the acute symptoms, and the patient will then be spared the discomfort of a permanent colostomy, or a second operation for its subsequent closure. On the other hand if subsidence of the disease does not occur a second operation to make the temporary fæcal fistula into a permanent colostomy will be necessary. Valvular cæcostomy would seem to be a way out of this difficulty, but I believe this to be a dangerous operation as leakage may occur.

(c) *Abscess formation.*—The abscess must be drained, but if it forms deep in the pelvis the operation may and usually is exceedingly difficult and trying. The adhesions must be separated in order to obtain adequate drainage but the separation must be conducted with the utmost circumspection and gentleness in order to avoid damage to adherent and surrounding structures. Colostomy may be necessary.

(d) *Fistula formation.*—Repair of fistulæ between the diseased bowel and the bladder or vagina is obviously a difficult procedure. Nevertheless it can be carried out successfully. It will probably be necessary to perform a colostomy for a few weeks previously. Space will not permit me to go into the details of the operation for closing such fistulæ.

(e) *Perforation.*—As mentioned above this is a very grave complication. It may be impossible to close the perforation by suture as each stitch cuts out, like sewing butter. The perforation may be able to be closed by suturing one of the appendices epiploicæ over the opening. It is as well if possible to make the loop of bowel extraperitoneal, by sewing both margins of the peritoneum to the meso-sigmoid, or by bringing down the omentum and placing the affected loop of bowel through an opening therein. It is always wise in this condition to drain the bowel above the perforation by a colostomy or by a cæcostomy. A Paul's tube in the cæcum is probably preferable, as although a second operation for its closure will be necessary it is easily performed and the site

is well away from the diseased bowel. The disadvantage is that the fæcal stream is not entirely cut off—this can only be obtained by a colostomy in some part of the colon above the original perforation.

PRACTICAL NOTES ON LYMPHADENOMA.

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THE disease known as lymphadenoma, or, to use the more modern and perhaps more correct term, lymphogranuloma, was described in 1832 by Hodgkin, with whose name it is commonly associated. He gave a clinical description of a series of cases in which enlargement of the lymphatic glands was associated with characteristic pathological deposits in the spleen. The ordinary features of this disease in its most typical form may, of course, be found in any textbook of general medicine; the object of the following short article is to call attention to some of the details of the condition as they appear to the practitioner, who may be introduced to the patient at different stages of the disease, and to assist him in regard to a few of the more obvious points of differential diagnosis, and still more in regard to the less satisfactory question of treatment.

The malady may occur at all ages, but it is, generally speaking, a disease of comparatively young people. According to the most reliable statistical information, half the cases occur between the ages of 20 and 40, and males are affected twice as frequently as females. It is uncommon to find it in persons over 60 years of age, but one of the most classical examples of the disease I have ever seen occurred in a man of well over 70, who was sent into a general hospital for observation and diagnosis, and who displayed the most characteristic enlargement of lymph nodes in neck, axillæ and groins.

The usual picture of Hodgkin's disease is that of a young adult who consults his doctor on account of enlargement of the cervical glands, and the problem with which the practitioner is confronted is most commonly that of differentiating between lymphadenoma and tuberculous adenitis, with which Hodgkin's disease is perhaps most frequently confused. In a case of well-marked lymphadenoma the distinction may be fairly obvious. The discrete character of the glands, the absence of inflammatory changes (indicated by matting together, involvement of the skin, or pain), the presence of enlarged glands in the axillæ and groins as well as in the neck, these points are usually sufficient to put one on the right track. It must, however, be remembered that the cervical glands may at first appear on one side only, and if the patient be seen in an early stage the distinction between lymphadenoma and tuberculosis may be by no means easy. The following case will furnish a good illustration of this difficulty.

A young woman, aged 27, came to consult me on account of an enlarged painless gland on one side of the neck. She had been seen by a well-known consulting surgeon in one of the Northern towns, who had expressed the opinion that the condition was tuberculous and had advised her on her return to London to see one of the physicians that she knew, as she had been employed at one of the London hospitals. The gland was about the size of a bantam's egg, painless, fairly easily movable, and rather hard to the touch. Her general condition was fair, she appeared to be somewhat anæmic and complained of a certain amount of lassitude. On examination of the chest there was slight impairment of resonance with weakness of breath sounds at the apex of one lung; no adventitious sounds were audible on auscultation. I told her that I agreed with the surgeon's opinion as to the tuberculous nature of the gland (there was no septic focus in the mouth or throat to account for the condition); as to her chest, while I was satisfied that there

was no evidence of any active trouble in the lung, I thought that in all possibility there had been a previous focus of disease at one apex, which was now healed and fibrotic. The X-ray examination of the chest showed no infiltration of the lung parenchyma and no obvious gross abnormality in any of the lung fields. On my advice she went to a sanatorium near London, for a period of rest and general treatment on sanatorium lines. After she had been there for about two months I had a letter from the Superintendent to the effect that he did not feel very satisfied about the gland because of its unusual hardness; he suggested the possibility that it might be, not tuberculous, but malignant. I asked one of my surgical colleagues to see her and he at once advised that the gland should be removed under a local anæsthetic for microscopical examination. At the operation some little difficulty was experienced in dissecting out the gland, which was deep seated and apparently to some extent adherent to the fascia in the neighbourhood of the jugular vein. While the surgeon was endeavouring to extricate it without damage, the gland ruptured and a quantity of light yellowish cheesy material was expressed which gave us both the very definite impression that we were dealing with a caseating tuberculous gland. When, however, the microscopic section of the specimen was examined, the typical histological appearances of lymphadenoma were seen, including the presence throughout the gland of an unusually large number of coarsely granular eosinophile cells.

I do not propose to go into the subsequent clinical history of this patient, which was quite characteristic up to the time of her death about two years later, but I have mentioned the salient clinical features of the case in the earlier stages, as they seem to me to provide an admirable illustration of some of the practical difficulties of differential diagnosis of this disease which are hardly elucidated by reference to the ordinary general textbook.

The glands in Hodgkin's disease may sometimes be invaded by tubercle, and the occasional association of the two conditions is recognized. That a complete diagnosis may be missed in the earlier stages is well illustrated by the following case :—

A young man, aged 19, who had not been complaining of any marked general symptoms of illness, had a sudden hæmoptysis. His doctor, with whom I saw him in consultation, had found slight physical signs of consolidation at one apex and had asked my advice as to the disposal and treatment of this patient. I was able to obtain a rather scanty specimen of sputum, in which however tubercle bacilli were demonstrated in moderate numbers, and the young man was accordingly sent to one of the well-known sanatoria. For the first month or so his general condition remained fairly good and he was comparatively free from cough and sputum, but in spite of complete rest in bed his temperature chart showed a constant pyrexia, and the Medical Superintendent decided to attempt an artificial pneumothorax. This was done and a successful collapse of the lung was obtained. The effect upon the temperature chart was very striking. At first, after a short interval succeeding the induction, the temperature came down almost to normal and remained at about the 99° level for some days. Then there was a rise to 101° lasting for a few days and succeeded by another flat period at about the 99° level. This state of affairs continued for some weeks, at the end of which period it was observed for the first time that the patient had slight enlargement of the lymph glands on both sides of the neck. The latter became more obvious as time went on, and the double nature of the disease became apparent. The patient was suffering from pulmonary tuberculosis in association with Hodgkin's disease, the pyrexia being at first continuous. After the successful induction of an artificial pneumothorax, the character of the temperature chart entirely changed owing to the effect

of the collapse in reducing the fever due to active tuberculosis ; the chart for the remainder of the time (when adequate collapse had been attained) showed the characteristic relapsing pyrexia seen in the Pel-Ebstein type of lymphadenoma. The physical signs in the chest indicated quiescence of the tuberculous process in the upper zone of the affected lung, but the patient after leaving the sanatorium was not able to keep about for more than a few months. He lost flesh rapidly and became progressively weaker and more ill, and died about twelve to eighteen months after the original hæmoptysis which ushered in his illness.

The two cases just mentioned serve to illustrate some of the commoner difficulties in the diagnosis of lymphadenoma, but there are other phenomena which may also give rise to discussion. Although the enlargement of liver and spleen is a recognized sign in the disease, it seldom happens that the patient complains of symptoms referable to these organs, or that abdominal disease is presented to the mind of the practitioner as the salient feature of the case. I can, however, recollect one case of Hodgkin's disease in which the enlargement of the abdomen from ascites reached such a degree that an exploratory laparotomy was performed ; the liver was considerably enlarged and was smooth on the surface. No other abnormality was discovered in the abdomen at the time of operation, and the diagnosis of lymphadenoma was only established later by microscopic examination of a gland excised from the neck.

The other main group of lymphadenoma cases in which the practitioner is likely to experience difficulty in the earlier stages is that in which there is no obvious external glandular enlargement and the trouble is mainly or entirely within the thorax. The diagnosis in such instances rests almost entirely upon the X-ray evidence, which may be very definite and unmistakable, but the clinical evidence alone in the shape of physical signs may not be very helpful.

Dullness at one upper zone with diminished air entry may be the only clinical features of the disease, these physical signs being due to collapse of the lung from pressure either on the bronchus or on the lung itself. Pain in these cases, to one or other side of the sternum, is not uncommon, though it is seldom of a severe character except later on; cough is usually present to some extent. If X-ray assistance is available, the diagnosis may be established fairly early, but otherwise the nature of the disease may be very obscure, and the practitioner may be distracted with the possibilities of pulmonary tuberculosis, aneurysm, or even new growth.

So far as the general picture of Hodgkin's disease is concerned, it is my impression that many of the features which are commonly described as characteristic are, from the practical working point of view, not always very helpful in diagnosis. The appearance of discrete soft enlarged glands in the cervical, axillary and inguinal regions, and accompanied by definite enlargement of the spleen, constitutes a fairly obvious clinical picture which is hardly likely to be mistaken for any other condition, except possibly one of the leukæmias, in which however external lymph gland enlargement is relatively uncommon and in which the blood-picture will probably be characteristic. In Hodgkin's disease the blood-picture does not really help one a great deal. There is usually a certain degree of anæmia of the chlorotic type, and examination of the white cells shows a leukopenia with relative lymphocytosis. The eosinophiles may be in excess, and occasionally one comes across an extremely high percentage (in the case first quoted it was as much as 10 per cent.), but this is unusual, and, in fact, eosinophilia of any degree is by no means a constant phenomenon. The only pathognomonic item upon which one can absolutely rely is the characteristic histological appearance of the lymph glands, and more often than not one is obliged to remove a gland for purposes of diagnosis. For the

exact details reference must be made to special works on morbid histology, but it may suffice here to say that the microscopic features are chiefly those of an alteration in the relative amount of lymphoid tissue and fibrous stroma as compared with that seen in the normal gland, the appearance of characteristic giant cells with several nuclei which tend to lie centrally rather than peripherally, the increase in endothelial cells with large single nuclei, and, lastly, the presence in the gland of eosinophile cells.

Of the treatment of this serious condition I would say that, while one is unable at the present time to hold out hopes of cure, a very great deal can be done to prolong life and to relieve symptoms. The general health of the patient should be maintained by good environment, fresh air, abundant food, and general tonics. Arsenic, which is nearly always prescribed, is undoubtedly useful, and, as in many other diseases in which secondary anæmia is prominent, is often tolerated by these patients in fairly large doses over considerable periods of time.

Surgical removal of glands is, in the experience of practically all observers, contra-indicated, unless perhaps for the purpose of relieving local symptoms, a contingency which seldom arises.

By far the most valuable and effective remedy we possess is X-ray therapy. This has been especially useful in the intra-thoracic type of lymphadenoma already mentioned, and the results of radiation in cases of urgent dyspnoea due to pressure from large intra-thoracic masses are sometimes little short of dramatic. It is important to impress upon the patient the need for keeping under medical observation and the desirability of repeating the doses of X-rays at intervals, even though there may be no urgent symptoms. It must be admitted that sooner or later the patients reach a stage at which radiation is no longer effective, but active life has undoubtedly been prolonged for several years where apart from X-rays the patient would inevitably have succumbed,