

some ailment, and many for various reasons are disinclined to go back to work, or in some cases, having lost their job from sickness, to find another. From every person I inquire what wages they were receiving when at work, and one can see without much trouble how little inducement there is to go back and work hard for perhaps 6d. or 1s. a week more; one youth told me he only got 6d. more when at work, and with many women the difference is only 2s. 6d. a week. I will quote one case of this kind, but the young man gave himself away. His work was to take pastry round on a cycle with a side car to houses in the vicinity of his master's shop. He had an attack of influenza some weeks before he came to me, and his complaint was that he could not ride the cycle as it caused pain in his side. His chest revealed nothing at all, but he had unfortunately forgotten to take the clips off his trousers when he came into my consulting room, and on my charging him with having cycled from his home about four miles off, he admitted it, excusing himself by saying he walked up all the hills. Those who know Bristol will see that he must have walked nearly all the way, if he was truthful. He was reported as "fit for work." The difference between his receipts in work and out was only 6d.

**THE
"CONTROLLED" USE OF NEW TUBERCULIN
IN THE TREATMENT OF PULMONARY
TUBERCULOSIS.**

By ARTHUR C. WATKIN, M.R.C.S., L.R.C.P., D.P.H.,
TUBERCULOSIS OFFICER TO THE COUNTY OF SALOP; LATE HOUSE-
PHYSICIAN TO THE HOSPITAL FOR CONSUMPTION AND
DISEASES OF THE CHEST, BROMPTON.

In a recent issue of this JOURNAL¹ Dr. E. E. A. T. Rigg published the results of his observations on the effects of new tuberculin on the physical signs of pulmonary tuberculosis. His cases were free from fever except when they reacted to tuberculin. My observations at the Brompton Hospital were carried out not only on cases which were afebrile, but also on cases which were intermittently febrile—that is, they sometimes had fever and sometimes were free from it—and also on some cases where there was spontaneous fever throughout. A further point of difference was the limitation of the dose of tuberculin to just those quantities which fell short of producing any febrile reaction, the object being to preserve complete parallelism between the tuberculin-treated cases and those not treated with tuberculin which were used as controls. As Dr. Rigg cogently remarked, his cases treated with tuberculin, by reason of the doses used and the reactions following them, were put at a disadvantage, as they were kept in bed, whereas the control cases were, throughout their stay in the hospital, able to be up all day and to take exercise in the grounds of the hospital.

I have had under observation in all 22 cases. These, whether controls or not, were watched for three months, with the exception of one or two which were under supervision for a fortnight or so less than that period. As in Dr. Rigg's report, no final decision can be said to have been arrived at, because both his and my own cases were limited in number, and the period of observation was only three months. I have, however, published my results, because notwithstanding these drawbacks the report has this advantage, that it concerns individuals who have been under close observation; and, further, it may encourage others who have access to cases for more considerable periods to carry out similar investigations. By this means a larger number of cases may be tested, sufficient to afford a reasonable conclusion as to whether tuberculin favourably influences the local manifestations of pulmonary tuberculosis as judged by physical signs.

My 22 cases include:

Afebrile cases	...	...	...	...	5
Intermittently febrile	...	...	...	...	12
Continuously febrile	...	...	...	...	5

It is unfortunate that the number of afebrile cases is so small. This is accounted for by the fact that the class of case now admitted to the hospital is different from that when Dr. Rigg held office, and also that the opportunity

of sending afebrile cases to the Brompton Hospital Sanatorium at Frimley was greater. It is also unfortunate that the cases which were afebrile and those which were continuously febrile are represented by odd numbers. This can be explained by the fact that cases which at the beginning of my observations fell into one or other of the above categories had to be transferred to another because of spontaneous changes in temperature.

Another difficulty with which I have had to contend is that the dosage had to be very small, and the advances in the doses very tentative, lest fever—that is, reaction—should be produced. Indeed, in some cases, a rise of temperature did follow some doses. Whenever the rise persisted in afebrile cases, these were referred to one or other of the remaining categories, but when a rise of temperature was of short duration (twenty-four to thirty-six hours only) I retained them in the afebrile list, and, profiting by the experience, did not increase the dose, or repeated it after a longer interval than the usual two days.

Dosage.

In the afebrile cases the minimum dose was 0.00001 mg. of T.R. and the maximum 0.03 mg. In the intermittently febrile and the continuously febrile the minimum was 0.00005 mg. and the maximum 0.005 mg. (reckoning on the basis that 1 c.cm. T.R. contains the insoluble bacterial matter of 10 mg. of tubercle bacilli). Not every case received the above maximum. Something less was given as a maximum in cases in which it was not advisable to push the dose.

Criterion.

All cases had tubercle bacilli in the sputum, and had definite physical signs at the commencement of observation. They were all examined by Dr. Batty Shaw at the beginning and at the end of the period, and sometimes also between these limits of time. I also examined the cases at these times, but in addition made examinations once a fortnight. By this means it was possible to reduce to a minimum of error those spontaneous changes in rales which occur in the chests of tuberculous and non-tuberculous subjects alike, because when it could be seen that the signs of the final examination were not, as it were, the finale of a crescendo or decrescendo movement of the rales, re-examination and adjustment were made.

No reference was made to the notes of the previous examination, until the present physical signs had been estimated. Differences between the results as obtained by Dr. Batty Shaw and by myself, when they occurred, were met by re-examination and agreement.

The Controls.

These were chosen by lot from among the 22 cases at the commencement, as was done by Dr. Rigg. The patients were aware of the nature of the investigation and its purpose.

Results.

The results were as follows:

	Improved.	<i>In statu quo.</i>	Worse.
1. <i>Afebrile Cases</i> (5 in all)			
Treated with tuberculin ...	1	1	0
Without tuberculin	0	2	1
2. <i>Intermittently Febrile Cases</i> (12 in all)			
Treated with tuberculin ...	2	4	0
Without tuberculin	3	3	0
3. <i>Always Febrile</i> (5 in all)			
Treated with tuberculin ...	0	0	3
Without tuberculin	0	0	2

Putting these 22 results in a different form:

- A. Of 6 cases which improved, 3 had been treated with tuberculin, 3 had not.
- B. Of 11 cases which remained *in statu quo*, 5 had been treated with tuberculin, 6 had not.
- C. Of 5 cases which were worse, 3 had been treated with tuberculin, 2 had not.

Comment.

As already mentioned, the cases are too few to allow of a final deduction being made, nor is this intended in the

publication of these observations. One result, however, is brought out, and that is the crying need for similar and more extended investigation at the hands of other workers. There cannot be the least doubt that the system of instituting "control" cases is sound, and I would add that the "controls" should be simultaneous ones and chosen by lot, so that there may be no possibility of unconscious bias in the selection.

To the objection that has been raised abroad that a period of three months is not sufficient to allow of judgement being formed upon the effect of tuberculin on the physical signs, heed must be paid, and it is to be hoped that others who have favourable opportunities for such extended observations will help to settle the question on the lines of this and Dr. Rigg's investigation.

Addendum.

One of the above continuously febrile cases not treated with tuberculin showed at the end of three months an increase of râles, although there were unmistakable signs of development of fibrosis in the affected lung.

One of the intermittently febrile cases treated with tuberculin showed no change in the extent of râles, but fibrosis was observed to be developing.

A child of the intermittently febrile class who was treated with tuberculin showed a reduction of râles, but a patch of lupus on the arm was not apparently diminished in severity or extent by the treatment.

In conclusion, I must record my thanks to Dr. Batty Shaw for the kind way in which he has supervised the work and assisted me in carrying it through.

REFERENCE.

¹ BRITISH MEDICAL JOURNAL, February 1st, 1913, p. 213.

Memoranda: MEDICAL, SURGICAL, OBSTETRICAL.

AN UNUSUAL CASE OF AMENTIA.

A FEMALE child, aged about 5 years, well grown, and healthy to all appearance, presents a complete absence of the faculty of interpreting the visual and auditory sensations which Charcot described as internal representation. Her eyesight and hearing seem to be sharp enough. She can pick up the smallest article without effort, but when she takes anything in her hands she lets it hang down and strikes the lower part of it as if she were trying to make it vibrate; but all interest in it seems to end here. When she wants anything she will catch her mother's hand and lead her to it, when she wants the door opened she will drag her mother's hand to the handle and place it on it. To words addressed to her she pays no attention, but sounds she can hear. The power of speech is totally undeveloped; within the last week or two she has been able to pronounce something like the word "ma." She hums a note or two. She is restless and constantly on the move; if caught firmly by the arm she does not struggle to get free, but immediately arrests her movements and assumes a thoughtful appearance, as if she were trying to interpret the meaning of the grasp or the external impression conveyed in this way to her brain. She seems to recognize her relations by the sense of smell; she will go round a roomful of people smelling at each one till she comes to her parents, when she will assume a fondling attitude, and smiles most pleasantly. It is most remarkable to see her rubbing her nose along her mother's arm and smiling all the while. I must confess I have never seen anything like this case before.

Bolton.

A. W. CRAWFORD, M.B., C.M.

OBSERVATIONS ON OSTEOMALACIA.

SEEING in the BRITISH MEDICAL JOURNAL of February 8th, 1913, on page 24 of the Epitome of Current Medical Literature under the heading "Treatment of Rickets," that "a number of observers have come to the conclusion that rickets and osteomalacia are manifestations of one and the same disease," I wish to state that my five years' experience in India supports the view that osteomalacia and rickets are entirely distinct from one another. Of these five years I passed four on the staff of the Dufferin

Hospital at Agra. This is in the United Provinces, where among Indian women osteomalacia was very common. It was of typical form, characterized by bowing of the long bones, settling down of the spine with forward displacement of the sacral promontory and exaggeration of the sacral curve, beaking of the pubes, approximation of the acetabula, and indrawing of the thoracic frame, causing great diminution of the capacity of the thorax. Accompanying these skeletal changes were spinal pressure symptoms, especially spasticity of the lower limbs, dwarfing of stature, rheumatoid pains, and tenderness to pressure of the affected bones.

In my experience the condition is much more common among Hindu than Mohammedan women, and the majority of the cases seen by me have belonged to the *Bunya* caste. The members of this caste are usually possessed of sufficient means and religious prejudice to prompt strict observance of the Hindu custom of child-marriage, which is often actually consummated at an incredibly early age. Miserable little girls of apparently 9 years or thereabouts, who had been subjected to sexual intercourse (as evidenced by ruptured hymen, etc.), have been brought to me by their mother-in-law; and if I remonstrated against this practice, the reply that the husband was a "young boy" was evidently thought complete justification. Mohammedan girls, on the other hand, are not married until puberty, and their diet includes flesh food. Probably both, and certainly the former, are reasons for the lesser incidence of osteomalacia among Mohammedans, despite the fact that their seclusion inside the houses is more strict. Of the 23 Caesarean sections (all for osteomalacic pelvic contraction) performed during these four years in the Dufferin Maternity Hospital, Agra, where the total number of Hindu and Mohammedan women admitted is about equal, 20 were on Hindu women and only 3 on Mohammedans. Among domiciled Anglo-Indians I have not seen any case.

Unlike osteomalacia, rickets in Agra is rare among Indian children, who are practically all breast-fed. If an infant has to be fed by hand in an Indian home, it usually soon succumbs. Nevertheless the disease is fairly common among the bottle-fed children of the mission orphanages, and among poorer class Anglo-Indians and Europeans, and this has strengthened my conviction that breast-feeding is the great prophylactic against the disease.

Osteomalacia I associate with overstrain of the sexual functions. It may begin prior to the occurrence of pregnancy, but I do not remember having seen a single case in an unmarried girl. Our Caesarean section patients, whom we invariably sterilized by ligaturing and dividing the Fallopian tubes, used to improve in health and find relief of pains with increased functional use of their bones and joints after the operation. This simple division of both the tubes between ligatures was followed by amenorrhoea (menopause) in all cases which I have been able to trace.

PAULA T. COPELAND,
Physician in Charge, Lady Aitchison Hospital,
Lahore.

THE ADMINISTRATION OF EMETINE BY THE MOUTH IN AMOEBIC DYSENTERY.

RECENTLY having had the opportunity of treating a case of relapsing amoebic dysentery, I thought it might be interesting to see what effect emetine administered by the mouth might have upon it. The results were very satisfactory. The patient acquired his dysentery abroad in August, 1912, and from that date had suffered from frequent relapses. I saw him on his return to England on June 9th, 1913, and found blood and mucus still present in his stools with many amoebae having the characteristics of *E. histolytica*. He had to leave town again the same afternoon, so I did not inject him with emetine, but told him to get Burroughs and Wellcome's keratin-coated tabloids of emetine hydrochloride (grain $\frac{1}{2}$), and to take one of these on going to bed that evening. If no bad effects followed I advised him to go on taking one each evening, to rest as much as possible, and to go on a milk diet.

I heard from the patient five days later. In his letter he stated that the effect of the drug was immediate, and that it did not cause sickness or upset him in any way. On the day following the first dose he noticed a distinct amelioration of all his symptoms, and by the second day