, estimated to be five to six inches in diameter, and apparently a unilocular cyst of the right ovary.

On exposing the tumor at operation four days later, it was found to have made one complete axial rotation; the tube was enlarged and adherent over the cyst. There were no adhesions whatever, and the tumor was untwisted and removed without tapping. The convalescence was uneventful.

The cyst had a thick wall, measured 18 cm. in diameter, was of purple color, and contained thick, dark-brown fluid. Along one side was a pear-shaped thickening, 12 cm. long, made up of small cavities filled with rather soft, red tissue and clotted blood.

The case represents one of the simpler types of axial rotation. The twisting of the pedicle was obviously a gradual one, and therefore gave rise

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