

and even into an irremediable condition simply because the practitioner has not learned how to diagnose an early tuberculous infection by means of careful percussion. Yet this possibility is within the reach of all if a correct method be adopted. And here let me lay stress on the necessity for a complete relaxation of the patient's muscles. For the front of the chest, the patient must lie on his back on a comfortable couch and be placed completely at his ease. With the patient standing or sitting up it is impossible to ascertain the facts correctly, and some of the published pictures illustrating the "method of percussion," with the patient erect, are excellent examples of "how not to do it!" For the posterior aspect of the thorax, the patient should be sitting with his back to the physician; he should place his hands on the anterior aspect of the opposite shoulders, and should bend gently forwards.

In this paper I have endeavoured to maintain two propositions. The first is that the detection of pulmonary tuberculosis before any bacilli appear in the sputum is within the reach of any medical practitioner who is willing to take a little trouble. The second is that pulmonary tuberculosis detected at this stage can always be arrested by treatment by continuous antiseptic inhalation. It may be that some exception to both these statements may be found, but if these two propositions can be established, or if they are even approximately true, it is not too much to say that the practical extinction of the disease known as pulmonary phthisis is within our grasp. Since the essential point is a careful percussion, we may say that the secret of success is very literally in our own hands. I believe that within three or four years an enormous reduction of the mortality might be effected.

SEVERE PERSISTENT HAEMOPTYSIS

CHECKED BY INTRAVENOUS INJECTION OF NORMAL SERUM AFTER OTHER MEANS HAD FAILED: SUBSEQUENT COMPLICATIONS: RECOVERY.

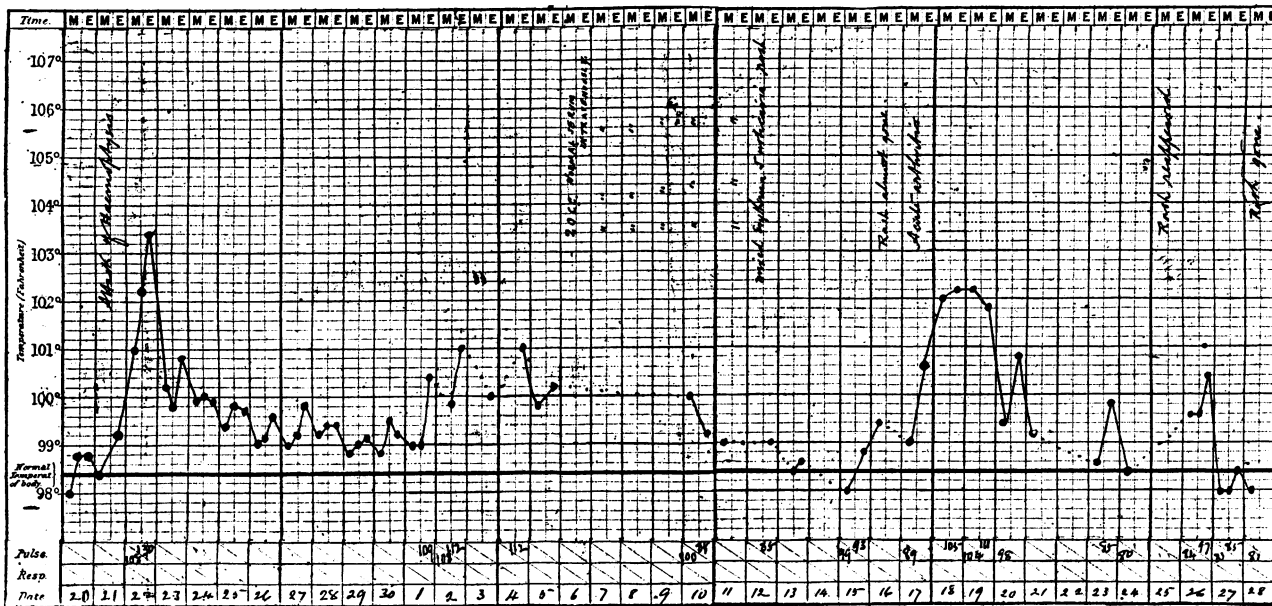
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ONE of the most mortifying experiences which can befall a physician after piloting a case of pulmonary tuberculosis to an apparently satisfactory recovery is to lose his patient from a sudden haemorrhage. It is admitted that in presence of this catastrophe we are virtually helpless, and

It is unnecessary to detail the insidious onset of pulmonary tuberculosis in a man of 43, its sudden outburst coincidentally with an attack of pneumonia, or its steady passage to a widely disseminated infection with bilateral pleurisy, cavity formation at one apex, and constant pyrexia. Suffice it to say that after a long fight the fever abated, the lungs dried up, and tubercle disappeared from the sputum (microscopically). The treatment adopted was intravenous injections of an ethereal solution of iodoform diluted with from 20 to 30 per cent. of liquid paraffin (a 15 per cent. solution of lecithin in ether being occasionally substituted for the paraffin). All treatment had been discontinued for about eight months, and the patient appeared quite well and had returned to work. The haemorrhage broke out on June 21st, 1909, as he was sitting down to supper. The following remedies were tried:

- Complete rest in bed in a cool room semi-recumbent.
- Not allowed to speak.
- Icebag over cavity.
- Cold packs to abdomen and hot bottle to feet.
- Three grains of calomel followed by 5j of castor oil.
- Morphine and atropine hypodermically.
- Inhalations of nitrite of amyl.
- Hypodermics of ergotinine.
- Calcium chloride in large doses orally.
- Calcium chloride in large doses (enemas).
- Suprarenal gland.
- Ten c.cm. of normal serum by the mouth thrice a day.

In spite of these, the haemorrhage went on in increasing amount, and having continued uninterruptedly for sixteen days he was blanched and in a state of great prostration. After immersing his hand in a ewer of hot water and applying a handkerchief tightly round his forearm, I managed to distend the radial vein at the wrist sufficiently to introduce a needle and injected 20 c.cm. of normal serum. The result was gratifying. Bleeding seemed to stop almost at once, as any further expectorations were dark and evidently the remains of the blood already effused. These soon became mixed with muco-pus and in a few days all traces of blood had disappeared. The injections of 20 c.cm. were administered every day for six days and apart from their styptic effect seemed to benefit the patient in every way. But our troubles were by no means ended. An acute attack of "serum disease" supervened. On the sixth day of the intravenous injection of normal serum a slight rash appeared on the cheek and soon invaded the whole body, appearing, disappearing, and reappearing in a most tantalizing way. In character it was a mixture of erythema and urticaria. There was also a rash on the buccal mucous membrane and fauces, great swelling in the pharynx, and from his altered voice and breathing evidently some oedema of the glottis. The sterno-mastoids were swollen and hard. He could not move his head, swallowing was exceedingly painful, and his efforts to clear his throat of the glairy mucus exactly simulated a quinsy at its height. His jaws became locked, so that nothing could be done locally to relieve his distress, and but for the comfort that the bleeding had stopped there was little to congratulate oneself upon. The itching was intolerable, and even morphine gr. ½ with atropine hypodermically, in addition to 1-gr. pills of opium three times



in the multitude of treatments advised, that meeting with anything like general acceptance is smart purgation, sedatives hypodermically, and the local application of ice. The method employed in the case to be described, and only as a last resort, seems therefore to justify a short note.

a day, failed to secure restful sleep. Hyoscine gr. 1/100 hypodermically induced great cerebral excitement but no sleep. Veronal in 5 and 7½ gr. doses in conjunction with sodium salicylate and sulphonal in 10-gr. doses were also tried as hypnotics, but the only result was delirious nights and abject misery in the mornings. After veronal and sulphonal he

complained of a feeling of a tight band round his head and that his self-control was gone. He felt demoralized, and begged that no further efforts should be made to help him to get sleep. After this a cup of hot tea during the night gave a little sleep, and as the irritation gradually subsided he passed better nights. Locally camphor in hard paraffin succeeded better than soda fomentations or lead and opium, but it is evident from this account that treatment did little, if anything, to relieve any of his symptoms. The throat gradually got better and the rash was not followed by desquamation. The day following the disappearance of the rash he had an attack of acute arthritis affecting the temporo-maxillary and wrist joints, and to a slight extent the ankles, with pains in the muscles of the forearms, back, and neck. This was greatly relieved by 10-gr. doses of salicine thrice a day. He was free from pain on the eighth day. On July 25th the rash reappeared and persisted for four days. The chart is not very complete, but there are a sufficient number of observations recorded to indicate the course of the illness.

It is alleged, first, that the previous exhibition of calcium salts will prevent the appearance of serum rashes, and, secondly, that they are less likely to recur if the second dose of serum is administered within a few days of the first. Now for many weeks prior to his haemorrhage my patient had been taking calcium to counteract a tendency to constipation, and after its onset he got large doses orally and also by enema; also during his haemorrhage he took 30 c.cm. and sometimes 40 c.cm. orally in the day for sixteen days. Again, after the intravenous injections were begun they were continued daily for six days. From this it is evident that neither the previous administration of calcium salts nor the quick repetition of the serum dose can be depended upon to obviate these unpleasant complications. It is also worthy of note that normal serum administered by the mouth may fail absolutely to arrest pulmonary haemorrhage and yet succeed at once if injected intravenously. If it is asked why, having stanching the bleeding with the first intravenous injection of serum, I persisted in them for five days, I can only plead the desire to make sure in a desperate strait and the benefit the patient seemed to derive from them otherwise. He is now rapidly recovering from his anaemia, and the little sputum he has does not show tubercle microscopically (August 25th). In spite of this unpleasant experience, I would not hesitate to inject normal serum again to arrest haemoptysis, but on the next occasion I shall not waste time giving it by the mouth. I hope others may be induced to try it and publish their results, for the value of a reliable styptic in bleeding from the lungs cannot be over-estimated.

A PERSONAL INVESTIGATION INTO THE DIETETIC THEORIES OF AMERICA.*

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AN endeavour to reconcile the divergent and apparently hostile dietetic theories which have reached us from America having proved futile in the privacy of my study, in the early part of this year I undertook an investigation on the spot. It was my earnest hope that I might be able to discover a *via media* which, although not capable of fully explaining the differences of opinion, would at least provide a satisfactory working rule in practical dietetics.

BATTLE CREEK SANITARIUM.

With this end in view, I decided to commence my research at the Battle Creek Sanitarium in Michigan, a large institution where vegetarianism, or at least flesh abstinence, is practised. My reason for selecting this establishment for breaking ground on the subject was not because I was a vegetarian, or in any way committed to its doctrines or practice, but because its superintendent, Dr. J. H. Kellogg, cordially invited me to make full use of the excellent research laboratories attached to the institution, whilst I was at the same time able to make observations on the patients and guests in the establishment. I was, therefore, entered as a patient under the care of Dr. C. E. Stewart, and instructed to sit for three days at the test-meal table in the dining room, where a skilled attendant assisted me to select my viands in accordance with prescription.

* A paper read before the Birmingham Branch of the British Medical Association.

In common with several others, I had an early rise next morning in order to consume the non-appetizing *Zwieback* used in the test meal for obtaining the stomach contents and a sample of the saliva. The urine was carefully collected for twenty-four hours and a sample of the faeces obtained. Once a week the weight, blood count, and blood pressure were recorded. Although I was unfortunate enough to be compelled to succumb on the second day of this severe ordeal, I was astonished to find that out of the 500 patients, most of whom had been living on the usual American diet of three meals a day, supplemented in many cases by large potations of alcohol and excessive indulgence in tobacco, an incredibly small number appeared to have any objections to or be affected in a deleterious manner by the great change. My own sufferings revived the most vivid recollections of two previous attempts to become a vegetarian, and I mentally decided that if I made a fourth attempt I would at least do so in a deliberate and cautious manner.

With my preconceived notions of a sufficiency of protein, meaning thereby the 100 to 125 grams of Voit and Atwater, I found the greatest difficulty in selecting my food from the unaccustomed viands on the daily menu, for which I was unable to summon up the slightest appetite. I do not know whether the efforts of my table companions to make their respective items fit into the caloric values prescribed by their medical attendants was in any way contributory to the result, but it did not improve it. I ought to say that the menu was constructed on a novel principle, each article of food being served in what was called—after Professor Irving Fisher—a “portion” or part of a portion (one “portion” representing 100 calories), and having its constituent protein, fat, and carbohydrates tabulated in calories. Breakfast, about 8 a.m., was supposed to consist of about 800 calories; dinner, 1.30 p.m., 1,000 or thereby; and supper, at 6 p.m., the balance of 2,400 calories. In addition to being fleshless, the diet was of the variety termed “low protein,” and was constructed as nearly as possible of 10 per cent. protein, 30 per cent. fat, and 60 per cent. carbohydrate. It was likewise purin-free, and no beverage except milk, a variety of curdled milk called “yogurt,” apple juice, grape juice, water, and a sample of the scorched cereal preparations to resemble coffee, was allowed.

According to Dr. Kellogg, the essential feature of the diet was that it was antitoxic, by which he meant that it contained no substance nor any ingredient likely to be converted into a toxin in the alimentary canal, and so produce autointoxication. He subscribes to the doctrine that no protein is stored up in the system, and hence every particle beyond 60 or at the most 70 grams a day is broken down in the colon by the proteolytic anaerobic bacteria, forming indol, skatol, phenol, leucin, tyrosin, muscarin, cadaverin, etc.

I do not doubt that when this diet can be digested and assimilated, which is probably the general rule, the results of its adoption are excellent, at least temporarily. I was told that only a very small proportion of the patients adhered to it when they left the institution, but that the larger number went home determined to live more hygienic lives on a smaller supply of meat. As was to be expected, I heard of quite a number who had broken down under the system, and of these I had personal acquaintance with four. Probably with greater caution in the transference from one system to another, these might be prevented. I am bound to add that whilst the nurses and doctors appeared to have a fair amount of vigour, they did not look at all like the healthy type of person we are accustomed to in England, but it must be remembered that it was from amongst them that the men were selected who demonstrated their superiority in the endurance trials against the selected meat-eating Yale athletes.

BUREAU OF CHEMISTRY, WASHINGTON.

The pleasure of my visit to the Bureau of Chemistry in the Department of Agriculture at Washington, D.C., was marred by the fact that its president, Dr. Harvey Wiley, had just departed for London to attend the seventh International Congress of Applied Chemistry. This in no way interfered with the work which I was permitted to do in the laboratories, which are on the eve of being transferred to a capacious new home. Dr. Wiley has been kind enough to forward me a short