detected by physical examination which are not revealed by any symptoms whatever, or, at any rate, none of sufficient moment to attract attention. Therefore it is a safe rule thus to investigate the chest more or less in every case which comes under our professional observation. I believe it would be a very good plan, especially under particular circumstances, if individuals would present themselves for examination from time to time, just to see what is the condition of their important organs. Now and then, but only exceptionally, one does come across a wise person who thinks it worth his while and money to be thus overhauled, and, on the whole, these are about the most satisfactory cases to be met with in practice. The only opportunity, however, one usually gets of investigating from this aspect is in relation to life insurance, when we do sometimes discover very remarkable and unexpected morbid changes; and when an individual is about to take some important step in life, to which I need not more definitely refer.

Thirdly, physical examination often reveals readily and positively pronounced organic conditions in various combinations, which at once explain all the clinical phenomena observed, making the case perfectly clear and simple; and amongst these conditions it may detect one which demands immediate treatment. Moreover, we may thus discover some particular disease, or speedily get a general idea of the kind of case we have to deal with, and then, if we possess adequate knowledge, we understand what conditions we have further to look for under the particular circumstances. Again, physical examination may bring to our notice a certain change which we feel sure cannot be an independent one, such as a want of free entrance of air into, or actual collapse of a lung, or a striking displacement of the heart, and may thus indicate the direction which our investigation should take, in order to find out the cause or causes of such change, whereby we may be led to the discovery of most important diseases.

There is one point that I wish specially to notice in this connection. It is often stated that certain conditions within the chest cannot be detected by physical examination with any certainty, or, at any rate, only exceptionally. I more especially allude to pleuritic and pericardial adhesions. Such a statement I strenuously dispute, and I maintain that these changes, as well as others more or less obscure, may frequently be demonstrated as parts of a case, if they are duly borne in mind and properly looked for, and if their signs are intelligently appreciated.

In the next place I desire to say a few words as to the general principles upon which physical examination of the chest should be conducted in order to be of any real service in demonstrating the presence and nature of the various combined conditions. Concisely stated, it must be always systematic; and as thorough and comprehensive in all respects as the circumstances of the case permit, with due regard to the state of the patient. An unmethodical examination, or one limited to the upper part of the chest, and perhaps the cardiac region, is by no means adequate in any case, and such a mode of procedure habitually adopted is certain to lead to many disastrous results.

There is one tendency against which it is necessary to warn in this connection, and that is the practice of always looking for some special condition, such as lung consolidation, a pleural effusion, or disease of a cardiac orifice or valve, and, should either of these be found, fixing upon it and ignoring everything else. Of course it is essential to be thoroughly familiar with the signs of such simple conditions, and to be able to recognise them positively; but we must never forget that in a large number of cases they are mixed up in every conceivable way. And here it is important to notice that the signs of particular physical conditions are often greatly influenced by their association with others, which indeed may obscure them altogether, or they intensify these signs, or modify them in various ways. For example, the effects of pronounced pulmonary emphysema in obscuring other serious diseases, which has been already alluded to, must always be borne in mind, and the same remark applies to not a few cases of bronchitis. Marked pleuritic conditions may also render it almost impossible to determine definitely what changes involve the corresponding lung. Of course in every case the heart and great vessels ought to be separately and systematically examined. More-

over, should any exceptional disease be suspected or discovered, such as an aneurysm or solid tumour, it is well to have a definite and special plan of examination, which can be methodically carried out in such cases.

While it should be the rule in relation to physical examination of the chest to aim at finding out all the conditions present in a particular case; on the other hand, much discretion is required not uncommonly in carrying it out, as in cases of an acute and complicated nature, where sudden grave lesions or disorders supervene on chronic diseases, or in advanced phthisical or cardiac cases. Under such circumstances our investigation should be as brief and as little disturbing to the patient as possible, even though we are not able to make out to our satisfaction the exact state of things, and in some instances we had far better omit physical examination altogether in the meanwhile. It is remarkable, however, what we may find out even then without disturbing the patient to any appreciable degree, if we go about the examination in the right way, and make good use of our eyes and hands.

The more simple methods of examination just alluded to, namely, inspection and palpation, are also often of the greatest service in the detection of certain associated physical conditions of the chest, especially when employed together, and for definite purposes, and I do not think that they are at all utilised to the extent that they might be.

There is one other point that is worth noting, namely, the essential value of certain special signs in the detection of a particular and unusual condition which happens to form part of a more or less complex case. Thus, the "bell sound," or the "succussion splash" may be the only evidence under such circumstances of the pleural conditions with which these signs are severally associated.

A READY MEANS OF PROCURING AND TRANSMITTING DIPHTHERIC DISCHARGES FOR EXAMINATION.

By D. J. HAMILTON, M.B.,
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CONSIDERABLE difficulty is often experienced in removing diphtheric discharge, false membrane, or slough from the tonsil or fauces and in transmitting these expeditiously in a pure state to the laboratory where they are to be examined. What I find usually happens is that the discharge is put into the first bottle which comes to hand and hence is much contaminated before it reaches the laboratory. The discharge which is most likely to contain the bacillus, namely, that overlying a slough or false membrane, moreover, cannot always be scraped off owing to the medical attendant being unprovided with a proper instrument for the purpose. Delay is also caused owing to the bottle having to be packed up, etc.

With the object of overcoming these difficulties I have adopted the following method of collecting and transmitting the discharges—a method which promises not only to be satisfactory, but which at the same time is so simple of application that any practitioner, however preoccupied, can readily make use of it:

An ordinary three-quarter inch wide test tube is fitted with a tight plug of cotton; into this plug of cotton is inserted the end of the cedar wood handle of a small goat's-hair brush. The handle should not come quite through the plug, but be securely tied to the superfluous cotton at the mouth of the tube. The brush should be so long that it reaches close to but is not in actual contact with the deepest part of the tube. If it is desired to prevent evaporation, the end of the tube should be covered with a loose caoutchouc cap. This, however, is usually unnecessary, as the time occupied between the removal of the discharge and its transmission is never likely to exceed twenty-four hours. The tube with the enclosed brush is now sterilised in the hot-air chamber, and a printed label with spaces for the name of the patient, date of removal, duration of disease, name and address of practitioner attached. The tube is made to fit into a small padded box to which an address label is attached. All that the

practitioner has to do is to withdraw the plug with the attached brush, to which it forms an excellent handle, while the mouth of the tube is held downwards, to scrape off some of the discharge from the affected parts with the brush, to replace the cotton plug and attached brush in the tube, and send off the box with enclosed tube by post.

In starting a culture on blood serum or other basis the brush which contains the secretion is rubbed over the surface of the medium.

The advantages which the method seems to possess are: (1) That the discharge is removed by and received in sterilised instruments; (2) that the brush is an excellent means of collecting the discharge, and does not alarm the patient by its appearance; (3) that everything being ready for sending off by post no time is lost in transmission; (4) that the brush is again an excellent instrument for spreading the discharge over the surface of the culture basis; and (5) that the cost of the apparatus is trifling. These sterilised tubes could be kept by local apothecaries, and be had on a moment's notice. They are of small bulk, so that they can readily be carried about when required.

REMARKS ON MILK DIET IN THE SEVERE INTESTINAL DISEASES ACQUIRED IN THE EAST.

By GEORGE THIN, M.D.

DURING a long experience of the management of certain climatic disorders of the intestine by exclusive milk diet, my attention has been much directed towards minimising the difficulties inseparable from the treatment. Many persons have a strong dislike to milk, and I am often met by the statement that the patient "has never been able to take milk in his life." One sufferer from a severe form of psilosis prefaced her statement of her case by telling me: "It is no use prescribing milk for me. I can neither take it nor digest it. All the medical men whom I have consulted have soon satisfied themselves that this is correct, and have been obliged to give me something else." For cases like that one, I have found the use of agitated milk¹ of inestimable value. So far, I have only twice failed to succeed in getting a patient to go on exclusive milk diet. In one case, which was neither severe nor well marked, the diarrhoea did not rapidly yield, and the treatment was abandoned after a short trial; and another patient, who was doing extremely well, gave it up for, I am afraid, no better reason than caprice, with disastrous results.

Another and sometimes a serious difficulty in connection with milk diet is the quantity of fluid which the patient must swallow. Many patients, especially when convalescing, take as much as 6 to 8 pints daily and even more without any difficulty, but there are others in whom the necessary quantity of milk suited to the case produces a constant feeling of distension accompanied by troublesome flatulence. There are also cases in which the patient is very ill, and his life in great danger, in which it is impossible to get him to swallow sufficient milk to sustain life. During the past summer I had a case of this kind under my care. A man who had been for two years suffering from chronic diarrhoea acquired in Bombay, complicated with fistula and an unhealthy condition of the mucous membrane of the rectum, on which Mr. Herbert Allingham found it necessary to operate, fell into a low typhoid condition. The difficulty of getting him to swallow sufficient milk was so great, and his repugnance to it apparently so invincible, that the treatment was abandoned for three days, during which time an endeavour was made to support him on beef-juice. His condition became rapidly worse; there was incessant diarrhoea, the motions being passed involuntarily; the tongue was hard, dry, and cracked, the teeth covered with sordes, and the pulse quick and thready. We considered the chances of recovery to be very small; he seemed, indeed, to be rapidly sinking, but I was satisfied that if he were to be saved at all it could only be by

milk, and accordingly exclusive milk treatment was resumed. He could swallow only such small quantities at a time that it was found impossible to get him to take more than 2½ pints in twenty-four hours. The typhoid condition and incessant diarrhoea continued without improvement for forty-eight hours, and it became evident that unless more milk could be assimilated it was hopeless to look for recovery.

I then directed part of the milk to be evaporated to one half its bulk, and by giving him this evaporated milk he was able to take at once the equivalent of 3½ pints in twenty-four hours, which proved sufficient to arrest the threatened collapse. Gradually, after a time, his condition began to improve, and he eventually consumed in natural and evaporated milk the equivalent of 9 pints daily. He made a perfect recovery, and in five months was shooting grouse in Scotland.

I afterwards prescribed evaporated milk with excellent results in another serious case of wasting from long-standing chronic diarrhoea acquired in India. The patient, who had found it extremely difficult to swallow more than 3 pints of fluid a day, was able, by taking a certain proportion of his milk evaporated, to consume the equivalent of 5 pints, gradually lost his diarrhoea, and was able to digest solid food and gained strength proportionately. Other patients, not in the same immediate danger, have been allowed the option of taking part of their milk evaporated, and some of them have thriven on the concession. Others have had no difficulty in taking, and have preferred to take, the milk in its natural state.

The two severe cases alluded to above were examples of the chronic intestinal catarrh (not dysentery) which is common in India, and which is often described under the name of "tropical diarrhoea." At the present time I have under my care a typical case of psilosis (*vulgo* "sprue") of long standing, which is steadily progressing towards recovery by the help of evaporated milk. By using part of the milk prepared in this way the patient is now able to take sufficient nourishment to enable the diseased bowel to recover. He has been under medical treatment more or less continuously for a number of years, but I gather from what he tells me that his occasional attempts to get well by milk diet were abandoned because he could not take sufficient milk to maintain the required minimum of strength. This induced him to supplement his diet by other articles of "invalid" food, and these invariably after a time brought on a relapse.

To evaporate milk properly for patients like these is a matter of some care. A simple apparatus has been made for me by James Allen and Son, 21, Marylebone Lane, W., consisting of a small regulating spirit lamp, with a wire stand for holding an enamelled pan, containing the milk, at a convenient height from the flame. The heat may be increased or diminished at will by the regulator on the lamp. The milk should be heated rapidly, but must not be allowed to reach the boiling point; and in this pan 10 ounces can be reduced to 5 in half an hour. It must be stirred continuously after it gets warm and until it has become cold to prevent a skin forming. If the cream is allowed to come to the top the milk takes longer to evaporate, and the taste is not so good. When the evaporation is properly effected the cream remains mixed in the milk as usual, but, of course, rises on standing. The milk should therefore be stirred before being drunk. Evaporated in this way it has a richer taste and looks richer than ordinary milk, but is not unpalatable. It gets sour more quickly than fresh milk. The process consumes a good deal of time and requires constant attention.

Whilst writing about the treatment by milk, I may make a few remarks in connection with one of the diseases for which it is the remedy. There is a note in the *Times of India* of September 12th which states "that Surgeon-Captain Dyson has traced that the disease known at Darjeeling as 'hill diarrhoea' and in the Straits and China by the peculiar name of 'sprue,' is due to the presence in the water of small particles of mica." Psilosis, or "sprue," has been often written about as identical with "hill diarrhoea" of India, and I am not sure that, under the influence of Indian medical literature, I have not myself done so at one time.

The affections known by these names have a feature in common, namely, the passing of frequent motions of a light

¹ See papers by Surgeon-Major Goldsmith, *BRITISH MEDICAL JOURNAL*, vol. ii, 1893, p. 12, and the writer, *BRITISH MEDICAL JOURNAL*, vol. ii, 1893, p. 64.