This should be well rubbed into the scalp, left for a few minutes, and then rinsed off with water. If there is any sign of increase in the irritation the shampooing should be stopped and the poultices resumed.

Where the body is extensively involved, and for the folds such as the axillae or groins, the application of a calamine cream, slightly carbolized, is often advantageous—for example:

Prepared calamine	...	...	...	9 parts
Zinc oxide	...	...	...	9 "
Glycerin of carbolic acid	...	...	...	2 "
Olive oil	...	...	...	40 "
Lime-water	...	...	...	40 "

It should be applied after the iodine has dried, and must be completely removed each day before re-dressing.

I have found that where a case of streptococcal dermatitis of the scalp is rebellious to treatment, elastoplast dressings may be used to advantage. They are applied in strips to cover the whole scalp and left on for a week. The hair must, of course, be as short as possible before application, and must be clipped each time the dressing is renewed. Removal is not too painful if care is taken to strip the scalp slowly and in the direction the hair grows. It takes courage at first to employ this method, and after the first week there is usually abundant pus below the dressing, but when the scalp is cleaned it will be found to be definitely less inflamed, and the dressing is reapplied with more confidence. I find that six of such weekly dressings are usually sufficient to bring the scalp almost to the dry pityriasis stage, where iodine completes the cure. No form of eczema has responded in this way to elastoplast in my experience; on the other hand, eczema is made worse by elastoplast.

It is of extreme importance that treatment be continued till every trace of the disease has gone, or it will surely return. Treatment should be stopped gradually. The daily application becomes thrice weekly, then twice, then once a week. Even when apparently cured the patient should be warned to report at once if there is any sign of recurrence, which can in the majority of cases be easily checked if the above treatment is promptly resumed.

Summary

I have endeavoured to describe briefly, and from my own observations, the manner in which streptococci may give rise to a dermatitis, and to show that, apart from impetigo, streptococci may cause an intertrigo, an exudative dermatitis, or a pityriasis. I believe that these conditions are not eczemas and that they have no connexion with seborrhoea. This entirely confirms the views of Sabouraud.

My experience also points to the fact that, while impetigo is caused by a haemolytic streptococcus, these other diseases are due to the action of an anhaemolytic streptococcus. This fact explains certain differences and certain similarities in the two groups.

The term "streptococcal dermatitis" is suggested as the most correct and convenient form of nomenclature for this latter group.

Suitable treatment is suggested.

I have to acknowledge with thanks Dr. Tomkinson's permission to use his figures for Chart II.

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THE DIAGNOSIS OF EARLY PULMONARY TUBERCULOSIS*

BY

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One cannot begin a discussion on the "early case of pulmonary tuberculosis" without first trying to answer the question, "What is the early case?"

A girl whose face recalls an Elizabethan love lyric and whose age is sweet and twenty complains of a cough that has lasted for two or three weeks, of blood-spitting, of lassitude. The physical signs in the chest are unhelpful, but we examine the sputum, and tubercle bacilli are scattered about like red Chinese characters on a blue scroll, and we take a skiagram and see a cavity the size of a shilling surrounded by a diffuse haze or set about with fluffy mottling. On close inspection we perhaps perceive a dense opacity the size of a millet seed near the periphery in the right lower lobe, representing a calcified tubercle, and the root glands on the same side are stippled with calcareous deposit. There has been a primary infection in childhood easily overcome by "natural resistance," and we are confronted by the evidence of reinfection. What happened in that latent period of ten or fifteen years? What determined the apparently sudden reactivation of hibernating bacilli in late adolescence? If the reinfection, which gives rise to phthisis, is of endogenous origin—and the weight of evidence favours this hypothesis as explaining the origin of most of the cases we meet—the disease with which we are confronted is itself a late phenomenon.

Our problem may become simpler when infection becomes less prevalent, and in particular when the exposure of childhood to infection is no longer allowed. When a first infection with Koch's bacillus is postponed till adolescence or early adult life the latent period, due apparently to a peculiar power of resistance in the years preceding puberty, is shortened. The processes of infection, the transient manifestations of haematogenous dissemination—for example, erythema nodosum, pleural effusion, or "acute benign tuberculosis"—and the development of the localized disease we recognize as phthisis may be studied *seriatim*. Pathological processes are speeded up and, as in a Canti cancer film, intervals in which nothing appears to happen are obliterated. The young probationer exposed for the first time to tuberculous infection in the closed space of a hospital ward is found after a few weeks to have developed the allergic state. The Mantoux test, previously "negative," becomes strongly "positive." We might here claim to have discovered the early case. And if the demonstration of "allergy" is soon followed, as it may be, by evidence of overt disease, our claim would appear to have been justified. But the majority of infections of this type, whether occurring in a hospital ward or the African gold mine, where young recruits from up-country first meet with tubercle bacilli, are not followed by tuberculosis, benign or malign. Some are taken and the others left, and the choice appears to be capricious.

At the present time all we can hope to do is to detect the disease at a stage when the lung tissues show the first signs of disintegration. Early disease of this order can be diagnosed, and can, in most instances, be arrested. But early disease must not be taken to imply limited disease,

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for—especially in early life—its spread is often rapid, and early disease may involve half a lung within a few weeks of its appearance. And we must learn not only to recognize early disease, but also the early recrudescence of disease which so often occurs. At this period of life every month during which the enemy can be staved off improves the prospects of a final victory.

The Two Types

It is customary nowadays to divide cases of pulmonary tuberculosis into two main groups: (1) the *proliferative* and (2) the *exudative*. These terms are cumbersome, and belong to the class stigmatized by Polonius as "vile phrases." But they are useful, and more precise words would perhaps fail to express as adequately as these do phenomena as yet imperfectly understood.

1. Proliferative disease is disease of chronic type. The exudation which marks its onset is rapidly followed by caseation and by fibrosis. The disease as we see it in the post-mortem room is of this type. The plates which illustrate the pathologist's textbook depict it—sometimes in glowing colours. Fibrous strands outline the bronchi, surround caseous areas, underline pulmonary fissures, and form the irregular, unyielding walls of cavities. In general, we may say that the phthisis of fully adult life and of middle age corresponds to this type, but examples are also seen in childhood, adolescence, and the early adult years.

2. For our scanty knowledge of the exudative types we have to rely chiefly on *x-ray* evidence. We have no opportunity of studying exudative disease in the post-mortem room. In this form, seen typically in the phthisis of adolescence, the most noteworthy feature is the tendency to parenchymatous exudation and the formation of soft-walled cavities. Such cavities are sometimes exactly circular, and, like the surrounding exudation, develop rapidly, and often disappear as rapidly as they have appeared, leaving only a faint linear scarring of the parenchyma. These cavities are so unlike the cavities seen after death that they were for long regarded not as true vomicae in the lung substance but as pleural rings. They are sometimes still incorrectly termed "annular shadows"—incorrectly, because they are not of ring form, but spherical, a fact easily demonstrated in lateral or oblique views or by stereoscopy. According to another ingenious theory they are not true cavities, but air bubbles. But they do not burst when pricked by the exploring needle, and that they communicate more or less adequately with bronchi is to be presumed from our constant observation that tubercle bacilli persist in the sputum so long as the soft cavity remains in the skiagram and disappear when the cavity is closed, whether by natural healing or by collapse therapy. Their behaviour when subjected to collapse therapy, under the influence of which they shrink concentrically unless held open by adhesions, supplies further proof that the soft cavity is indeed a gap in the lung substance. The terms "elastic" or "silent cavities" refer to their evanescent character, and to the fact that they cannot be demonstrated by physical signs, for physical signs do not depend upon the extent of disease, but upon its character.

Important Points in Diagnosis

From the diagnostic standpoint the important difference between the proliferative and exudative forms is that whereas pulmonary fibrosis is associated with more or less characteristic alteration in physical signs, pulmonary exudation of the kind occurring in early tuberculosis is not. Abnormal physical signs are often entirely lacking—neither palpation, percussion, nor auscultation will help you. I cannot understand the reluctance of writers of

textbooks and the teachers of students to admit the demonstrable limitations of physical examination.

"Through palpation one may feel deeply within the chest and outline and limit organs of different degrees of density, also detect different degrees of density caused by pulmonary infections and their complications. Infiltration, cavitation, chronic fibrosis . . . all give sensations to the palpating finger which depart from the normal as much as those conveyed by percussion, and which differ from each other to such a degree that the palpating sensation may suggest the diagnosis."

The above sentence occurs in a recently published American textbook on tuberculosis, and illustrations could be multiplied. Now even if the elaborations of physical examination to which so many chapters are devoted had any practical value—and most of them in my opinion have been proved to be useless—an *x-ray* examination occupying a tenth of a second provides far more accurate and helpful information than an hour spent on stroking the skin over muscles, percussing Krönig's bands, trying to detect deviation in the projected tongue, and so on. There is no sense in using a cephalotribe to extract a milk tooth!

In the days before radiology was available we were taught that physical examination only reveals 25 per cent. of the disease actually present. This wholesome teaching has been forgotten by those who still regard the skiagram as merely supplying corroboration of facts already ascertained by ears and fingers. The student should be taught that *pulmonary tuberculosis is a relatively silent disease*. It is this silence which differentiates it from most of the other chronic chest diseases. Bronchitis, bronchiectasis, malignant disease, pneumoconiosis, the fibroid lung, all yield more or less characteristic signs. But when, as so often, a doctor writes: "I cannot find any physical signs in this patient's chest, *but* I suspect tuberculosis" he betrays the result of faulty teaching. "I cannot find signs, and *therefore* I suspect tuberculosis" should be the attitude.

You will say this is all very well, but if physical signs are unreliable what is the general practitioner to do? A surgery *x-ray* outfit is usually impracticable, and the interpretation of chest films demands an experience so highly specialized that even a radiologist may prove an untrustworthy guide unless he has received special training. But there is no need to submit every person suffering from a cough to an *x-ray* examination. The problem is indeed simpler than it appears.

Every student knows that there is one type of aortic aneurysm that is demonstrable by physical signs and another that reveals itself by symptoms. Now the fibrocaseous type of tuberculosis supplies more or less characteristic physical signs—upper lobe dullness, harsh breathing, fibrotic crepitations, and so on—but the type of tuberculosis that returns no answer when you knock usually betrays itself by symptoms. And both types shed tubercle bacilli, for both give rise to cavities, though an examination of the patient's saliva may supply a negative return from the laboratory. Two or three sputum tests may be necessary, though it is surprising how often the first examination will reveal bacilli, even in a very early case; and even the frightened patient who swallows her sputum may often be outwitted by an examination of the faeces. The sputum test is the simplest and, apart from *x-ray* examination, the most reliable test for tuberculosis, and yet it is frequently neglected, with disastrous results. A sputum outfit should be kept on every consulting room table as a reminder.

General Symptomatology

With regard to symptoms, of what does the consumptive complain when he comes to see you? I have looked through my notes of fifty young consumptives (age period

15 to 25 years) recently seen at Victoria Park, and nearly all supplied some hint, not of what physical signs, but of what sputum test or skiagram would reveal.

Rejecting six cases which were apparently of at least six months' duration when I first saw the patients, I note that thirty-seven out of the remaining forty-four had symptoms suggestive of tuberculosis. Thus fourteen of these young persons complained of cough with expectoration, while no fewer than twenty-three admitted to haemoptysis ranging from stained sputum to frank haemorrhage of the classical type. Approximately 50 per cent. of the total number gave a family history of tuberculosis or admitted close contact with infection. A closer questioning would doubtless have revealed an even higher figure. Physical examination yielded suggestive signs in only half of the forty-four cases, while in the remainder physical signs were absent or equivocal on what one might call a surgery examination.

I believe that the somewhat discredited old term "the tuberculous diathesis" conveyed a measure of truth. The patient who looks the part is more likely to be tuberculous than the patient who does not. And if attacked the former is more likely to succumb than the latter. As middle life approaches, and in the male sex, the patient's appearance is less distinctive.

The plaintive whine of the patient seeking sympathy is seldom—I had almost said never—heard from the tuberculous. The tendency to minimize symptoms, return evasive answers, or offer explanations for any symptoms reluctantly admitted is so typical of the consumptive that such a disposition should at once suggest the possibility of this disease. This is especially noteworthy when the question of blood-spitting is raised. If the tuberculous patient has had no haemoptysis he denies in the tone of one who has been insulted by an offensive suggestion. In haemoptysis from other causes the patient may treasure up his expectoration, proudly unroll his handkerchief for your inspection, or triumphantly extract a little bottle of blood-stained sputum from his trouser pocket. He does not explain that he knows it only came from the back of his throat. "I had my tell-tale handkerchief, and would not even look at it myself because I wanted to believe that I had coughed up nothing but a little discoloured phlegm." Those are not the words of a factory hand, but of a highly trained scientific observer when describing a haemoptysis which occurred on the old underground railway in the days of his youth. The same "ostrich complex" may be reflected in the manner and supporting remarks of a parent.

The patient's appearance is worth more than a passing glance. The bright eyes and delicate complexion of the consumptive girl are familiar to us all. The smooth skin of the tuberculous was noted by Hippocrates. Even in middle age the skin of the thorax is often curiously smooth and fine in texture. Sweating axillae are more significant than a history of night sweats. The latter is too often obtained from all classes of patients to have much diagnostic significance.

Assessment of Symptoms and Signs

With regard to the physical examination, inspection of the form and movements of the chest are of little help in the detection of incipient tuberculosis. The same may be said of percussion, unless pleurisy with effusion or bronchopneumonic consolidation complicates the picture. But auscultation may be of more value, for a weakening of the breath sounds may be obvious over an area of early infiltration. Fine, moist crepitations—heard best in the inspiratory phase following a short cough—audible over the apex or subapex of an upper or lower lobe are almost diagnostic. But we must not expect to hear

them. They indicate very active disease and widespread involvement of the affected lobe. The apex of the lower lobe is favourably situated for auscultation. We are not likely to forget the "zone d'alarme" internal to the spine of the scapula when searching for crepitations, but we are apt to forget that a second "zone d'alarme" is situated internal to the angle of the same bone.

If the patient's symptoms, history, manner, appearance, if the physical signs or their significant absence, indicate the possibility of tuberculosis, the sputum test, repeated two or three times if necessary, will in the majority of cases prove the diagnosis. If the sputum test is negative, x-ray examination is essential before a final opinion can be given. And if this supplies evidence of tuberculosis x-ray control will thereafter be essential, for the progress of the case can only be adequately studied and its treatment properly conducted in the light of the information that only x rays provide.

Conclusion

Finally, I would stress the importance of radiological technique and interpretation. A poor skiagram is often worse than useless, and a good skiagram wrongly interpreted may lead to disastrous results. As an illustration of the difficulties that may attend the correct interpretation of a chest radiogram I might instance a case recently under my care. The patient had worked with silica for thirty years. The skiagram showed a small tuberculous cavity and a general miliary stippling of both lungs such as is commonly seen in pneumoconiosis. I jumped to the conclusion that the case was one of silicosis, but the skiagram might have been interpreted as indicating miliary tuberculosis. A few weeks later necropsy revealed miliary carcinomatosis and a single insignificant tuberculous cavity.

THE SPRINGS OF NEUROSIS*

BY

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Those whom we loosely call "neurotic" live in a dismal twilight of ill-health, and drift from doctor to doctor or from cult to cult without receiving the study and understanding which we accord to other types of patients. Neurosis probably accounts for far more suffering and disability than tuberculosis, yet a comparison between the amount of study and research extended to each of these diseases reveals a serious deficiency in medical education. Asthmatics, diabetics, and dyspeptics receive careful handling, co-ordinated research, sympathetic reception, and rational treatment. Neurotics get short shrift. Indeed, it is not too much to say that the average doctor bristles with prejudice against those whom he calls neurotic, and against the word "neurosis" and everything about it. This prejudice is born of fear, which in turn is born of ignorance. For among the many anomalies of the existing system of medical education the absence of proper instruction in psychological medicine is perhaps the most glaring and chronic. Moreover, with one or two exceptions, the literature on psychological medicine is very dull and unhelpful. The psychologists were called "sad dogs" by Sir Clifford Allbutt when he discussed the confusing terminology of psychological medicine.

The object of this paper is to attempt to survey the whole range of those loosely termed "neurotic" in terms, not of formal psychology, but of practical clinical medicine.

I begin with a rough classification.

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