THESIS

on

THE PROBLEM OF TUBERCULOSIS IN GENERAL PRACTICE WITH SPECIAL REFERENCE TO THE INDUSTRIAL AREA.

by

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THE PROBLEM OF TUBERCULOSIS IN GENERAL PRACTICE WITH SPECIAL REFERENCE TO THE INDUSTRIAL AREA.

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Introduction.

The problem of Tuberculosis as it affects the General Practitioner in an industrial area, is not an easy one.

It is agreed upon by most authorities that Tuberculosis is ubiquitous and that infection is unavoidable. This is the more evident in the industrial neighbourhood where so many factors such as bad housing conditions, unemployment, insufficient nourishment, overcrowding, polluted air, poor sanitary arrangements, and the general mode of living are favourable to the incidence of the disease.

The experience of the writer on this subject has for the most part been gained since the termination of the Great War and in consequence, the conditions mentioned have been aggravated.

It may be conveniently stated here that in Scotland alone in the year 1925, 5,786 persons died of Tuberculosis, and of that number no fewer than 3,978 died of Pulmonary Tuberculosis. In the year 1921 in Scotland 8.2% of deaths from all causes were caused by Pulmonary Tuberculosis. (1)

Naegeli working in Professor Ribbert's Institute in Zurich found Tuberculosis present in no fewer than 97% of the bodies of adults which he examined. (2)

Still/

Still, working at the Hospital for Sick Children, Great Ormond Street, found amongst 769 autopsies on children under 12 years of age, that in 269 cases tuberculous lesions were present and in 223 of these, that is in 28.9%, the fatal result was directly due to Tuberculosis. A similar proportion was found by Dr Carr at the Children's Hospital, Chelsea.

It would seem that amongst hospital patients in London nearly 1/3 of the child mortality is due to Tuberculosis.(3) One is therefore justified in assuming that tuberculosis is practically universal in children whether latent or evident.

From the foregoing statistics it will be readily understood how vitally important it is that the general practitioner should be able to recognise this condition in children. As Sir Robert Philip truly said "The tuberculosis of the adult is in largest part the developed tuberculosis of the child."

One has to remember that a true statistical report on the Incidence of Tuberculosis is difficult to obtain as many deaths are certified as being due to Bronchitis, Pneumonia, etc., when Tuberculosis is the real cause.

It is however well for us to note that in spite of the high percentage of adults who are infected, over 90% are cured.

The heavy mortality from Tuberculosis in infants and the rapid diminution in mortality as the child grows older, are very striking. The special liability to tuberculosis is much more marked during the first five years of life than during later years.

Still/

Still has found that in 500 cases from the post-mortem records of the Hospital for Sick Children, no less than 130, that is more than 25%, occurred in the second year.(4)

It is known that the liability to tuberculosis gradually increases during the earlier months of infancy. This very marked age incidence is of considerable practical importance in as much as it bears some relation to the mode of infection. If we are to succeed in the prevention of tuberculosis, we must of necessity determine what this relation is.

It has been found that in post mortems of children under 12 years, the infection appeared to have entered through the lung in 63.8%, whereas in 29%, the primary infection was through the intestine. This latter mode of infection was proved to be actually less during the period of infancy. From these statistics one must conclude that the blame attached to milk as a common causal factor in this disease in childhood is unjustifiable.(5) This view however is probably not correct according to the findings of the Royal Commission and the work of Frazer, Stiles and others in Edinburgh.

The lymphatic glands in childhood show a special susceptibility to the infection of tuberculosis. These glands form the main defence against the tubercle bacillus. They are well developed in early years, and mechanically arrest the bacilli. This is readily understood when we recall that the lymphatics are mainly concerned with the absorption and carriage of solid particles and/

and of material insoluble in water. The bacillus is carried into the lymphatics by phagocytic cells and is deposited in the lymphoid tissue of the first lymph gland arrived at. Those that survive this process, multiply in the lymphoid tissue and give rise to a tuberculous focus in the lymph gland.(8) Here, toxins are produced and these mix with the lymph stream and set up an intense lymphocytosis in the other glands through which the lymph passes. These lymphocytes act as a barrier to the bacillus. In infancy, the arrest of the bacilli is but temporary and a spread to vital organs readily follows. This may explain why a generalised tuberculosis in infancy is so common and why the disease at this age is of such extreme danger.

Once this period is passed, a mild infection, such as that obtained from a well diluted bovine source is probably of considerable protective value during the first two decades of life. In later years of childhood, the glands hold the infection and thus form clinically the primary focus from which the disease may spread to other structures.

There are thus two well marked stages of the disease, a first stage in glands manifest or occult, and a second stage when the disease has overstepped these and appears in any other part.

The importance of early diagnosis to theprofession cannot be over-estimated. When one remembers that the responsibility/

responsibility for the majority of early cases of Tuberculosis rests upon the General Practitioner, one realises the very important role which he has to play in this branch of his work.

The public however are all too blind to the fact that early diagnosis means early cure in nearly every case and as a result many hesitate to call in medical aid till irreparable damage has been done.

In this thesis, the writer proposes to discuss the various methods of diagnosis and the importance of the difficulties encountered by the General Practitioner in these and in the domiciliary care of the tuberculous patient and to give the results of personal experience in a series of cases.

DIAGNOSIS.

Symptoms.

Physical Signs.

Xrays in Diagnosis.

Tuberculin Tests.

Tuberculosis in Children.

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DIAGNOSIS.

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In the early diagnosis of Pulmonary Tuberculosis, consideration must be given to three main points.

1. The symptoms.

2. Physical Signs.

3. Tests designed for the detection of the disease. Before an accurate diagnosis can be made, the inter-relationship of these must be established, for as is often experienced, symptoms identical to those of early Pulmonary Tuberculosis may be complained of, when on further investigation, the cause is found to be a non-tuberculous one. For example a patient may present himself complaining of loss of appetite, fullness after meals and loss of energy and may show signs of anaemia and debility when he may be suffering from neurasthenia or chlorosis; on the other hand he may have no other symptom than fullness after meals when the real cause may be a tuber-culous toxaemia.

Herein in the writer's experience lies one of the greatest difficulties for the General Practitioner in the early and accurate diagnosis of Pulmonary Tuberculosis.

The toxaemia of the Tubercle Bacillus may so affect organs distant from the primary lung focus that without a very thorough consideration of symptoms in their relation to physical signs, error in diagnosis is almost sure to occur.

It is feared that in General Practice too much stress

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is laid upon what is commonly termed the cardinal symptoms of this disease, namely cough, spit, loss of weight, night sweats, for as sure as one waits for these signs to occur in order to establish a diagnosis of Tuberculosis, so sure is the patient likely to be in an advanced stage of the disease.

And again the practitioner may have diagnosed the case in an early stage only to find that, because the patient has not complained of these cardinal symptoms, he finds great difficulty in making him realise that he is suffering from the disease, in spite of the fact that he is assured of good prospects of cure. The inevitable result is that irreparable damage may be done through this neglect. Even when a more advanced stage has been reached, there is difficulty with the patient, who, although quite conscious of the fact that he suffers from these cardinal symptoms, yet tends to regard them with an optimism that is almost characteristic of the disease.

This optimism of the tuberculous patient and his general disregard of symptoms and signs as contrasted with the mental depression of the neurasthenic with his ever-present desire to reveal fresh symptoms, is an interesting psychological factor in the diagnosis of Tuberculosis in General Practice.

Other instances of difficulties faced by the General Practitioner in his efforts at early diagnosis may be given here.

The almost universal objection to having Tuberculosis in the family, prevents many cases from deriving the benefits of early treatment. Indeed it is not uncommon to find that mothers frankly object to their daughters being labelled tuberculous on the grounds that their prospects of marriage will be considerably diminished.

For example, A.G., aet 25 years, was seen by the writer in January, 1923, and found to be suffering from Apical Tuberculosis. She had marked enlargement of the cervical and axillary glands. She was advised to undergo treatment but daily persisted in cycling some 2 miles to and from her employment. Six months later she had several small haemoptyses but concealed the fact from her mother and the writer, until she was compelled on account of a rather larger haemoptysis to remain off duty. Her mother protested that there was no consumption in the family and that as she was soon to go abroad to be married, she ought to get about and get her strength up. The disease advanced and she died twelve months later.

Again there is the question of employment. It is sometimes very difficult for the tuberculous patient even where early diagnosis and treatment have been carried out, to obtain re-employment in view of the prevailing idea that she will affect her fellow-workers. For example, A.C., aet 23 years, a factory worker, was treated for over a year in a Sanatorium with marked improvement in her health

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and although she had no spit or cough and was quite fit for her duty, she was unable to get employment at her former work. In domestic service also, many employers object to having maids who have had Sanatorium treatment.

In other cases the patient may realise the gravity of his condition but his circumstances such as his eagerness to keep working for, it may be, a wife and large family, prevent him undergoing immediate treatment with the inevitable result. As an example C.S.*, aet 25 years, a painter to trade complained of fulness after meals, occasional attacks of nausea, and loss of appetite in April, 1922. On examination he was found to be suffering from apical tuberculosis. When he was informed of his condition he volunteered the information that occasionally he had felt a tired feeling in his right chest. As it was spring time he was anxious to take advantage of the extra work demanded of him at that time of year and with this end in view he resumed work. His relatives discredited the fact that he suffered from Tuberculosis. Even after six weeks when he had a haemoptysis, they were inclined to believe that he had ulceration of his stomach and indeed this was diagnosed by another practitioner. He continued to work after due warning of the consequences and eventually after repeated haemoptysis the disease spread till both lungs were in an advanced stage and he was forced to remain in bed. Numerous Tubercle/

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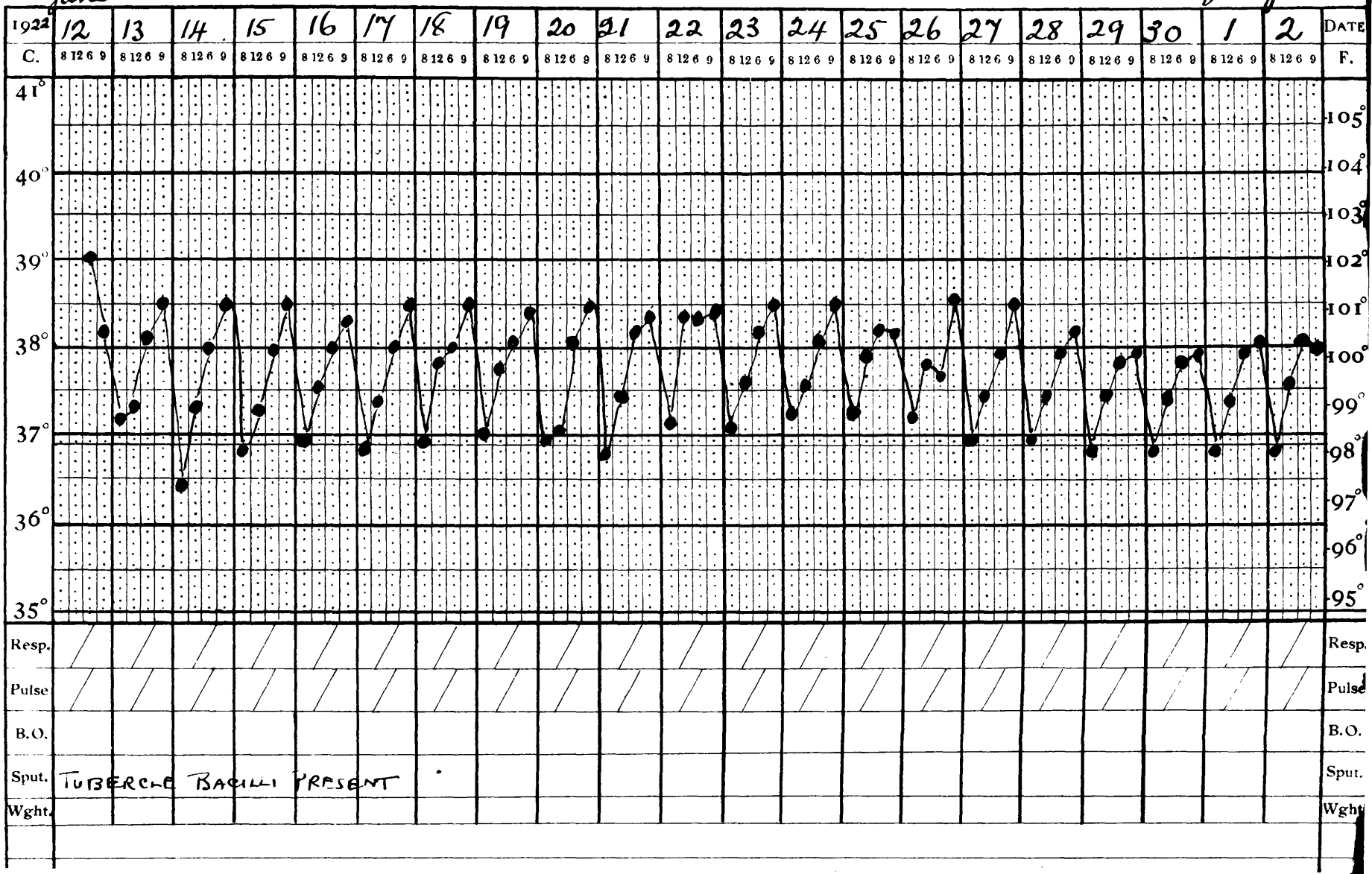
* See chart interleaved.

No. TEMPERATURE CHART of C.S (Painter)

AYRSHIRE SANATORIUM

Name Scott, Charles.

June July.



Tubercle bacilli were found in his sputum which by this time was much increased. He died 18 months after his onset of symptoms.

When one considers that early symptoms of Tuberculosis do not commonly incapacitate the patient, it is obvious that there is difficulty in coming into contact with early cases, but the general practitioner has some opportunities for detecting such cases.

The writer for example while attending the confinement of Mrs R. at a farm cottage some distance away, found that her daughter aged 7 years was suffering from tuberculous glands of the neck which had been allowed to go on to caseation. Aspiration of the glands, appropriate domiciliary treatment and after care of the case were carried out with the result that the child was soon much improved in health. On further investigation it was found that the child's father had suffered from loss of appetite and a morning cough for two months. Tubercle bacilli were found in the sputum. He received domiciliary treatment and four months later he had gained weight and was able for work on the farm.

It may be of interest to note that the writer had 18 months previously attended in the adjoining cottage, a young woman who had come from town for a change and who was suffering from advanced phthisis.

Again, the practitioner on being consulted for a condition/

condition other than tubercular, may find on examination that the patient suffers from Pulmonary Tuberculosis, e.g. the writer was engaged for a confinement by Mrs.M. an Italian lady who in the course of antenatal examination was found to be suffering from Pulmonary Tuberculosis.

In the Child Welfare Clinic there is opportunity for detecting early cases of Tuberculosis, pulmonary, abdominal and glandular.

Symptoms.

In practice symptoms such as anaemia, tiredness, loss of appetite and indigestion are frequently complained of. These may be due to debility such as is seen in the industrial worker. On the other hand they may be indicative of early Tuberculosis or this disease may develop later in these cases of debility. Great care is therefore required in differentiating the early tuberculous case from the case of debility. As anaemia is an early sign of Tuberculosis, thorough examination must be made before eliminating Tubercle. The toxins in the blood, from the tubercle bacillus cause a loss of Haemoglobin and so resembles Chlorosis, but according to Lloyd Jones there is a reduction in the bulk and specific gravity of the plasma in tuberculosis, whereas both are increased in Chlorosis.(7)

It is practically impossible in general practice

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to carry out this diagnostic test and the practitioner must rely on physical signs in relation to symptoms.

Loss of appetite is an early symptom complained of and when met with in tubercle it is usually in the nature of a hypochlorhydria which is due to the inhibiting effect of the toxins on the gastric secretion.

It is the writer's experience however that it is much more general to have the patient complaining of cough, and loss of flesh as well as the above mentioned symptoms.

Expectoration is not an early symptom but is frequently swallowed by the patient who often thus conceals its presence from both relative and practitioner. It is well to examine it carefully microscopically as it is impossible to tell by macroscopic appearance whether this sputum is tuberculous or not. The so-called nummular sputum in the writer's experience is by no means common.

Amenorrhoea is an important early symptom and one that should not be dismissed until Tubercle is eliminated. The return of regular menstruation is often accomplished by rest which lessens the existing toxaemia.

Pain is not a very frequent symptom and more often the patient complains of a tired feeling in a particular part of the chest. The disease may be advanced and yet no pain complained of.

Pyrexia is a most constant symptom present in Tuberculosis as even a mild toxaemia will stimulate the heat/

heat centre in the medulla. This is well proved by such methods of stimulation as exercise, emotion, constipation or over exertion in any way. It is the author's experience that more stress should be laid on this important and sometimes the only diaghostic proof of the presence of Tuberculosis. From experience it is found that the rectal temperature is the most reliable. It is best taken at 8 a,m. before the patient rises, at 12 noon, 4 p.m. and 8 p.m. It is usually high at 4 p.m. and 8 p.m. and falls in the early morning. It is said that in women, a menstrual rise in temperature is diagnostic of Tubercle and that in healthy women a pre-menstrual rise is seen. The writer has seen so many variations of temperature at this period that no significance is attached to this phenomenon.

It is worthy of note that in the tuberculous patient, it is rare to find any complaint of rigor as in acute forms of pyrexia. This is due to the fact that the toxaemia of tubercle is a gradual one.

Night sweating is not as a rule an early symptom but its significance in the diagnosis of Tubercle differs in the adult and in the child. In the latter it may be caused by rickets, malnutrition and other debilitating diseases.

It may be convenient here before discussing physical signs to note the significance of two important symptoms of/

of Tuberculosis, viz. Pleurisy and Haemoptysis.

Pleurisy is one of the earliest and most frequent manifestations of Pulmonary Tuberculosis.

Ghon in his work (8) "The Primary Lung Focus of Tuberculosis in Children" 1916, found in 142 cases with one focus that changes in the pleura occurred in 95 cases.

Jousset (9) by his special method of examination found that all his cases of pleural effusion were tuberculous.

Sir W. Hale White (10) found that 75% of all clear serous effusions in the pleural cavity were tuberculous.

Allard and Koester (11) in Clive Riviere's "Early Diagnosis of Tubercle" 1919, p. 13, found that in 514 cases of pleurisy with effusion followed up over a number of years, no fewer than 47.7% developed Tuberculosis of Lung, and that after dry pleurisy 42% developed lung disease subsequently. It was also found that in most cases 85% of the total symptoms of pulmonary disease developed within 5 years of the pleurisy.

In the writer's experience of cases, a history of Pleurisy as far as could be ascertained, was found in 56.7%.

From the foregoing statistics one must conclude that pleurisy denotes the presence of Tuberculosis of lung or that Tuberculosis is likely to develop subsequently. It is therefore important that all cases of pleurisy should be kept under close observation when possible.

According to Riviere (12) in his "Early Diagnosis of Tubercle/

Tubercle" 1919, there is less chance of disease following after 5 years have elapsed.

It would appear that gross changes in the lungs do not tend to appear for some years after the initial pleurisy.

Haemoptysis although not an early symptom may often be concealed by the patient. Careful inquiry as to the history of haemoptysis often reveals the fact that several haemorrhages though small in amount may have occurred at intervals while the patient continued at his work. A common explanation by the patient is that the bleeding must have come from the back of the throat. The initial haemoptysis however may be the means of bringing the patient to the practitioner at an earlier stage than would otherwise have happened, and so it may be of great value in the prognosis of the case. It is practically pathognomonic of Tubercle but diseases such as mitral stenosis, aortic aneurysm, bronchiectasis, the anaemias, cancer, and syphilis of trachea and bronchi must be eliminated before tubercle is diagnosed. It is wise that time should elapse after haemoptysis before examination of the chest is carried out, as a false opinion of the size of the diseased area may be arrived at due to the presence of temporary adventitious sounds. The sputum after haemoptysis in tubercle is always mixed with blood streaks or clots

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for a few days.

Trauma of the chest may be followed by haemoptysis. This may be brought about by the lighting up of tuberculous disease which has been quiescent probably for years. Several writers have quoted cases where the haemoptysis occurred several days or weeks after the injury and some cases where the health of the patient steadily declined from the day of the injury and subsequently died after an illness of three months. In these cases there was no previous history of ill-health although tubercle bacilli were found in the sputum before death.(13) The writer had a patient A.G. aet 25 years, who had Pulmonary Tuberculosis but had been treated and was in good health for six months. One day, while leaving her work, a friend accidentally hit her on the back and immediately she had a haemoptysis and for several days she had spitting of blood. The disease quickly advanced and the lungs became excavated and she died 5 months after this incident having been confined to bed from the evening of the accident.

In advanced cases of pulmonary tuberculosis, haemoptysis is a grave symptom.

In the writer's experience of cases 37.8% gave a history of haemoptysis. It may be of interest to note that it is the author's experience that an East or N.East wind favours haemoptysis probably on account of its tendency to/

to excite coughing.

Physical Signs.

As already stated the toxins of the Tubercle Bacillus affect changes in most of the organs of the body and this necessitates a thorough inspection of the case. Valuable information may be gained from this part of the examination and especially so in the early case where the more modern forms of diagnosis may be misleading. Vaso-motor changes in the tuberculous affect the skin and the hands are often found to be moist and clammy. The hair is invariably abundant but thin. The writer has noted that often in the fibroid type of case the hair is often dry and brittle while in the suspected caseation type it is often greasy. In tuberculosis of the reproductive organs the hair is often prematurely grey. The eyebrows are usually bushy and the same characteristic change may be seen in the downy appearance along each side of the vertebral column. The anterior and posterior triangles of the neck should be examined for the presence of enlarged glands. These may be of minute size but are important as they may be the starting point for the bacillus to eventually invade the lungs by way of the lymph stream. According to Crocket in "Physical Examination of the Chest", 1922, enlarged supra clavicular glands are always indicative of tuberculosis of apical pleura and probably also of lung.

The shape of the chest is not in itself indicative

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of Pulmonary Tuberculosis unless the disease has advanced so that the structures have become so atrophied as to change the whole outline. Very frequently and especially in children, the veins in the 1st and 2nd interspace are prominent. This is said to be due to pressure on the azygos vein by enlarged mediastinal glands. The mammae are lower and nearer the middle line in chronic pulmonary tuberculosis. In early phthisis the mammary gland is generally a little larger on the affected side; in chronic disease it is usually smaller.(14) Lagging of the affected side on breathing is a useful sign in Tubercle of the Lung.

From palpation, much information can be obtained; for example, the muscles in the neighbourhood of the affected part of lung are often in a condition of spasm. This is a compensatory change effected by Nature, the spasm acting as a splint for the lung. It is said to be due to reflex irritation from the lung or pleura by way of the sympathetic to the spinal centres of the motor nerves.(15) Wasting of certain muscles is an early sign of tubercle: e.g. at an apex where it is due to disuse atrophy. It is usually most apparent in the trapezius of the affected side. The border of the muscle on palpation feels thinner and flabbier. Palpation of the lower third of the neck above the clavicle and in the upper intercortal spaces often reveals the presence of pinhead glands. Any lagging in the movements of the chest is best elicited by palpation at the apices.

Increased/

Increased vocal fremitus over consolidated or excavated areas is present in Tubercle of the lung. Normally it is more marked over the right apex. In thickened pleura the fremitus is diminished.

By percussion early infiltration may be detected as for example where shrinkage of an apex occurs, the note is dull. This is one of the earliest signs in Tubercle. This shrinkage is the result of deep seated lesions rather than superficial. The reflex bands of dulness (Riviere's Sign) are claimed by Riviere to be diagnostic of Tuberculosis of Lung. By means of light percussion up or down the back Riviere finds that bands of slight impairment at the apex and also across the lower scapular region on both sides, but more strongly marked on the affected side are revealed. The upper band is at the level of the junction of the first and second dorsal vertebrae, the lower extends between the fifth and seventh dorsal spines. According to Riviere these reflex areas precede by a considerable time, the signs due to anatomical surface changes. They are absent in the healthy chest and in simple bronchitis. The practical value of the sign lies in the fact that a hidden lung focus may be discovered long before it becomes apparent to other clinical methods of investigation and even before symptoms are present. (16)

In practice it is wise not to rely on the stethoscope in/

in diagnosis unless to confirm the findings of previous methods of examination. It may lead to misleading results for the disease may be established in the lung for months before auscultation gives evidence of its presence.

According to Crocket (17) in "Physical Examination of the Chest," 1922, three triangular areas are emphasised in auscultation:

1. that formed by the clavicle, sternum and imaginary line joining the 4th costal cartilage and acromion.

2. that formed by the spine of the scapula, 1st four dorsal spines and imaginary line joining 1st dorsal spine and acromial end of spine of scapula.

3. that formed by the vertebral border of scapula dorsal spines four to eight and imaginary line joining 8th dorsal spine and the inferior angle of scapula.

Crocket maintains that if one finds localised, especially in one or more of the triangular areas mentioned, rhonchi crepitant or subcrepitant râles with relative dulness, there is little need of analysing the details of the other signs elicited, but if no adventitious sounds are heard and the Respiratory murmur is not bronchial then careful analysis of the various parts of the respiratory murmur is expedient.

Xrays in Diagnosis.

In general practice Xrays apparatus is usually beyond the means of the practitioner and the time involved necessitates this method of Diagnosis remaining in the hands of the Tuberculous Specialist or Radiologist.

In the diagnosis of Pulmonary Tuberculosis Xrays give much assistance in confirming the signs revealed by clinical investigation and also in demonstrating areas of disease which may have been overlooked or unsuspected in clinical examination. They certainly give evidence of the extent of the lesion. The true interpretation however of the Xray picture is applicable only to those trained not only in Radiography but also in Clinical Tuberculosis. The author is of opinion that rash diagnosis is often the outcome of the finding of the radiologist who may or may not be trained in this art and who is only too often untrained in the subject of Tuberculosis. Hence it would seem that the true value of Xrays in Diagnosis of Pulmonary Tuberculosis is often underestimated. In deep seated lesions as in hilus disease Xrays are invaluable in diagnosis. According to R. Murray Leslie (18) in "Hilus Tuberculosis" in the Tuberculous Year Book, 1914, we have in Radiography in association with symptomatic manifestations and tuberculin reactions, a method of diagnosing early cases of pulmonary tuberculosis which renders it possible to discover deep-seated central tuberculous disease in the hilus and surrounding pulmonary tissues before tubercle bacilli appear in the sputum and long before physical signs manifest themselves. According to Riviere in "Early Diagnosis of Tubercle" 1919, Xrays in children up to school age is of supreme value in deciding/

deciding on a doubtful chart. Other radiologists however are more conservative in their views with regard to the Diagnosis in Children.

The use of Tuberculin in Diagnosis is within reach of every practitioner but he is often prevented from carrying out this test by the parents of the patient who may refuse to allow the child to be subjected to such a procedure. A positive reaction in a child under 10 years is of value and a negative reaction excludes the possibility of Tubercle. McNeill (19) has shown that the Von Pirquet test when carefully performed and the results properly interpreted will produce positive reactions in cases of massive and advanced tuberculosis in children. In his three illustrative cases whose ages were 13 months, 15 months, and 11 years respectively, a positive reaction was obtained a few days before death, the patients suffering from extreme weakness and emaciation. He claims that he has not failed to obtain a positive reaction in any case of Tuberculous meningitis, acute miliary tuberculosis, massive abdominal tuberculosis and acute pulmonary phthisis.

This would seem to disprove the idea that the Von Pirquet was negative in cases with advanced disease in children.

Ghon (20) working in St. Anne's Children's Hospital in Vienna found that only one case giving a positive Von Pirquet/

Pirquet failed to show any tuberculous changes or remnants of such.

The writer while in residence in the Ayrshire Sanatorium in 1919 found that out of 60 children examined, 78.6% gave a positive Von Pirquet. It may be of interest to note that in a few cases, a week had elapsed before any local hyperaemia was observed.

The subcutaneous injection of old Tuberculin when carried out in Children and which gives a positive reaction, that is, a local hyperaemia, indicates that the child is infected but does not give any proof that the condition is active. The temperature in the child however is very mobile and this phenomenon tends to make the result misleading.

The possibility of a focal reaction resulting, would show that the disease is active or may become so. It is evident then that there is danger in administering Tuberculin by this method. Bandelier and Roepke,(21) however, with experience of from 10,000 to 12,000 injections declare that they never saw harm done. If this test is absolutely negative then we may assume that active disease is not present.

Tuberculosis in Children.

The problem of Tuberculosis in children in general practice is beset with many difficulties. According to the investigations of Ghon(22) the primary focus in young children generally occurs in the lung with involvement of the glands at the hilum forming the so-called Hilus Tuberculosis which is the earliest clinical form/

form of lung tubercle in children. It is extremely difficult to diagnose this condition and indeed it is seldom recognised till such symptoms as wasting, fever and characteristic cough appear. Küss (25) has shown that the hilus glands do not usually arrest the bacilli, but that the mediastinal glands which also become affected are the first in childhood to form a barrier against the progress of the virus. A healing process may occur, but usually the infection spreads further and often ends in the lungs becoming affected by a retrograde movement through the lymphogenous channels.

The disease may be slowly invading lung without showing any outward signs and so the mother may have no reason to have her child examined.

Again many children may exhibit by radiological examination signs of hilus tuberculosis but may not necessarily show any signs of impaired health. As already stated Xrays are of great value in the diagnosis of this form of tuberculosis but they are outside the immediate reach of the general practitioner, who must therefore rely on other methods whereby the condition may be detected or suspected, before submitting the case to a confirmatory radiographic examination. The writer is of opinion that a careful note of the family history is of the greatest assistance in elucidating this condition.

The symptoms present may be due to involvement of lung or to pressure by the enlarged glands in the mediastinum.

Prominent amongst these is wasting which is a most

constant/

constant symptom. Cough in the absence of enlarged tonsils and adenoids should make one suspect hilus tuberculosis in children. It is generally of a short and barking nature and gives no apparent relief to the child. Night sweats as already noted may be of no diagnostic importance in this condition. Prominent veins in the chest, temples and neck are sometimes present and are due to pressure on the azygos vein and superior vena cava. Enlarged cervical glands are often seen in intra-thoracic gland disease. Conditions such as diseased tonsils, adenoids, and dental caries should be eliminated before a diagnosis is made. Supraclavicular glands which are said to be in direct communication with the tracheo-bronchial glands are often enlarged and give rise to the para-sternal dulness which is so often present.

In dealing with the physical signs, an important aid in the diagnosis is the direction of the tongue on protrusion. The writer has invariably found that in involvement of lung the tongue on protrusion is directed towards the affected side, whereas if lung involvement is not present the tongue assumes its normal position. In these cases also the nipple of the affected side is often markedly at a lower level than the normal side. The chest is usually long and narrow. Posteriorly the writer has noted that the vertebral border of the scapula of the affected side lies more vertically than that of the normal side.

The most useful sign in percussion in the writer's experience is the para vertebral dulness which is usually most marked between the/

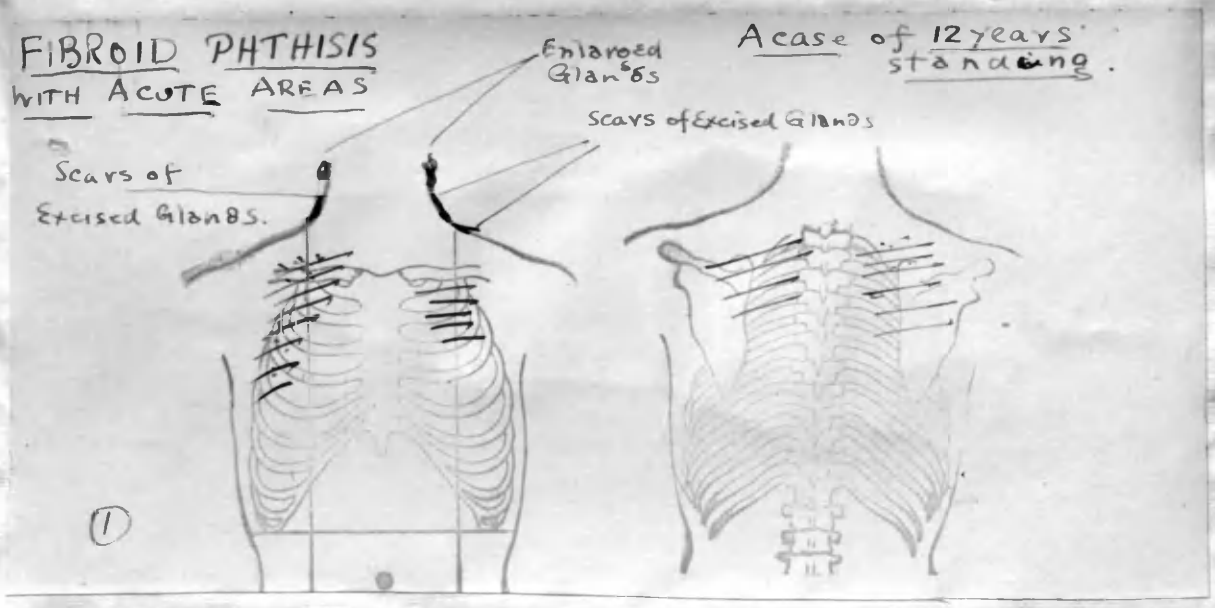
the first and fifth dorsal vertebrae. It is more common on the right side where impairment to percussion is often elicited. Parasternal dulness is also diagnostic of this condition. Auscultation in the writer's experience reveals very little except that the breath sounds are sometimes unduly loud. The so-called rales in hilus tuberculosis are not commonly met with and it is the writer's opinion that if these are present, acute mischief is invariably the cause. This is sometimes seen in younger children and may be confounded with Broncho-Pneumonia. In older children it is a more chronic disease. After 7 years of age apical tuberculosis similar to that in the adult may supervene.

Miliary tuberculosis may be present without signs or symptoms except that Xrays examination may reveal large numbers of small tubercles.

PERSONAL EXPERIENCE.

Descriptions of various cases with Charts,

Diagrams and Xray Photos.

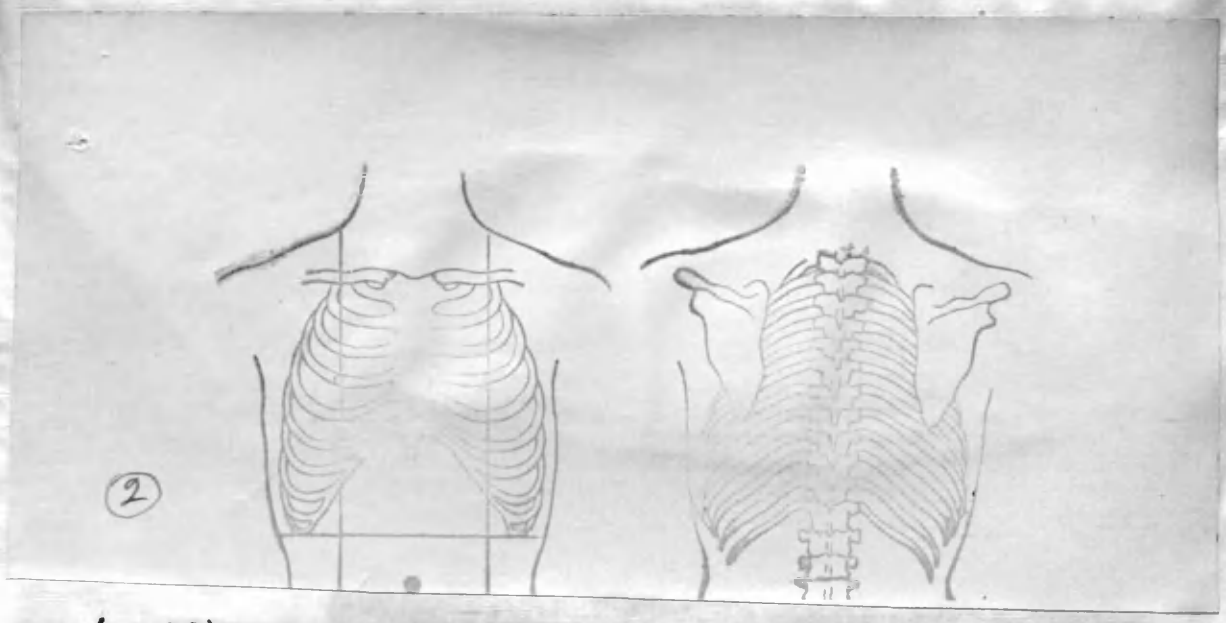


J.T. aet 44 years, a Research Chemist, in November, 1924, complained of pain in the left side of one week's duration, nausea, cough with slight spit.

He had always been subject to colds and in 1913 from Feb. to April was laid up with Pleurisy. Three weeks later he had a haemoptysis and was sent to a sanatorium, where he remained for three weeks. His sputum at this time contained Tubercle Bacilli. In August, 1913, he had another haemoptysis after weight lifting. He remained well and was at work till February, 1921, when he developed a swelling in the middle of the right thigh. This was aspirated and 4 oz. of Tubercular pus was evacuated. He enjoyed good health till his present illness in November, 1924.

On examination he presented a picture of Fibroid Phthisis. He was pale and very thin; the hair was abundant and brittle and the eyebrows were heavy. Enlarged glands in the neck were palpable and scars of excised glands were present in the neck. There was dulness on percussion over the left chest and at the right apex where moist crepitations were present on auscultation. His temperature ranged from 98 to 101°F. at 8 a.m. and rose to 103°F. at 4 p.m. This continued for three weeks, but after six weeks rest in bed and strapping of the left chest his temperature was normal. The sputum contained Tubercle Bacilli.

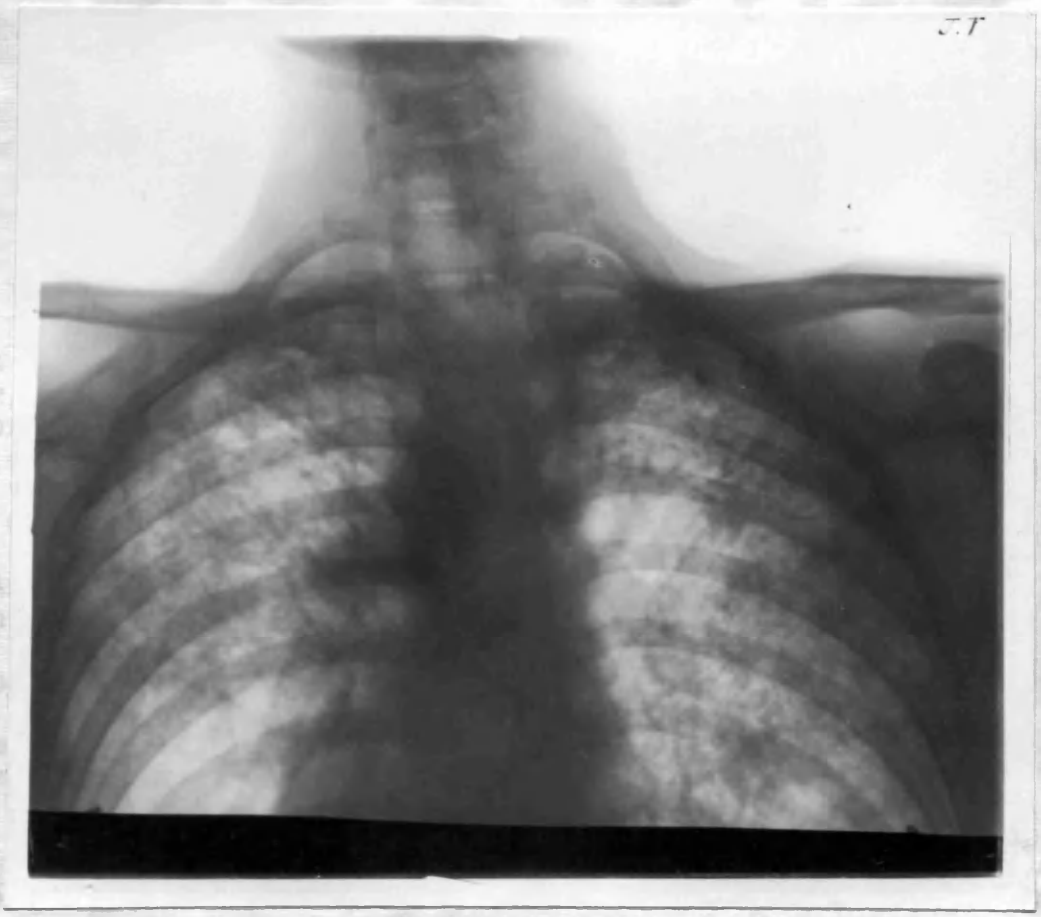
On examination on 29.1.25 crepitations were present at the right apex. He complained of great breathlessness and cough and spit had increased. He was Xrayed on 23.1.25 by Dr.F.L.Henderson, Glasgow, who reports "There is very widespread affection of both lungs. Tubercular disease has extended through almost the entire extent of both lungs. It is very largely fibrotic in character but/



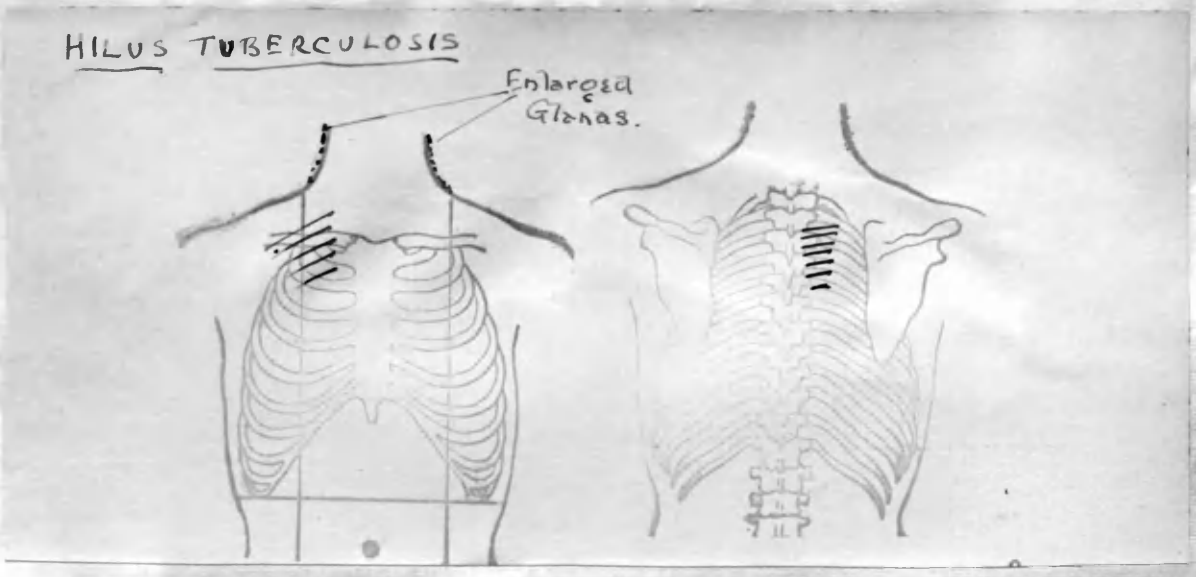
J.T.(contd).

but I should fear that there are certain acute areas. It is very hard to estimate how acute such a conditions is on one examination. Had I seen him this time only and known nothing about him I should have feared a fairly speedy ending, but as this has evidently gone on for a dozen years, I think the acute disease may settle down."

RADIOGRAM OF J.T ANTERIOR



RADIOGRAM OF J.T POSTERIOR.



L.B. aet 8 years, a schoolboy, was brought to the writer in December, 1924, by his mother who noticed that he had a short cough for two months. He had felt tired and sleepy for the past 14 days.

An aunt of the patient's had been under the care of the writer, suffering from Tuberculous Pneumonia and who is now well. An uncle also under the care of the writer died of Acute Phthisis with Tuberculous Laryngitis in 1922.

His grandfather, two aunts and two uncles died of Phthisis.

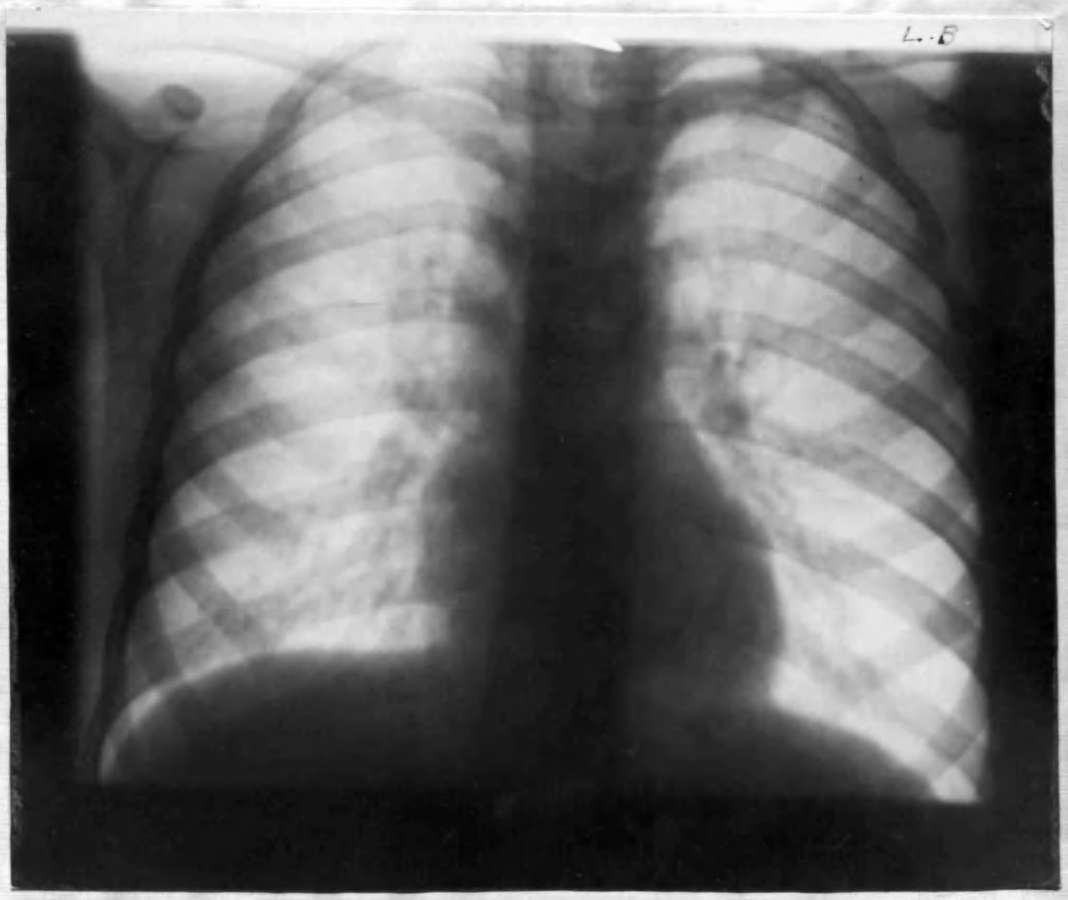
The patient had suffered from frequent colds in the head but otherwise had no past illness.

He was very pale, thin and tall for his years. His chest was long and narrow. The right nipple was at a lower level than the left nipple. The tongue on protrusion was deflected markedly to the right. Chains of small glands could be felt in the posterior triangles of the neck and one gland was felt in the right axilla. Myotatic irritability was marked.

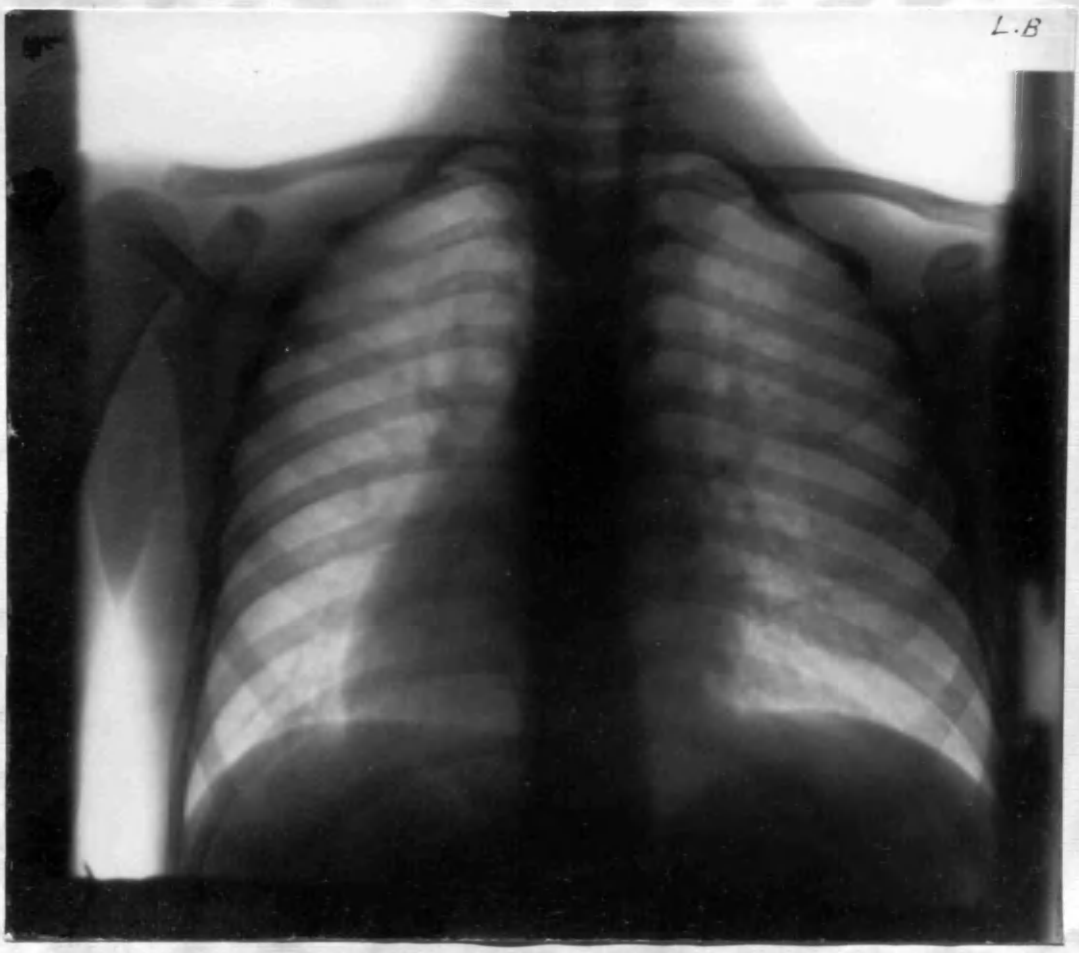
The right apex was dull to percussion and paravertebral dulness in the right side was present.

The breath sounds were unduly loud but no râles could be found on auscultation.

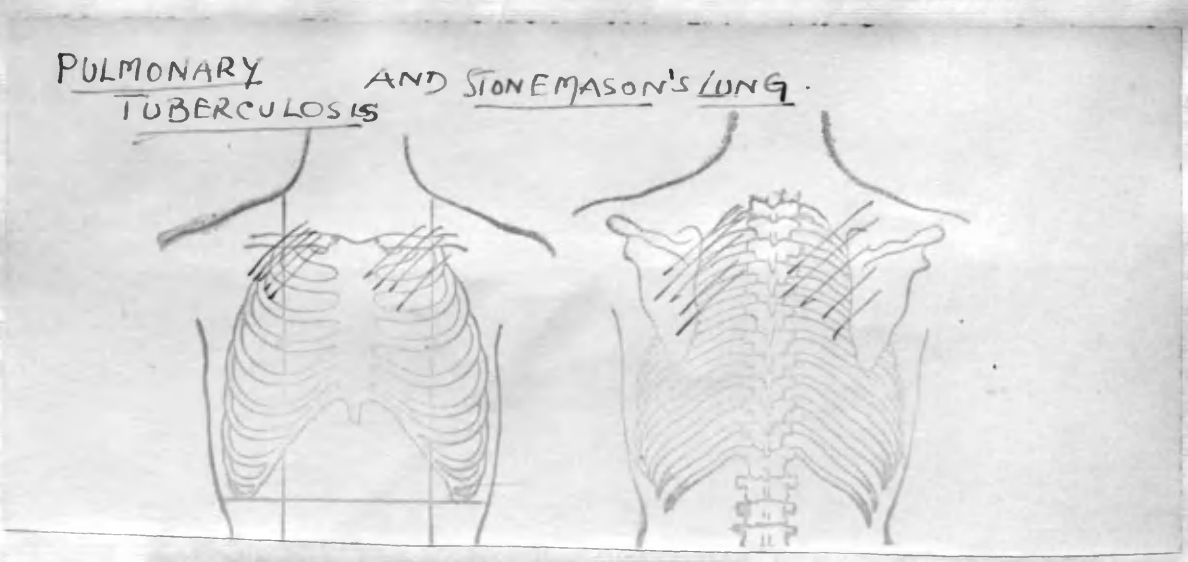
His chest was Xrayed by Dr.F.L.Henderson, Ruchill Hospital, Glasgow, who reports "There are a number of enlarged glands in both roots of the lungs and the mediastinal shadow is larger than normal. In a boy of his years we could not say that there is anything here indicative of an active tuberculosis." 23.1.25.



RADIOGRAM OF L.B ANTERIOR



RADIOGRAM of L.B. POSTERIOR.



R.C. aet 46, complained of general weakness and shortness of breath.

He had suffered from Silicosis in 1910.

His daughter A.C. suffered from Pulmonary Tuberculosis.

He was treated in Bellfield Sanatorium in 1914, where tubercle bacilli were found in his sputum.

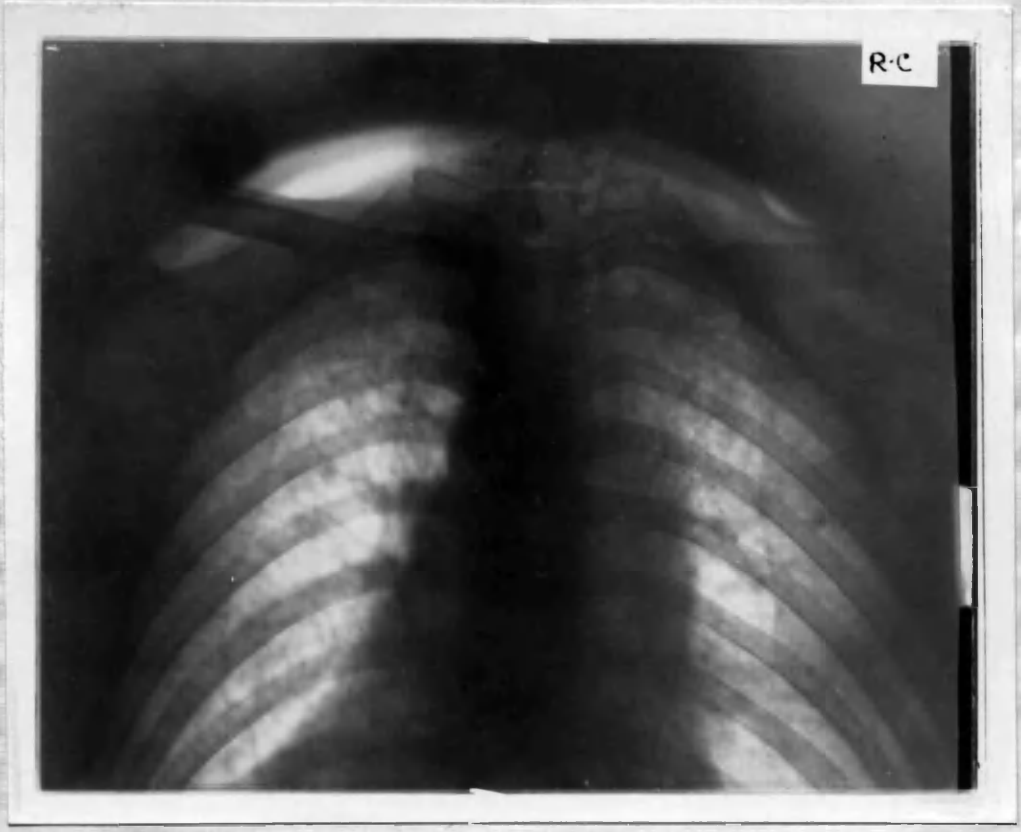
The patient was thin and showed signs of cyanosis.

Both apices were dull to percussion but no râles could be heard. There was diminished movement on the right side.

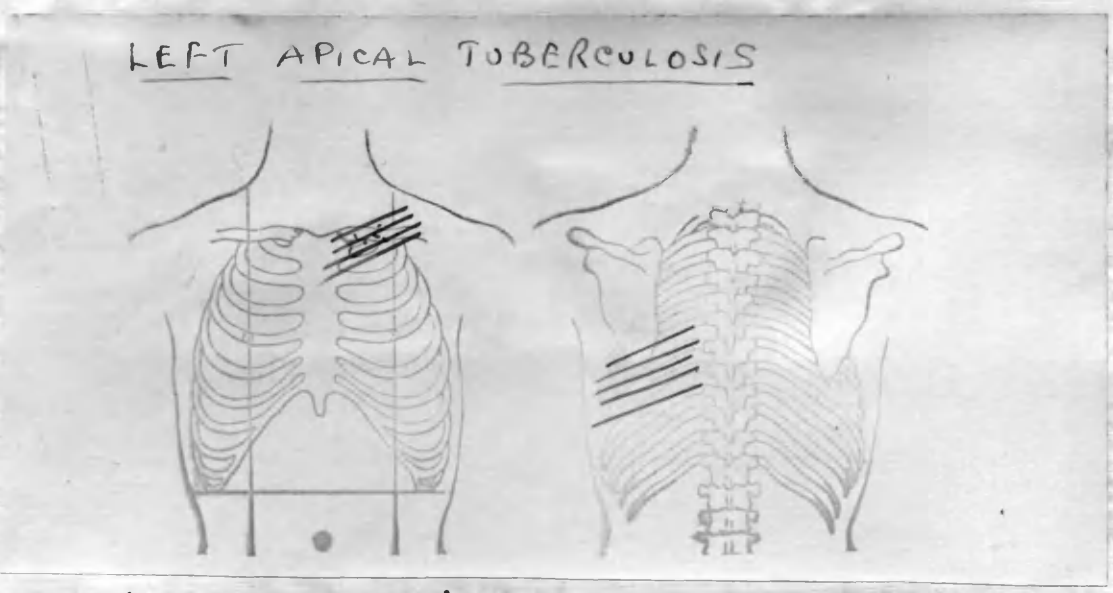
Xray Report by Dr.F.L.Henderson, Ruchill Hospital, Glasgow.

There is considerable mottling throughout both lungs. In a man who has been a stonemason it is difficult to say if any or all of the abnormal mottling seen is purely fibrotic. I am of opinion that from the apex to the level of the 2nd costal cartilage in both lungs the lesions are definitely tubercular. Below that level the mottling is such that it may be non-tubercular and due to his work.

RADIOGRAM OF R.C. ANTERIOR



RADIOGRAM of R.C. POSTERIOR



A.C. aet 22 years complained in August 1921 of feeling tired, and of cough and spit.

Previous Health: She had Influenza in 1920, after which she developed a cough and spit. Was treated in Bellfield Sanatorium in 1920.

Family History: Her father had Phthisis and stone mason's lung.

Present Condition: She was quite well till 1920 when she had Influenza, after which she developed a cough with spit, with loss of weight. She was easily tired and was sweating at night. The patient was thin and showed signs of cyanosis.

Physical Signs: The cheet was long and narrow, with some degree of lordosis, and showed marked lagging of left side on breathing. There was dulness at left apex with fine crepitations, and the note on percussion of left base was impaired. Tubercle Bacilli were found in the sputum.

She was admitted to a Sanatorium in August, 1921, where her temperature was never much above normal. She improved considerably. She has had several attacks of Pleuritic pain and on two occasions in 1923 she had haemoptysis.

She is at present (Jan.1925) well and acting as a Nurse in a Sanatorium. She was Xrayed on 14/12/23 by Dr.Henderson, Ruchill Hospital, Glasgow, who reports: Right Lung: "There is a very faint inter-lobar pleuritic thickening seen in anterior view."

Left Lung: "There is a lesion of the apex and extending down to the level of the first interspace, largely fibrosed now."

No. .....

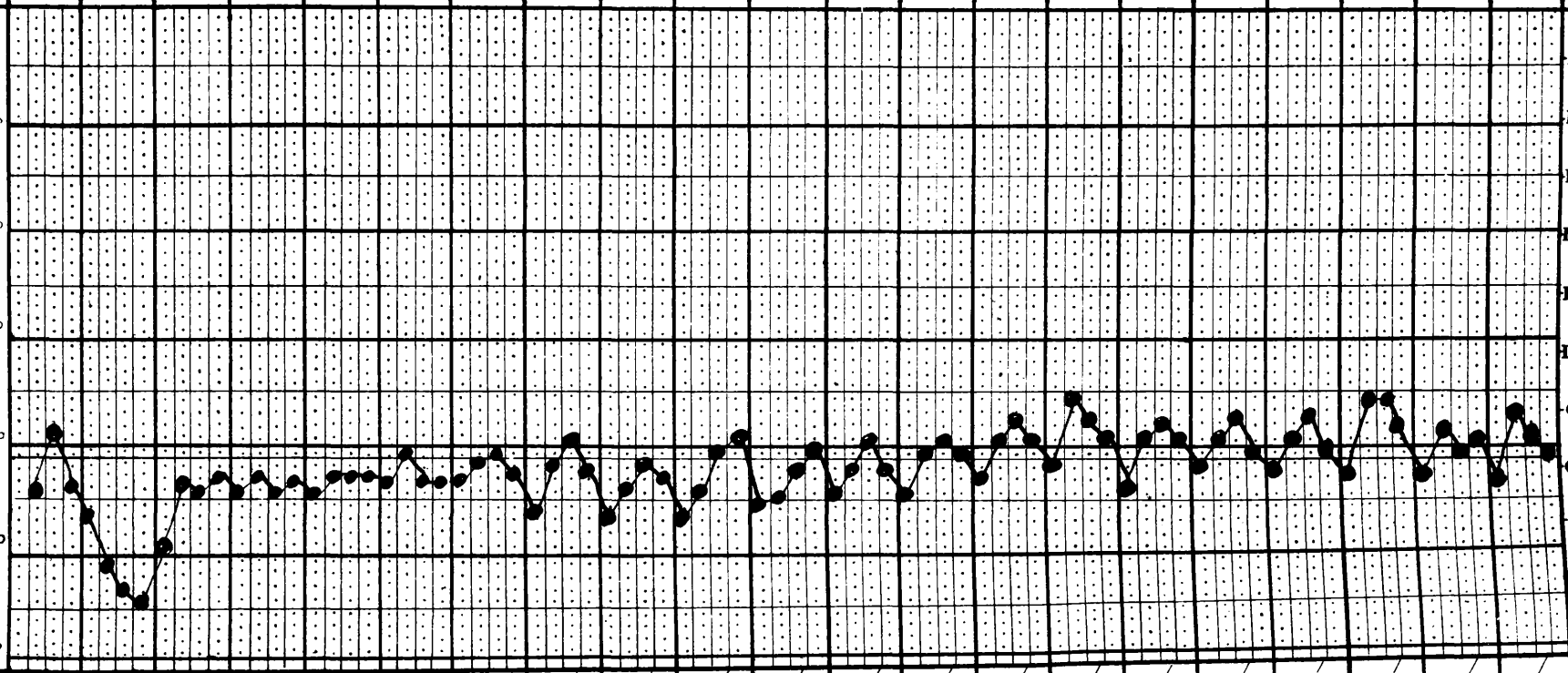
AYRSHIRE SANATORIUM

Name Cairns, Annie (August)

1921	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	DATE
C.	8 12 6 9	F.

41° 40° 39° 38° 37° 36° 35°

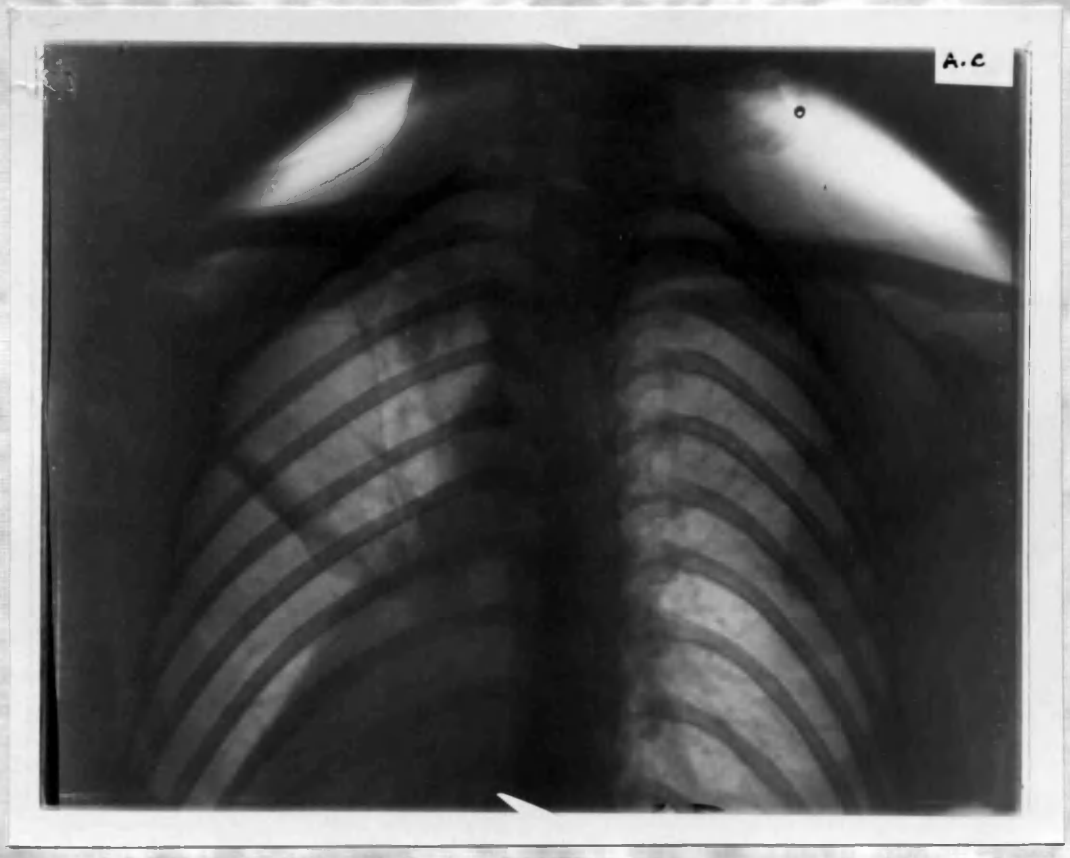
105° 104° 103° 102° 101° 100° 99° 98° 97° 96° 95°



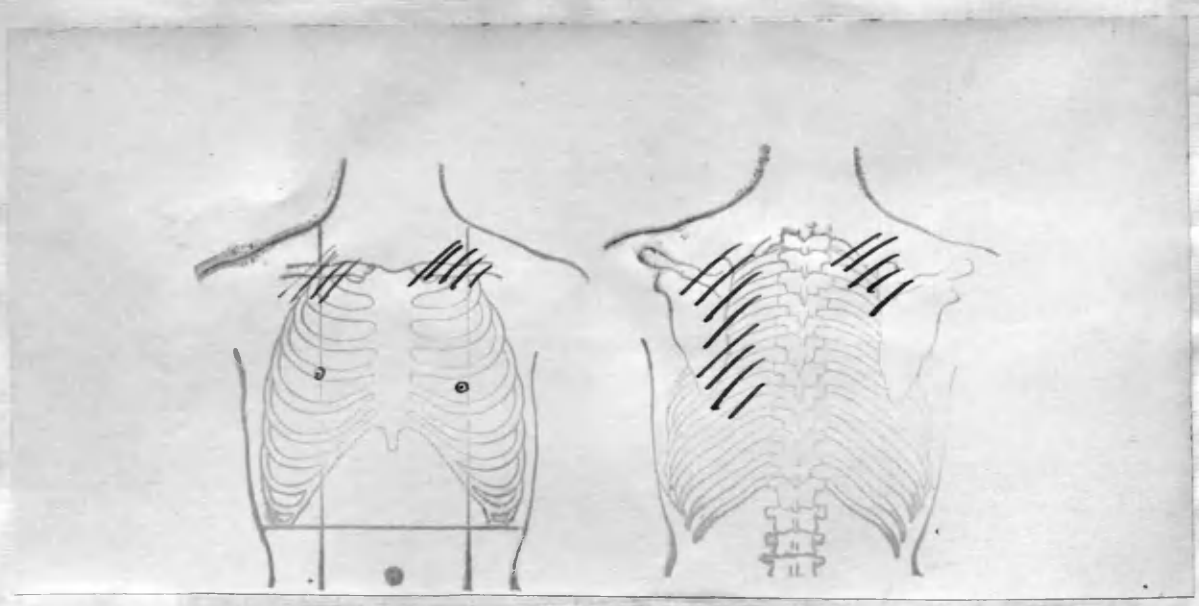
Resp.																						Resp.
Pulse																						Pulse
B.O.																						B.O.
Sput.																						Sput.
Wght.	Y/S H 10 1/4 lb						Y/S 12 3/4 lb						Y/S 13 lb							Y/S 13 1/4		Wght.
			M	M	M	M																

TUBERCLE BACILLI PRESENT

RADIOGRAM OF A·C. ANTERIOR



RADIOGRAM OF A.C. POSTERIOR



D.T.T. aet 27 years, a works chemist, complained on 8.7.24 of cough and spit and of getting thinner for the past eight months.

He had enjoyed good health except for Influenza in 1913 when he was laid up for 3 weeks. He was wounded in the Pelvis in the Great War in 1917. He had Pleurisy (left) in 1923 and was laid up for one month. Since then he had developed cough and spit, and was easily tired. He had frequent night sweating. There was no haemoptysis. The sputum examined by a Glasgow Bacteriologist was found to contain Tubercle Bacilli. His appetite remained excellent.

When first seen by the writer on 8.7.24 he was found to be very anaemic and thin. Both apices revealed dulness on percussion but no crepitations could be detected on auscultation which however revealed marked increase in Vocal Resonance over left apex. There was dulness over the whole of the left chest behind. He was sent to a sanatorium in 8.8.24 and was examined again by the writer while the patient was on leave on 39.12.24, when he was found to have a temperature of 102°F. The patient was walking about in this condition. Myotatic irritability was marked. The left nipple was at a lower level than the right. There was diminished movement of the left side. Whispered pectoriloquy was marked over both lungs. No râles could be found.

He was Xrayed, Oct. 14,1924, by Dr.F.L.Henderson for the Ministry of Pensions who reported that "both lungs showed extensive disease and active."

He is still at the sanatorium and running a temperature.

30.1.25.

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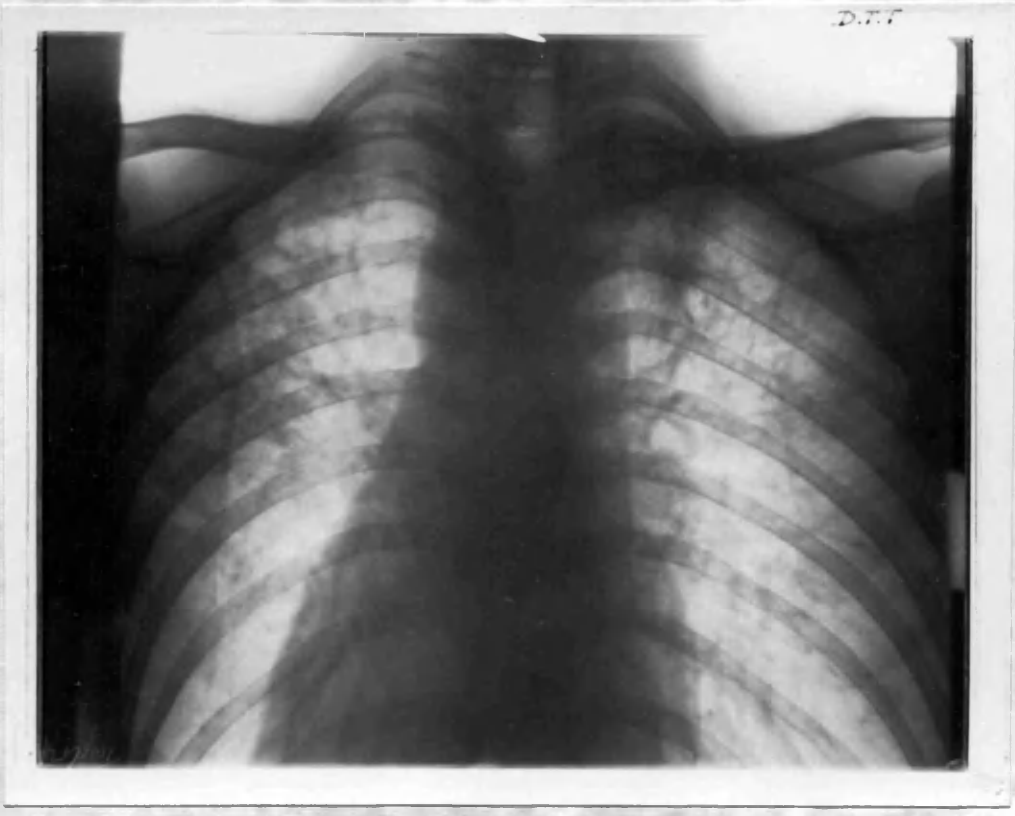
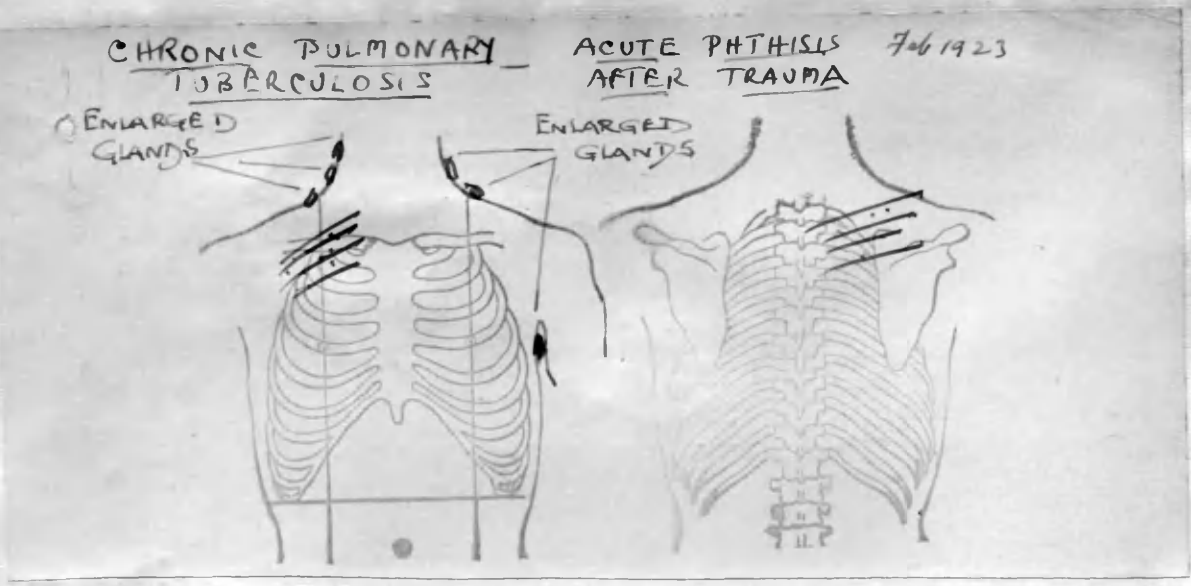
RADIOGRAM OF D.T.T ANTERIOR.



RADIOGRAM OF D.T.T POSTERIOR



A.G. aet 27, felt run down in December, 1921.

Previous Health: Measles in infancy.

Family History: There was no history of Tuberculosis.

Present Condition: She was feeling well till January, 1923, when she felt a pain in the right chest and she spat up several mouthfuls of blood. She then developed a cough and spit which contained on examination Tubercle Bacilli. She remained in bed for one month when she was admitted to a Sanatorium where she improved slowly. In August, 1923, she came home and developed a pleurisy of the right side. She improved so much after this that she was able to resume work as a typist in a factory. She had increased her weight by 17 lbs. Three months later while leaving the factory she received a blow on the back which caused an immediate large haemoptysis followed by a rapid advance of the disease in her lungs and she died in June, 1924.

Physical Signs: She had enlarged glands of neck and axilla from first time of examination. After her initial haemoptysis she had dulness of right apex and fine crepitations. Ultimately both lungs became involved.

Xrayed on 30.11.23 by Dr.F.L.Henderson, Ruchill Hospital, Glasgow, who reports: Screen Examination: Right Lung: opacity in upper 1/3 of lung.

Diaphragm moves well.

Left Lung: No abnormality.

Radiogram: Right Lung: "There is a very dense opacity in the upper part of the lung which is limited below by an unilobar pleuritic/

No. .....

AYRSHIRE SANATORIUM

Name Greig, Agnes. February. March.

1923	19	20	21	22	23	24	25	26	27	28	1	2	3	4	5	6	7	8	9	10	11	DATE
C.	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	F.

41° 40° 39° 38° 37° 36° 35°

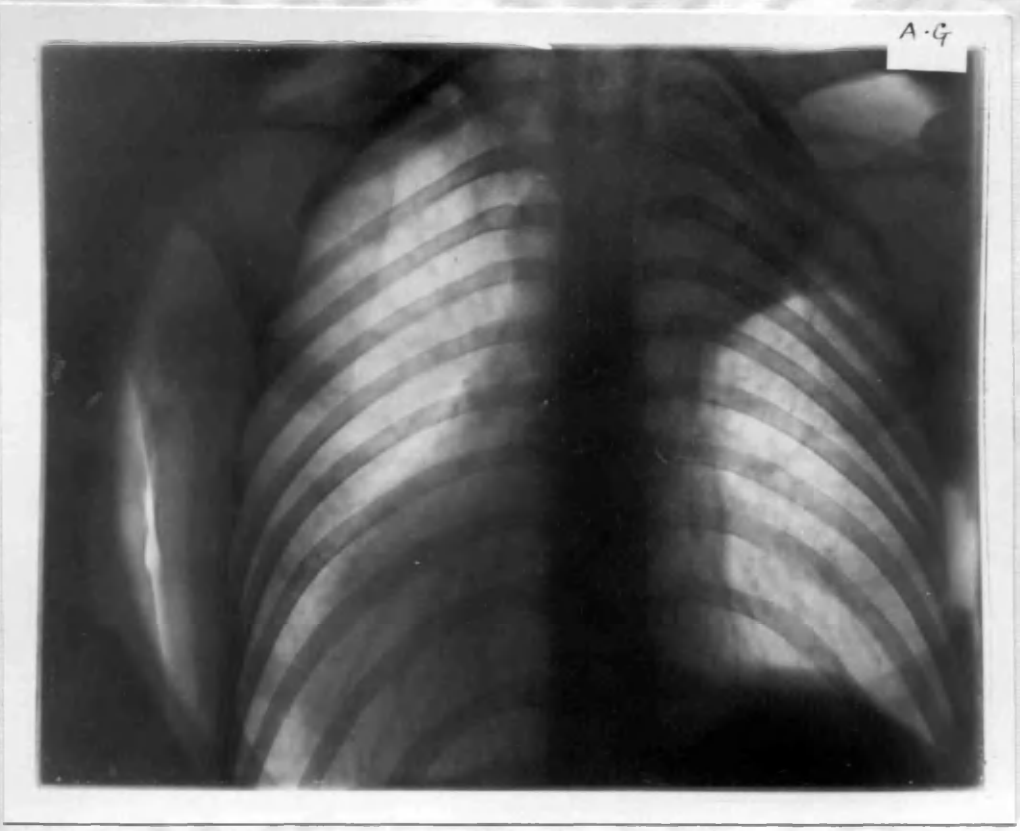
105° 104° 103° 102° 101° 100° 99° 98° 97° 96° 95°

Resp.																						Resp.
Pulse																						Pulse
B.O.																						B.O.
Sput.																						Sput.
Wght.	7st.	7/10							7st-8	8/4lb					7st	11¼	lb					Wght

M M M M

TUBERCLE BACILLI PRESENT

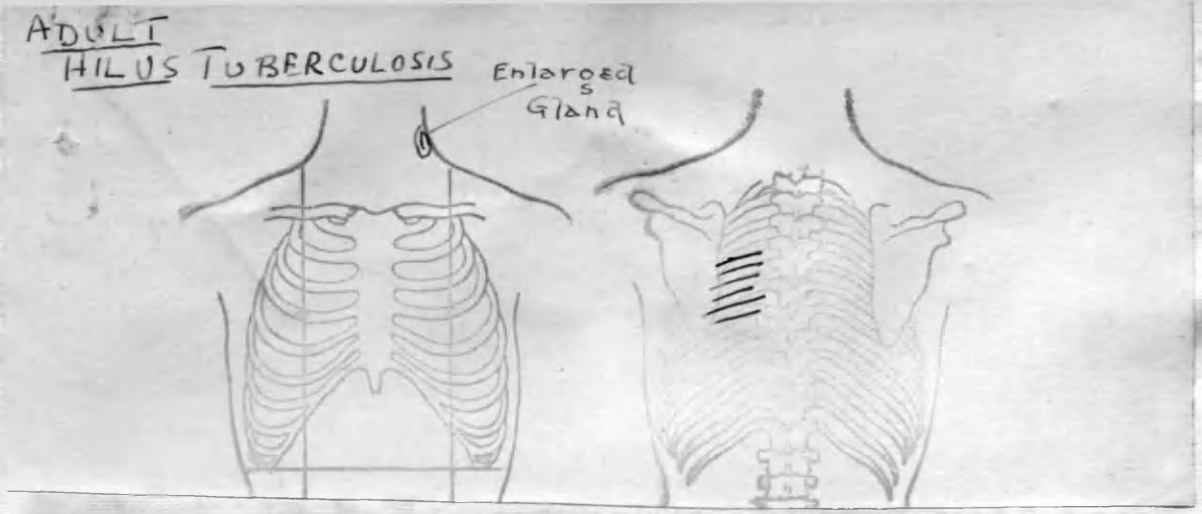
RADIOGRAM OF A.G. ANTERIOR



RADIOGRAM OF A·G POSTERIOR

RADIOGRAM OF A·G LATERAL

SHOWING CERVICAL GLANDS



Mrs.M.L. aetat 30 years, in April, 1923, complained of cough and spit, loss of weight and loss of appetite.

Her illness began in June, 1920. While at work in a mill she was seized with pain in the left chest. She noticed that shortly after this she began to sweat at night. The pain subsided in a few days but she was so easily tired that she had to stop her work.

She was Xrayed at the Western Infirmary in 1921, but no sign of Tuberculous disease could be detected in the lungs.

In April, 1923, when she consulted the writer, she had a troublesome cough with spit. She was getting thinner and her appetite was impaired. Tubercle Bacilli were found in the sputum.

This patient on inspection gave one an impression of caseous tuberculosis of lung. Her complexion was pale, the skin and hair presented an oily appearance, but apart from an enlarged gland in the neck and some dulness at the left inter-scapular region there was no evidence of tuberculosis. She was treated in a Sanatorium where she made rapid progress and at the present day, almost two years after admission, she is well and doing her housework. She was Xrayed by Dr.F.L.Henderson, Glasgow, who reports

"There are <u>enlarged glands</u> on <u>both sides</u> but no Xray evidence of lung Tuberculosis. Cervical rib on both sides present."

No. .....

AYRSHIRE SANATORIUM

Name Lusk, Mrs.

	June										July						August					
1923	16	17	18	19	20	21	22	23	24		16	17	18	19	20	21	15	16	17	18	19	DATE
C.	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	F.
41°																						105°
40°																						104°
39°																						103°
38°																						102°
37°																						101°
36°																						100°
35°																						99°
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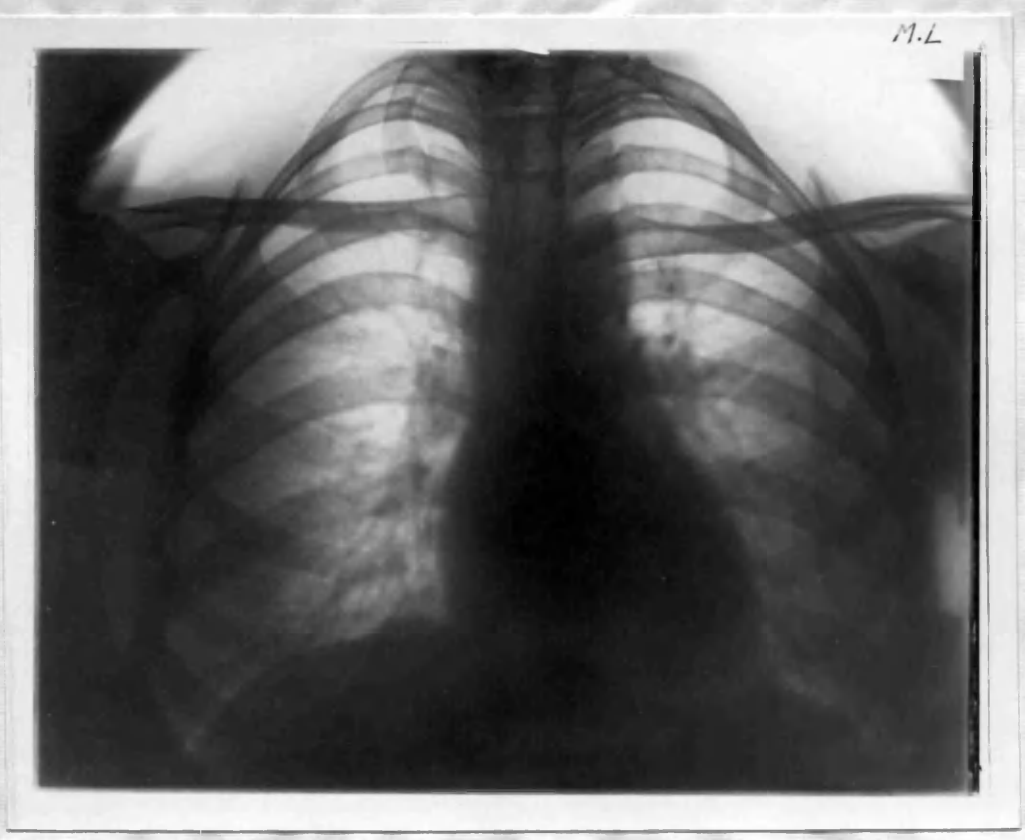
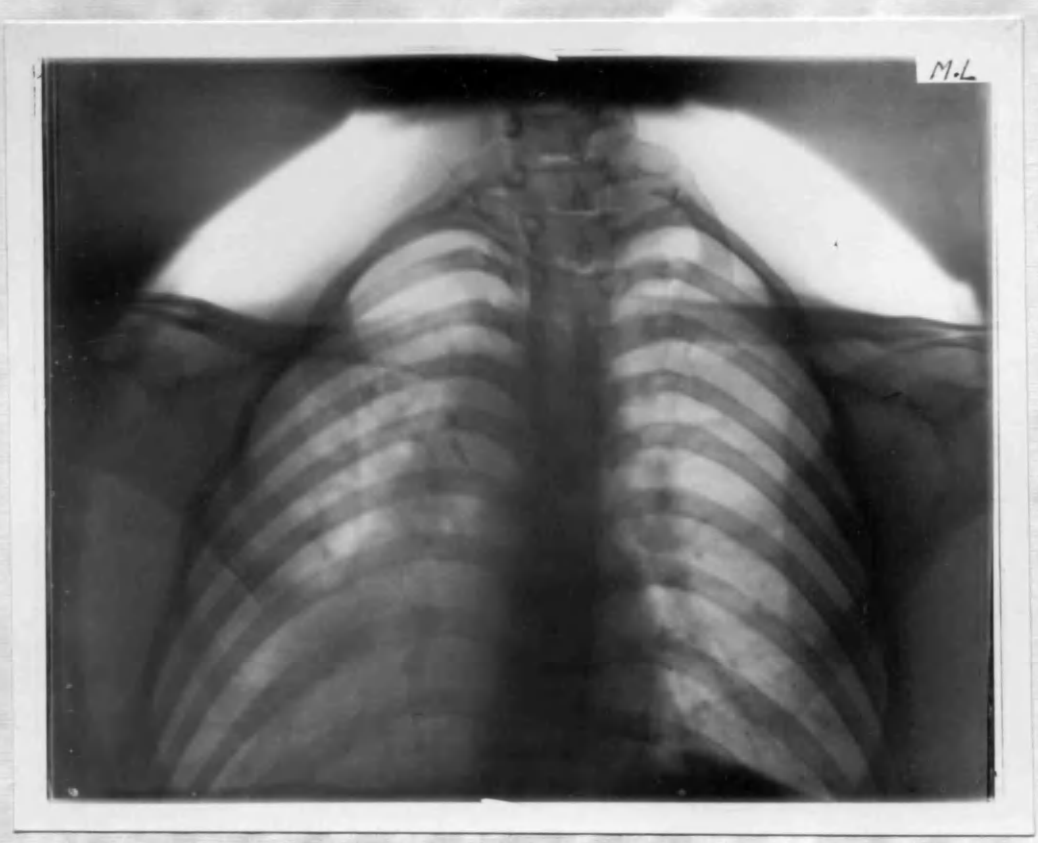
																						95°
Resp.																						Resp.
Pulse																						Pulse
B.O.																						B.O.
Sput.																						Sput.
Wght.	9st 12lb										8st 5lb								9st 4 lb.			Wght

TUBERCLE BACILLI FREQUENT

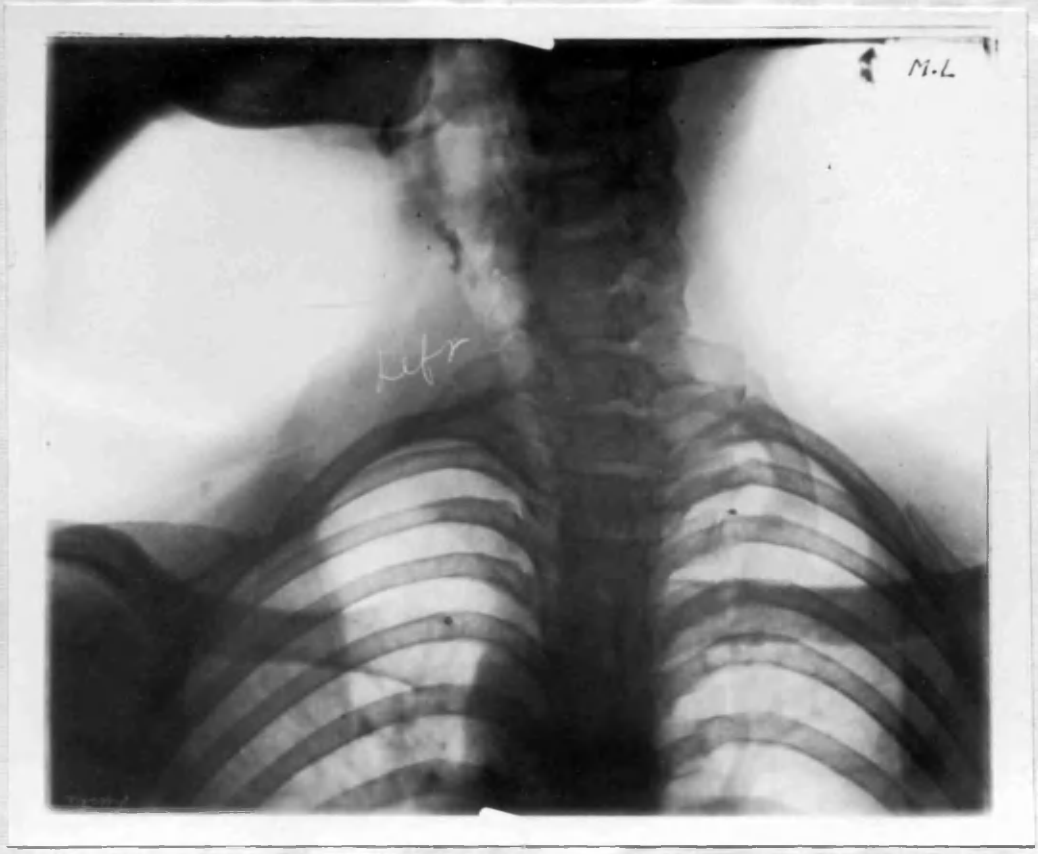
M M



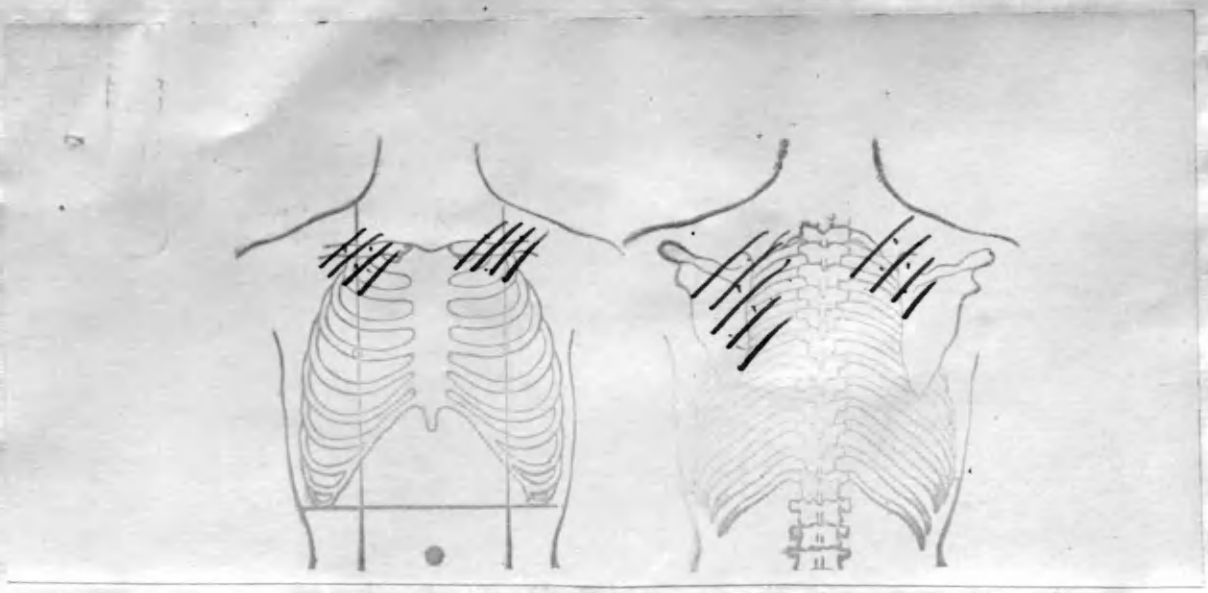
RADIOGRAM OF M.L ANTERIOR.



RADIOGRAM OF M. L. POSTERIOR.



RADIOGRAM OF M.L LATERAL



J.C. aet 23, was demobilised from the Navy in January, 1919, and at the end of that month complained of cough, spit and loss of appetite, but continued at his work.

In March, 1919, he had several small haemoptyses and was sweating at night. In July, 1919, he was said to have Bronchial Catarrh.

When seen by the writer in October, 1920, he was found to be suffering from Apical Tuberculosis. Tubercle Bacilli were found in the sputum. He was treated in a Sanatorium and improved, but on his return home he refused to carry out the necessary domiciliary treatment and steadily the disease became advanced and he died in September, 1922.

This man was refused a pension because he was declared non.Tuberculous shortly after demobilisation, and this no doubt hastened his end.

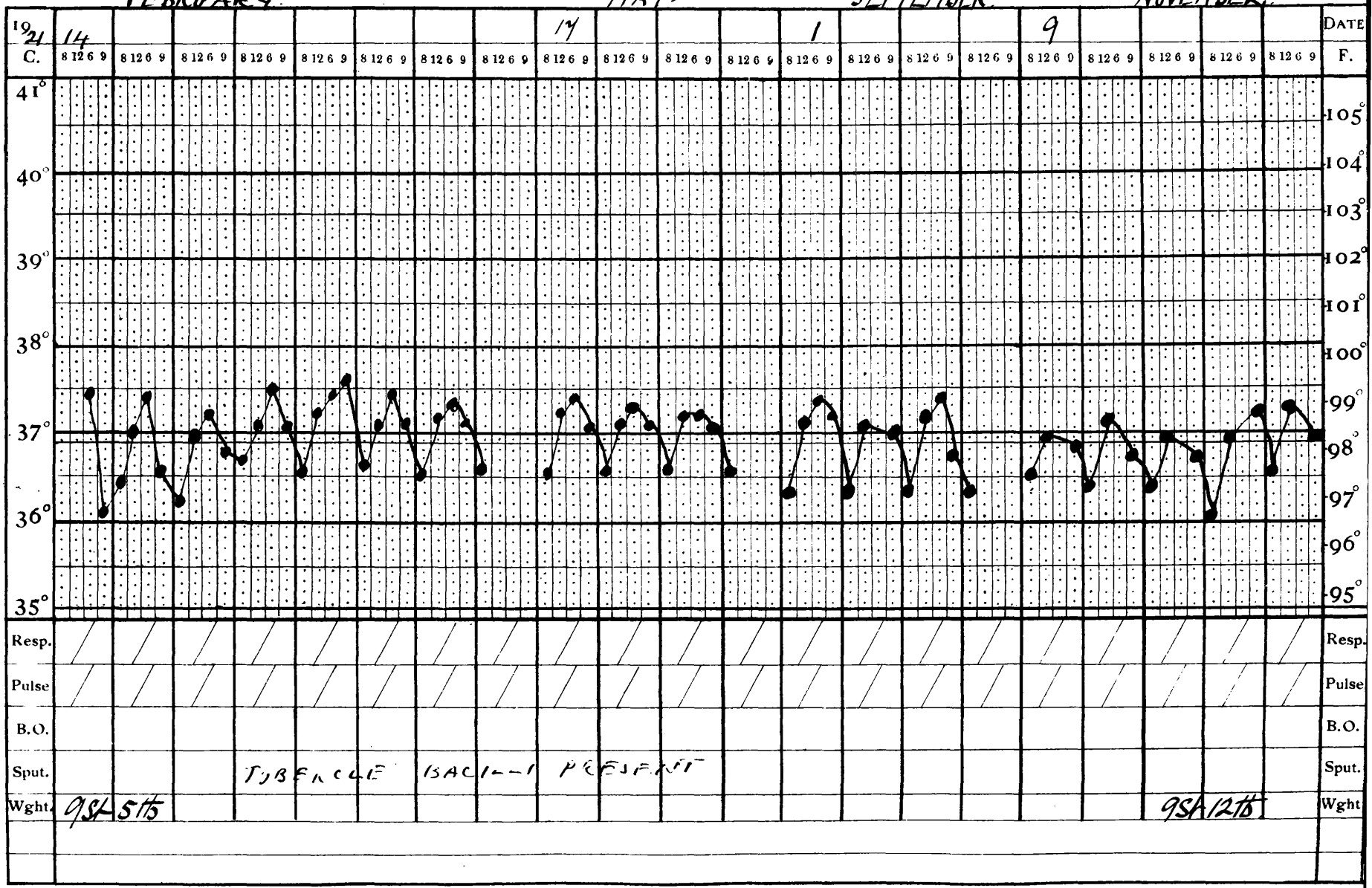
Obviously he was suffering from Tuberculosis on demobilisation.

No. .....

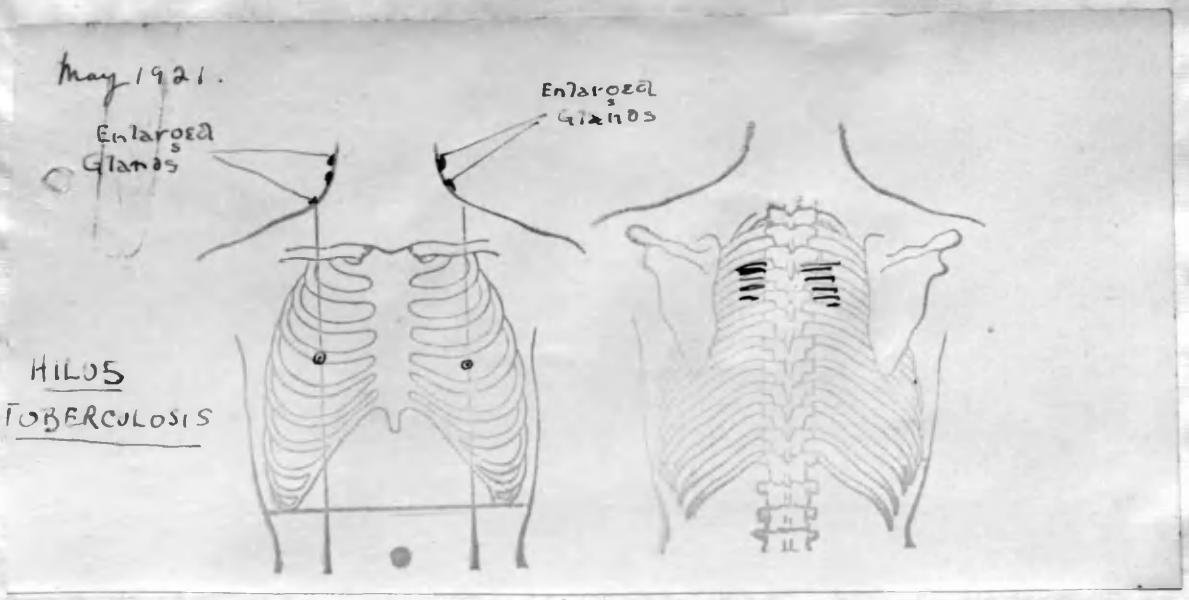
AYRSHIRE SANATORIUM

Name Cherry James

FEBRUARY. MAY. SEPTEMBER NOVEMBER.



The author is of opinion that the above temperature is not the true one.



J.McD. aetat 10 years, a schoolgirl, complained in May, 1921, of cough, loss of appetite and of losing flesh, of three weeks' duration.

Previous Health: She had measles in infancy, broncho-pneumonia, 1920.

Family History: There was no history of Tuberculosis.

Present Condition: She was in good health till two years when she had Influenza: since then her mother noticed that she was always very pale and did not incline to play outside with her companions as formerly but rather preferring to remain indoors. She became thin and was growing very tall for her age. She was sweating at night. Her cough was short and gave no apparent relief. She had no spit. There was no history of Pleurisy.

Physical Signs: She was tall and thin; the chest was long and narrow. Enlarged cervical glands were present on both sides. The tongue on protrusion showed no deviation, but there was some lagging of the left chest and the nipple was at a lower level than on the right side. There was paravertebral dulness present. Auscultation revealed nothing abnormal.

She received sanatorium treatment for five months and was much improved.

May, 1924: had left the district but was keeping well.

No. .....

AYRSHIRE SANATORIUM

Name MacDougall, Janet

June — July — September

1921	18	19	20	21	22	23	24	21	22	23	24	25	26	27		27						DATE
C.	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	F.
41°																						105°
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38°																						102°
37°																						101°
36°																						100°
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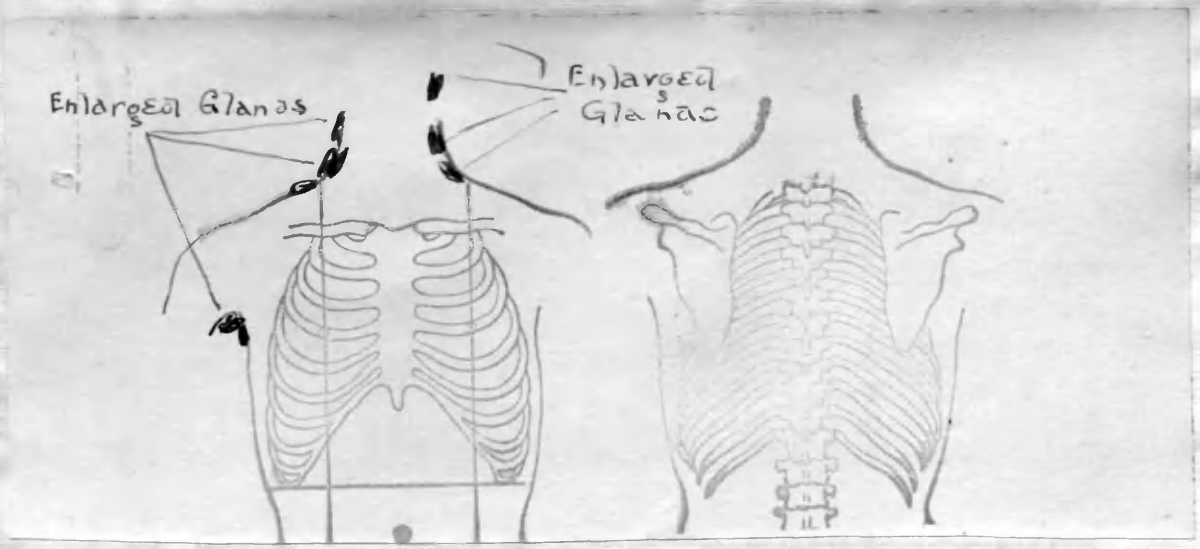
Resp.																						Resp.
Pulse																						Pulse
B.O.																						B.O.
Sput.																						Sput.
Wght.	4st 7 1/2							4st 11 1/4								5 st 4 lb						Wght.

VON PIRQUET +



A.J. aet 14 years in March, 1922, complained of loss of appetite, loss of weight and a listless feeling.

She had measles and whooping cough in infancy, congestion of the lungs at 3½ years and Tuberculous dactylitis at 7 years of age, followed by enlargement of cervical and axillary glands.

When seen by the writer in March, 1922, there were present enlarged and caseating glands of the neck and axilla. The patient was very anaemic. There were no physical signs in the chest. The glands were aspirated and she was treated at a Sanatorium where she gained two stones in weight and improved generally.

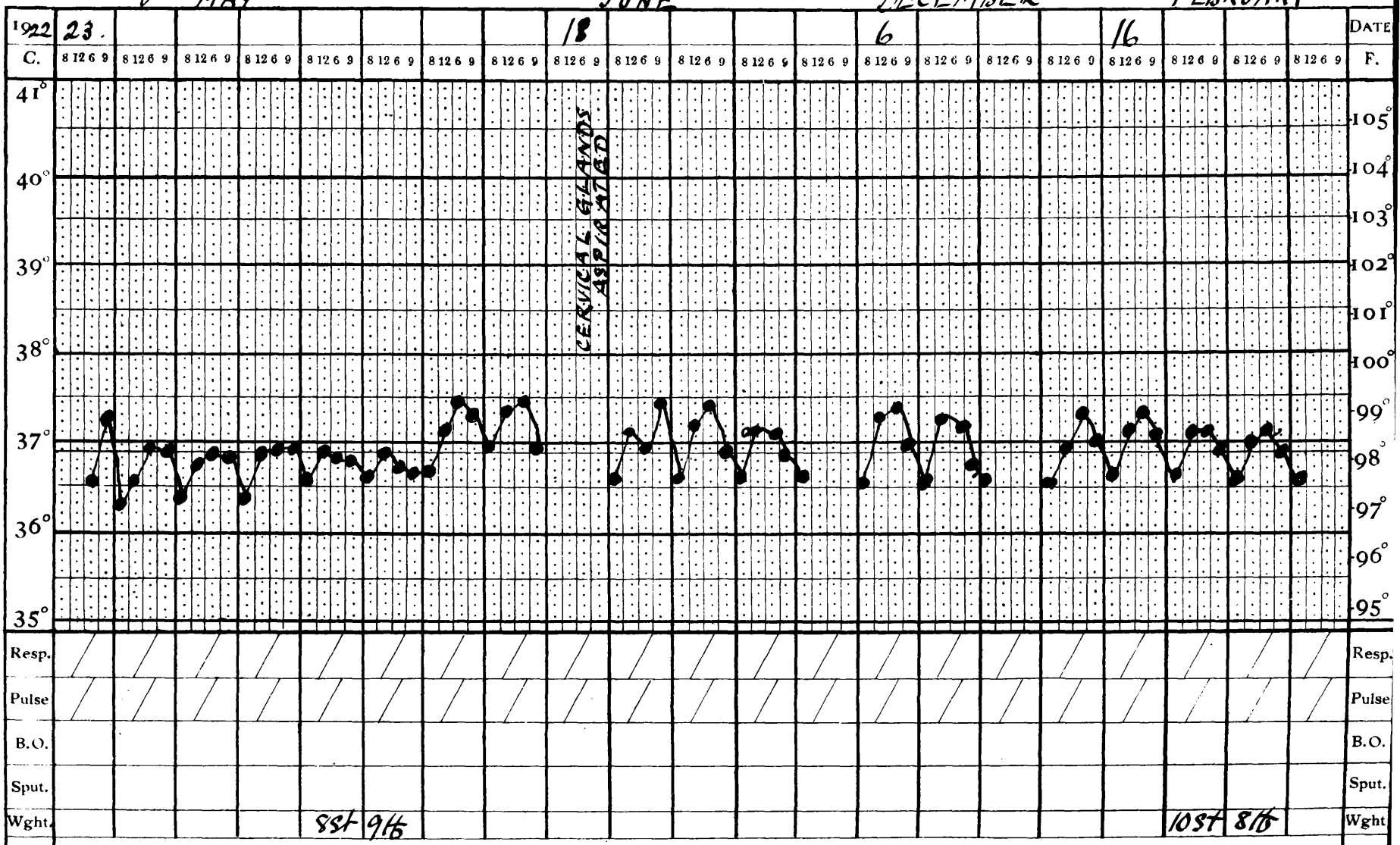
She remained well till April, 1924, when she had Lobar Pneumonia (Left). Three months later she began to lose weight and felt a pain in the right chest. She had some cough and spit and several small haemoptyses. She was kept in bed till admitted to a Sanatorium where she is still confined to bed with a temperature of 38°C. in the morning.
(1.2.25).

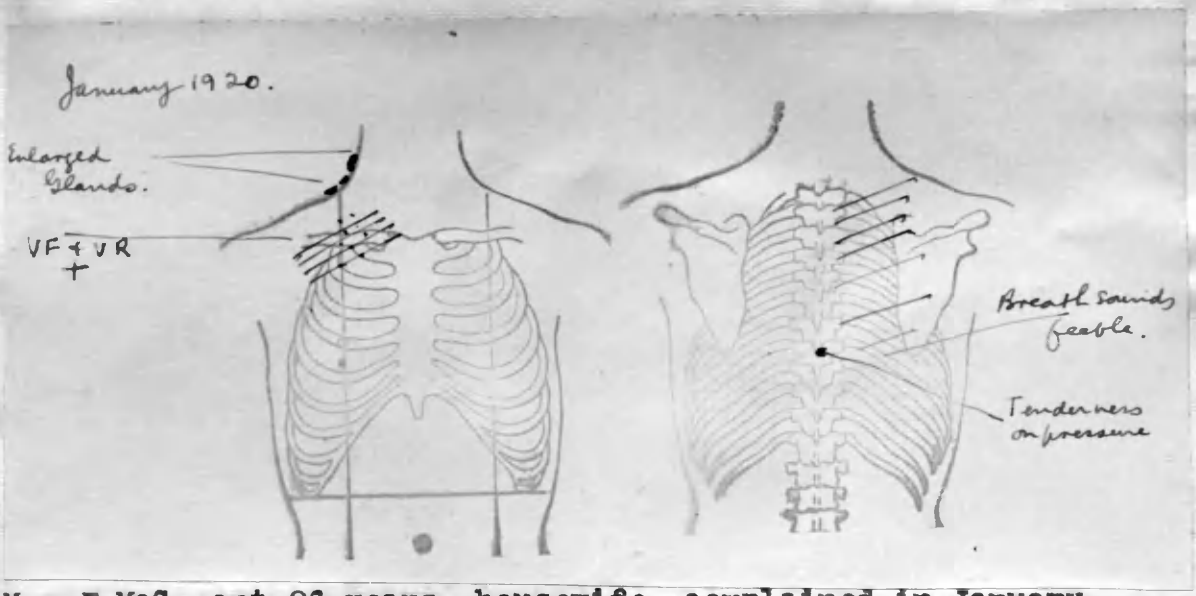
No. .....

AYRSHIRE SANATORIUM

Name Johnstone, Agnes

MAY JUNE DECEMBER FEBRUARY





Mrs.E.McC. aet 26 years, housewife, complained in January, 1920 of spitting of blood, and loss of appetite.

Previous Health: She had measles and whooping cough in infancy, and scarlet fever at age of 6 years.

She had enlarged glands of neck at the age of 19 years, spinal disease at the age of 21 years, and bronchial catarrh at 22 years of age.

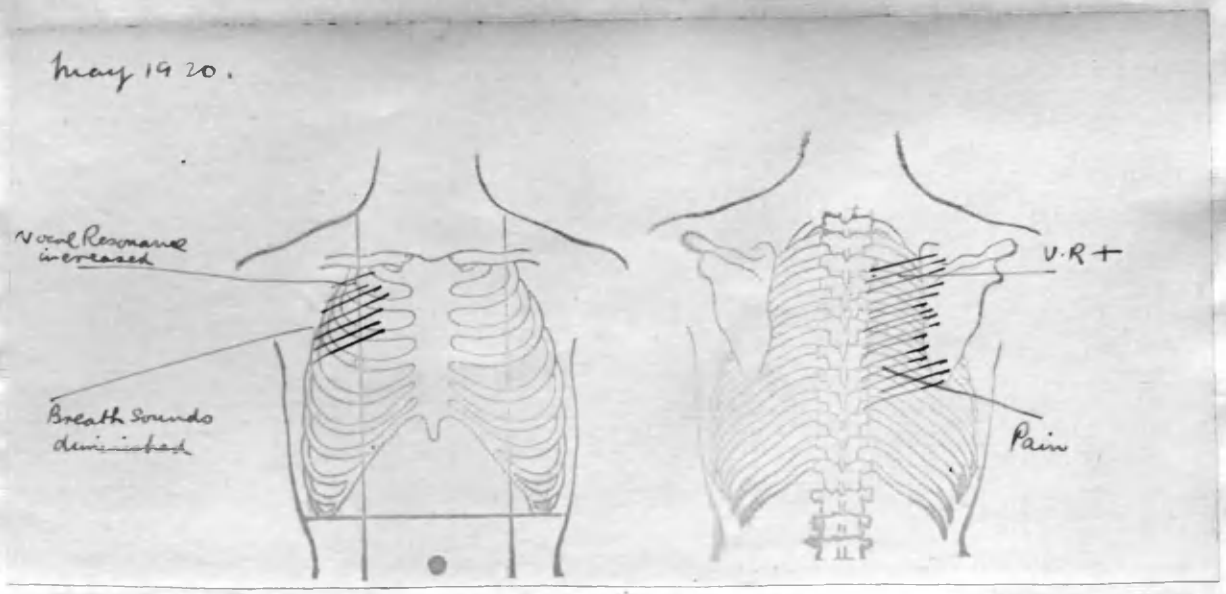
Family History: There was no history of Tuberculosis.

Present Condition: In July, 1919, she had catarrh of stomach and felt run down in health. Two months later she developed a cough and spit and suffered from night sweats which still persist. In January, 1920, after coughing she brought up a mouthful of blood. There was no history of Pleurisy.

Physical Examination: Patient thin and showed malar flushing. Enlarged glands on right side of neck were palpable. Dulness on percussion over night with fine crepitations which were present over 2 months after haemoptysis. Breath sounds were feeble at right base suggestive of a possible old pleurisy. Increased vocal fremitus and vocal resonance present over right apex. Tenderness over 8th dorsal spine.

Received Sanatorium treatment for eight months and in January, 1921, gave birth to a child after which she was carefully watched for some months and again received further Sanatorium treatment.

1924: She was well although thin and rather breathless on much exertion.



Mrs. M. W. aet 42, a housewife, complained in May, 1920, of pain in the right chest, general weakness, loss of flesh, shortness of breath and night sweating.

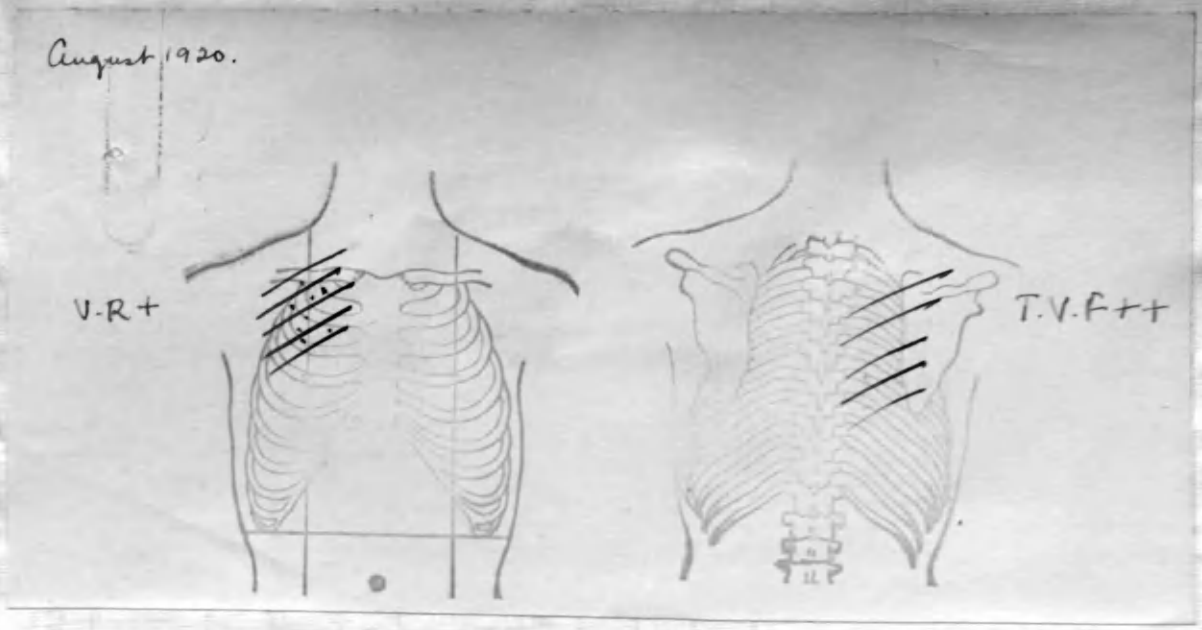
Previous Health: She had Bronchitis in infancy, measles, whooping cough and scarlet fever. She had Pleurisy of right side in February, 1919.

Family History: There was no history of Tuberculosis.

Physical Signs: The complexion was fine with distinct malar flush. There was diminished movement of the right chest, and dulness to percussion anteriorly and posteriorly on right chest, and feeble breath sounds at right base. Vocal resonance was increased just above the dull area.

Was treated in Glenafton Sanatorium for nearly one year with marked benefit.

She has remained perfectly well since and on 12.1.25 was quite well and able for her housework as well as looking after a small shop.



R.O. aet 26, analytical chemist, complained in July, 1920, of having coughed up some blood.

Previous Health: measles and scarlet fever at 10 years of age. Influenza, 1918.

Family History: No history of Tuberculosis.

Present Condition: He had never felt his usual since he had Influenza in 1918 and began to feel tired and run down in May, 1920, and at this time felt a pain in the back, but there was no history of Pleurisy. Cough was present in the morning but the sputum was scanty. It however was examined in July, 1920, and found to contain Tubercle Bacilli, which continued to be present till February, 1921. Night sweating was not present.

Physical Signs: He was well built and showed no marked sign of Tuberculosis on Inspection. The right apex however was found to be dull on percussion and Vocal Fremitus markedly increased behind. Fine crepitations were found at the right apex.

Temperature 37.2°C. Von Pirquet positive 24.8.20 and on 12.12.20.

This patient gained one stone in 7 months treatment in a Sanatorium.

He was well and working in England in December, 1924.

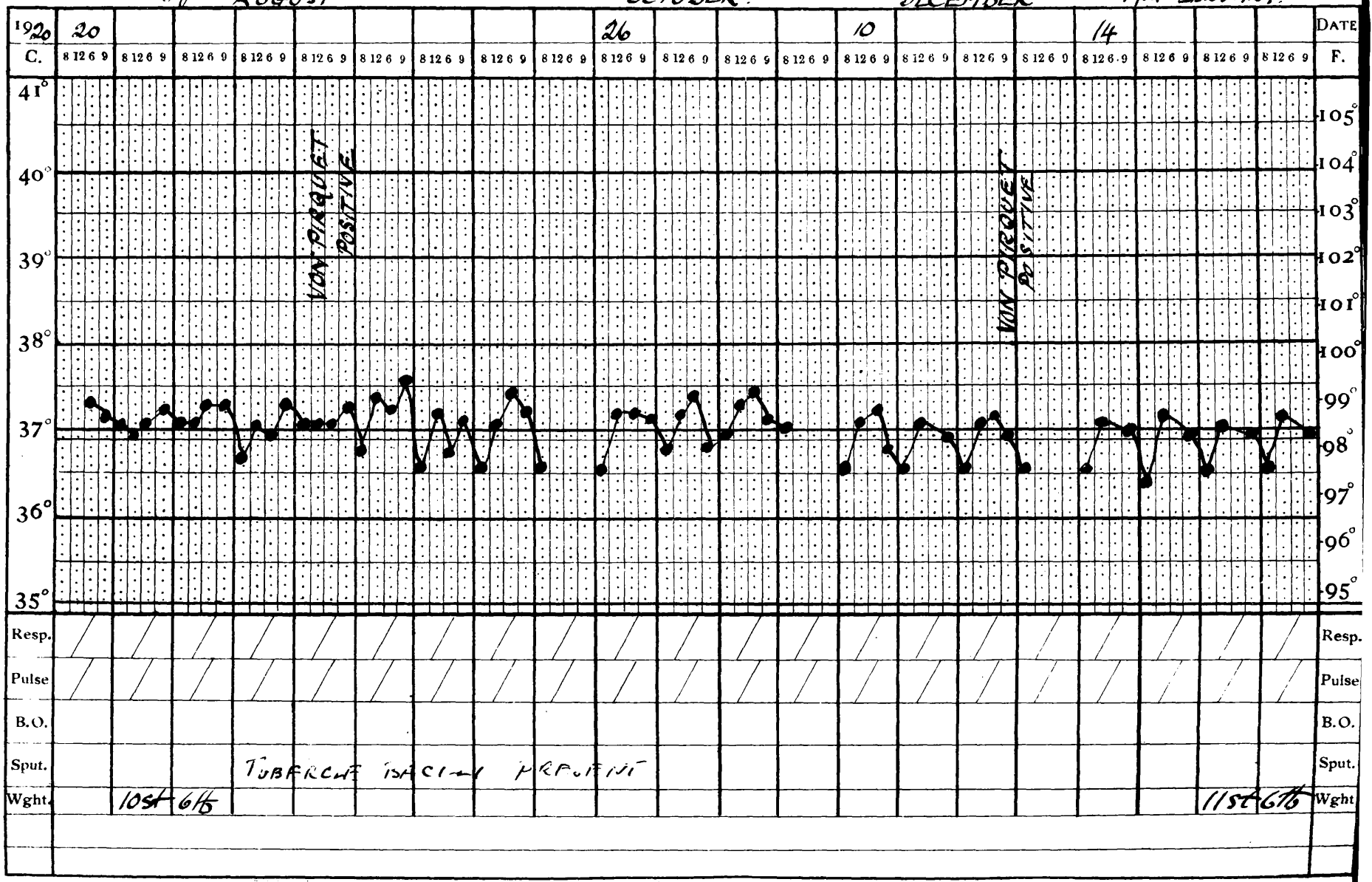
January, 1925, was ill and in bed with temperature, cough and spit and loss of weight.

No. .....

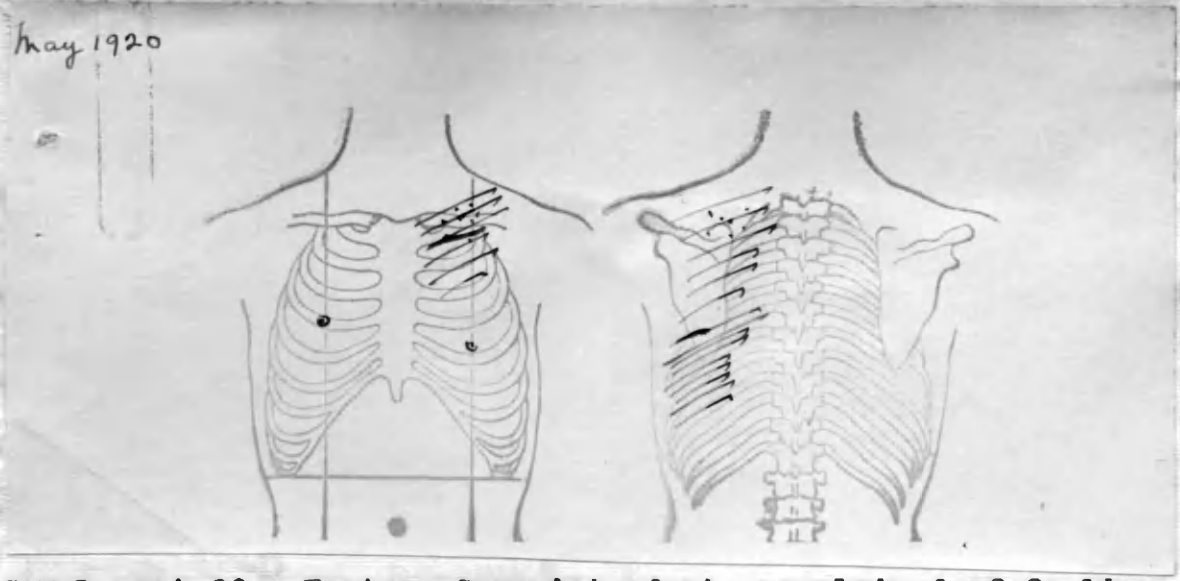
AYRSHIRE SANATORIUM

Name Ogg, Robert

AUGUST — OCTOBER — DECEMBER — 1921 FEBRUARY



May 1920



S.McL. aet 26, Factory Superintendent, complained of feeling tired and run down in May, 1920.

Previous Health: She had measles in infancy, pleurisy (left) at age of 10 years.

Family History: No history of Tuberculosis.

Present Condition: Felt quite well till May, 1920, when she felt she could not do her work without feeling very tired. She had occasional attacks of vomiting and later developed a cough but had no spit. She had some pain in the left side, was short of breath and was losing flesh. She had occasional night sweats.

Physical Signs: She was tall and thin and anaemic; the arms and back had a downy appearance. The chest was markedly long and narrow with the left breast at a lower level than right. The left chest showed diminished movement. Dulness to percussion was elicited over left chest and some fine crepitations were heard at the left apex where vocal fremitus and vocal resonance were increased. At the left base dulness to percussion was found and the breath sounds at this area were feeble.

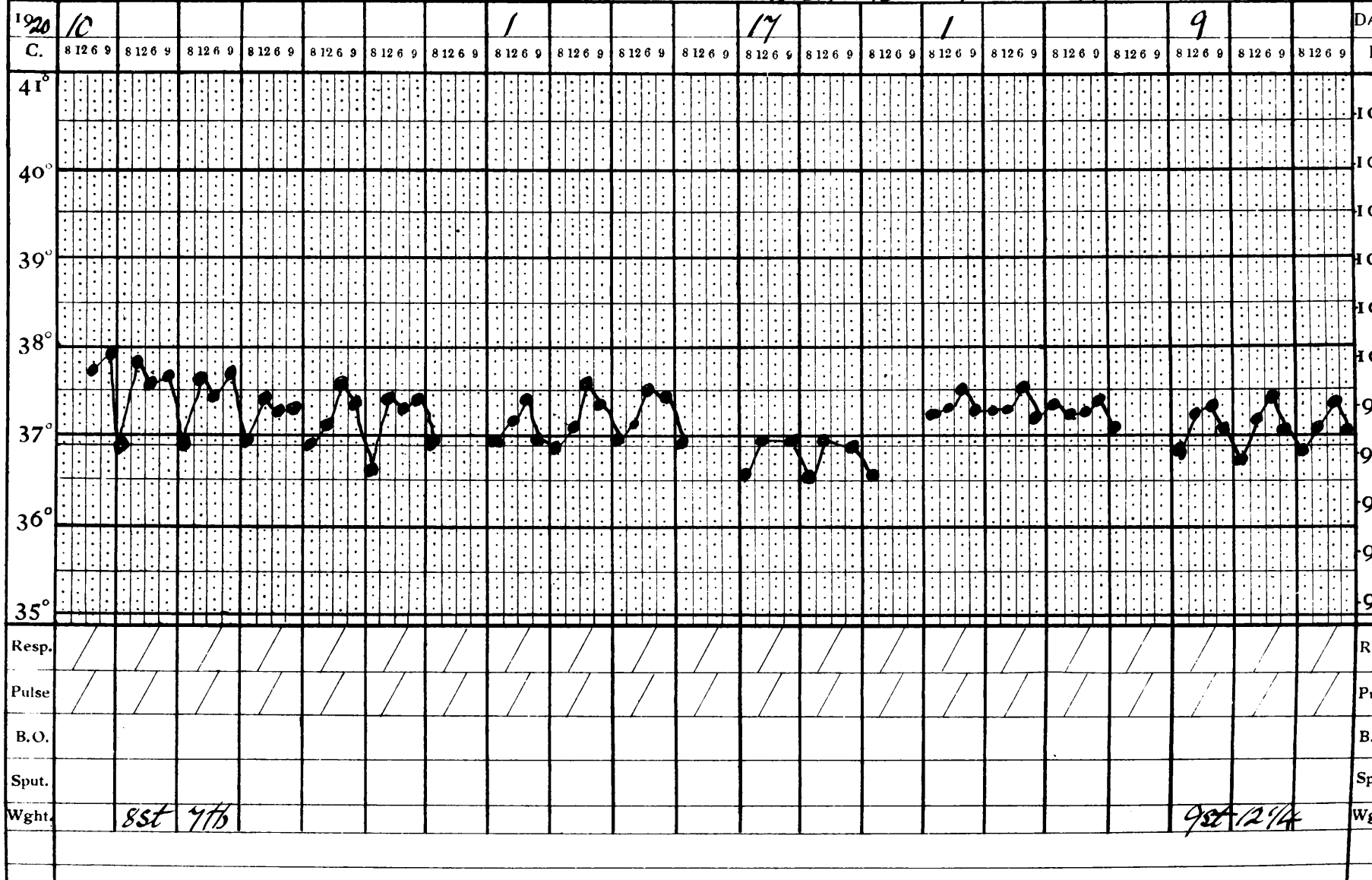
Even after rest in bed till she was admitted to a Sanatorium 2½ months later she continued to run a temperature (rectal) of 37° C. During this period she gained 1stone 5 lbs. in weight. She is now (7.1.25) a nurse in a Sanatorium and weighs 8 stone 6½ lbs. and still experiences periodic rises in temperature with some loss in weight. On examination, 7.1.25, no activity could be discovered in the lungs.

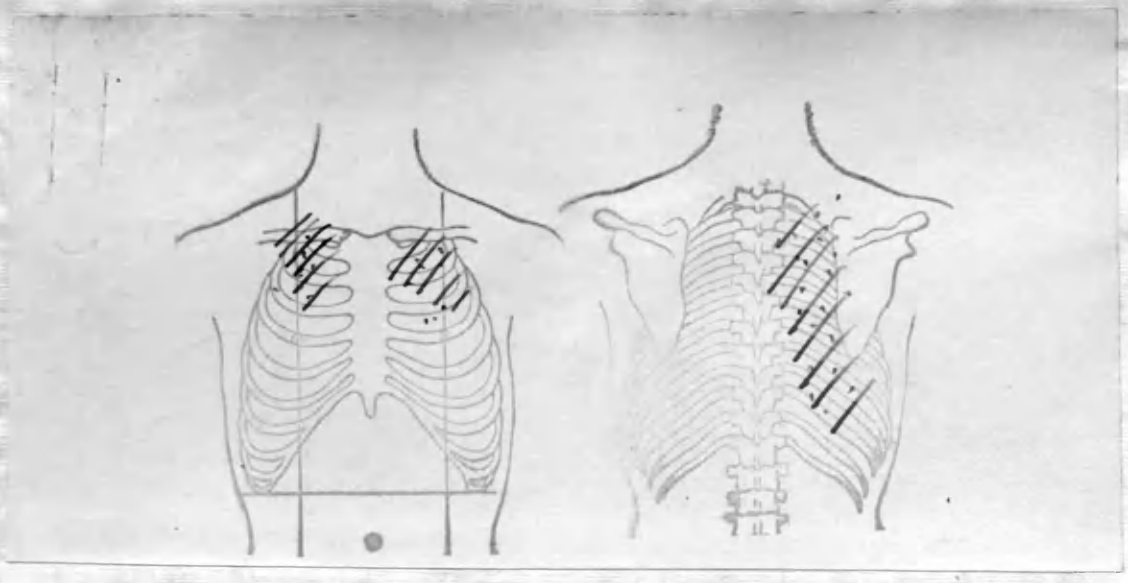
No. .....

AYRSHIRE SANATORIUM

Name Macharen, Sarah

AUGUST — OCTOBER — NOVEMBER — MARCH 1921 — JULY





J.S. aet 19 complained in June, 1922, of sickness and loss of appetite.

Previous Health: She had measles and whooping cough in infancy.

Family History: Her sister died of Phthisis, April, 1922.

Present Condition: She felt quite well till June, 1922, when she began to feel sick and had no appetite. She had been sleeping in the room where her sister had died of Phthisis two months previously.

This patient was warned of her condition but persisted in remaining at work till August, 1922, when she developed a cough and spit. She still refused to rest in bed and in September, 1922, she had pleurisy on the right side which forced her to rest for a fortnight. In spite of repeated warnings she resumed work and six weeks later she was confined to bed with pain in the chest, and cough and spit. Tubercle Bacilli were present in large numbers.

Physical Signs: She presented a typical picture of Phthisis. Her chest revealed dulness at both apices on percussion and râles were present over the whole of the chest. Even in this condition her mother and she thought that a walk in the fresh air would do her good and consequently this was carried out. The patient died a month later. (June, 1923).

No. .....

AYRSHIRE SANATORIUM

Name Smith, Jessie

December

1922	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	Date
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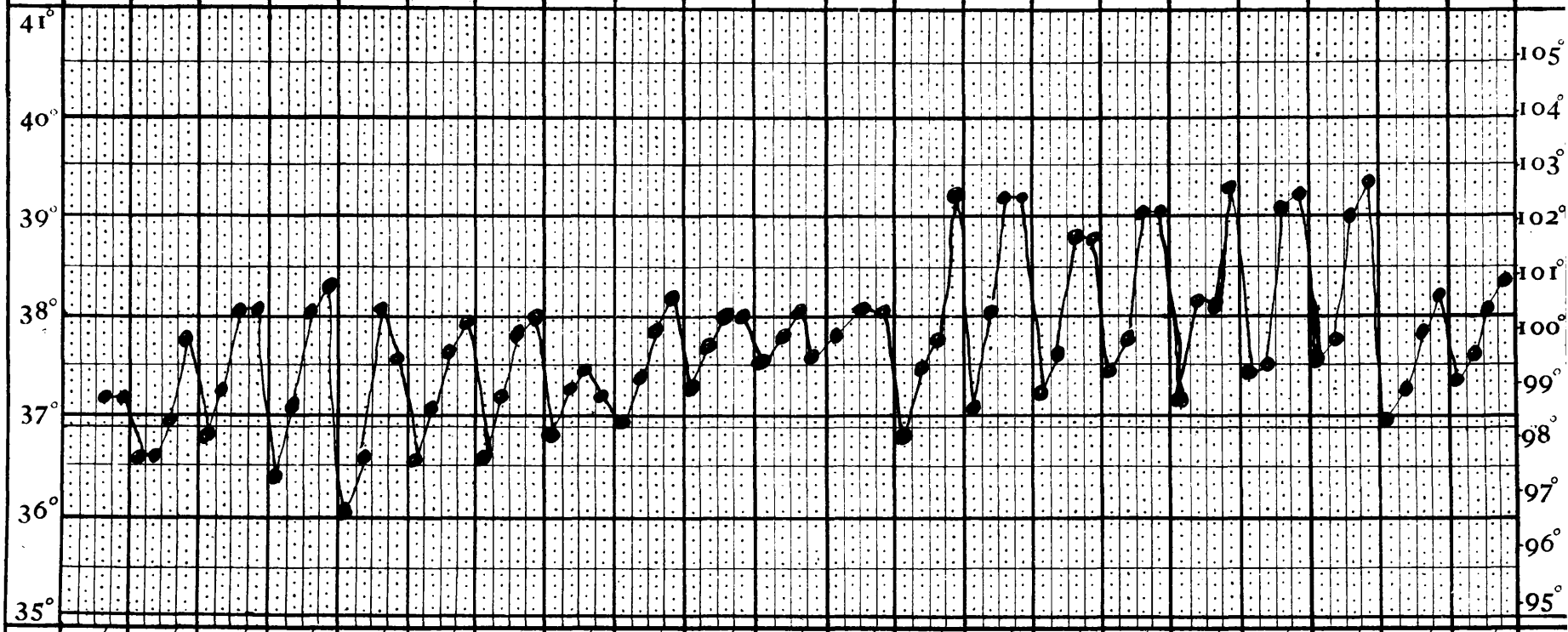

Resp.																						Resp.
Pulse																						Pulse
B.O.																						B.O.
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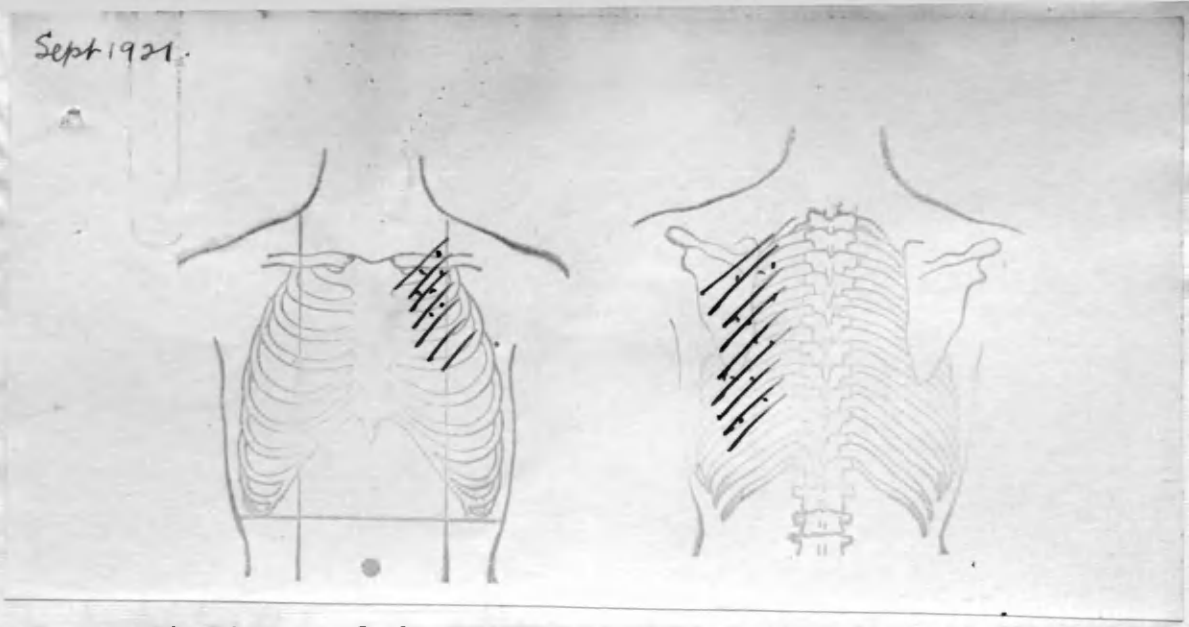
	TUBERCLE BACILLI PRESENT																					

Sept 1921.



S.K.S. aet 30, complained of cough, spit and pain in left side of five months' duration.

Previous Health: She had measles, scarlet fever and whooping cough in infancy.

Family History: Three sisters died of Phthisis, one had tubercular laryngitis, another sister is at present (1924) suffering from tuberculosis with frequent haemoptysis. (Since dead). A younger sister is also suffering from right apical tuberculosis and is at present in a Sanatorium.

Present Condition: She was quite well till she went to Ireland in August, 1920, to live with a cousin who had a bad cough and spit. She developed a pain in the left side with cough and spit in April, 1921. She had little or no appetite and had been night sweating for one month. She had lost considerable amount of weight and suffered from shortness of breath. There was no history of haemoptysis. Tubercle Bacilli were present in September, 1921.

Physical Signs: The patient showed obvious signs of Phthisis. Malar flushing was marked. Dulness over the whole left side was elicited with many crepitations. Her temperature ranged from 38.5° to 39°C. in the morning. She improved considerable from Sanatorium treatment and gained almost 1 stone in weight in 7 months, her temperature regaining normal after a month in the Sanatorium. She did well at home under observation till June, 1923, when she became pregnant and steadily went downhill dying a few months later after giving birth to a premature child.

No.

AYRSHIRE SANATORIUM

Name Smith, Mrs Susan

SEPTEMBER — NOVEMBER — Febmary 1922

1921	5						20				14				9							DATE
C.	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	8 12 6 9	F.
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TUBERCLE BACILLI PRESENT M M M

Domiciliary Care.

The domiciliary care of the Tuberculous patient in the industrial district is in the writer's experience highly unsatisfactory both to patient and to practitioner, but certain difficulties make this form of treatment a necessary part of the General Practitioner's work.

Many cases refuse absolutely to go into a Sanatorium and so have to be treated at home. Again there are those who return from treatment in a Sanatorium but who have to continue treatment at home. In those cases of Surgical Tuberculosis, on account of lack of accommodation in hospital or sanatorium, treatment must be carried out at home. A certain number of cases unfortunately all too common, who are past the aid of the Institution require domiciliary care.

Great difficulty is experienced by the writer in convincing the patient that rest in bed and not long walks, forms an essential part of the treatment. The prevalent idea that such exercise in the open air must be carried out, has been responsible for many disasters to the early and curable case of Pulmonary Tuberculosis. It must be admitted however that in the working man's house with its limited accommodation, this rest is not easily obtained. The absence of the daily supervision and the necessary discipline which prevail in a sanatorium are much felt in the domiciliary care.

The practitioner must rely on the services of the district nurse/

nurse who may have had no training in the care of the Tuberculous patient, which is so important, but who may be of great service in educating the patient in the regular recording of temperature and to see to the fulfilment of the practitioner's orders for sufficient fresh air, rest and it may be graduated exercise, the disinfection and destruction of sputum, etc. So far as the nourishment of the patient is concerned, the county authorities provide extra aliment for as long as the case may require and this proves to be of inestimable benefit in many cases so long as the privilege is not abused. The question of abundant fresh air is so obvious that no comment would seem to be necessary, yet many fail to appreciate its benefit on account of the idea still prevailing that a chill may result, and so the windows are kept tightly sealed. In many houses in the writer's district the windows are so constructed that they cannot be opened and difficulty is even experienced in obtaining permission to have this remedied.

Sometimes a patient considers that because he has had a certain number of months' treatment in a sanatorium, that he is cured and therefore requires no further care when he returns home, and so he resumes his former mode of living oblivious to the fact that he may be again running grave risks to his life. For example it is not uncommon to find that a patient returns home after five months' sanatorium treatment and although this may be sufficient to cure him, he goes back perhaps to heavy manual labour, remains out late at night and generally disregards the rules/

rules that prevailed in the sanatorium with the result that his health may soon be much impaired.

It behoves the general practitioner to watch these cases carefully and by routine monthly examinations he is able to keep his patient in the right direction. In the writer's opinion domiciliary care in this type is most essential as it is the case who is likely to benefit most from the treatment.

In the domiciliary care of the advanced case the practitioner's difficulty is increased as he may be dealing with a highly infectious case, who is perhaps residing in a one apartment house and where perhaps his children are allowed to sleep in the same bed. It is obvious that the disease gets every chance of spreading so long as these conditions are allowed to persist.

It is the writer's experience that sufficient disinfection of an infected house after an advanced case has died, is not efficiently carried out and that families who are suffering from this disease in an advanced form should not be allowed to flit about from one house to another without the proper authority being informed as it is certain many cases of Tuberculosis have followed from the inhabiting of these vacated houses by people who, ignorant of the health of the former occupants have not taken the necessary precautions of disinfecting the house.

It is not difficult to see why Tuberculosis is so easily spread and why it is not easily exterminated.

Conclusions.

Under the present conditions of medical service where a system of routine examination does not prevail, it is not easy to obtain cases of Pulmonary Tuberculosis at a stage where cure can be expected.

Cases of Pulmonary Tuberculosis who have been diagnosed and treated often lose much on account of the lack of a proper system of after care. This might be remedied to a certain extent by a service whereby Tuberculosis would be the work and care of the Tuberculosis expert.

There is little hope of the question of Tuberculosis being solved in the industrial district until the housing conditions are much improved.

Many patients on account of unemployment and consequently lack of means hesitate to consult their doctor and so valuable time may be lost. A medical service such as a National Health Insurance Scheme to include women and dependents would do much to remove this condition and would enable records of all cases to be kept.

That Xrays should form an essential part of the equipment of the Tuberculosis service attached to the Public Health Department, and that the Tuberculosis officer should be trained in both Radiology and in Clinical Tuberculosis. As is often the case, the Tuberculosis officer is Assistant Medical Officer of Health, who has not the time to devote to Tuberculosis if he is to perform his Public Health duties as well.

That a more intimate relationship between School Medical Officer and General Practitioner should be established so that doubtful cases in school children could be reported.

That on a tuberculous patient vacating one house for another, the sanitary authority should be notified before a new tenant is allowed to inhabit the house.

That ample sanatorium accommodation should be provided so that each notified person could have the benefit of treatment which is as valuable from the educative point of view as from the curative.

That in General Practice, Pleurisy should always be considered a symptom of Pulmonary Tuberculosis.

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