Clinical and other Notes

487

purpose. The discharge of viscid blood-stained pus was profuse for a few days after the operation, but it soon diminished in quantity, becoming serous in character and practically ceased at the end of three weeks. The patient then made an uninterrupted recovery.

Films of the pus were prepared a few days after the operation, fixed in absolute alcohol, and stained. Leucocytes, red cells, and several large granular cells, two to three times the size of an ordinary pus cell, and closely resembling amoebae, were seen. The majority of these large granular cells were in a state of disintegration, but in the better preserved specimens one could see protoplasm, a nucleus, and also what appeared to be vacuoles and ingested particles.

The previous history of the case was as follows: He had a severe attack of dysentery at Calcutta in December, 1899, when he was in hospital for about a month, with the passage of much blood and mucus per rectum. He made a good recovery from this attack, and but for a few minor ailments has remained in good health and free from all signs of dysentery ever since. In June, 1910—that is ten and a half years after the attack of dysentery in India—a typical hepatic abscess developed and ran a normal course.

THE PREVALENCE OF MIDDLE-EAR DISEASE IN THE ARMY, WITH A SUGGESTION FOR A REMEDY.

By Captain B. B. Burke.
Royal Army Medical Corps.

The extent to which disease of the middle ear prevails in the Army, and the loss of efficiency for which it is responsible, both by invaliding and hospital admissions, is hardly flattering to a corps which is maintained "firstly with a view to the prevention of disease."

It is with the object of drawing attention to this subject generally, and more especially the attention of those officers who have still to undergo the ordeal of the "Captain's Course," and are, perhaps, not certain which subject they will select for special study, that I am tempted to write this article.

Major F. W. Porter,1 has already pointed out the fact that a considerable number of recruits are annually passed into the Army already suffering from middle ear disease. My own experiences amply confirm this fact, and it is for this reason that I think middle ear disease (as far as the Army is concerned) should be included under the heading of Preventable Diseases.

Lieutenant-Colonel Cottell,2 taking the fresh cases of invaliding

---

1 "A Plea for the more Careful Examination of the Soldier's Ears on Enlistment," Journal of the Royal Army Medical Corps, April, 1908.

Clinical and other Notes

for all diseases that came before the Chelsea Commissioners during the first three months of 1909, found that out of 743 cases 62 were invalids for deafness. Thirty-four of these cases gave a history of having had ear disease before enlistment.

The following analysis of the cases admitted for ear disease to the Military Hospital, Devonport, during the years 1908 and 1909, shows that inflammation of the middle ear is responsible for the majority of admissions under the above heading. I have bracketed together inflammation middle ear and perforation membrana tympani, as it is difficult to conceive, except in the case of injury, how a perforation of the membrana tympani can be present without coexisting latent or active suppurative otitis media. The converse is frequently the case in catarrhal inflammation of the middle ear, but only very occasionally in suppurative inflammation, and that more especially in children.

TOTAL CASES OF EAR DISEASE ADMITTED TO MILITARY HOSPITAL, DEVONPORT, DURING 1908, 47. STRENGTH OF GARRISON, 3,093.

<table>
<thead>
<tr>
<th>Type of Disease</th>
<th>Number of Cases</th>
<th>Invalided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inflammation external meatus</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>Inflammation middle ear</td>
<td>15</td>
<td>8</td>
</tr>
<tr>
<td>Perforation membrana tympani</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Rupture membrana tympani</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Accumulation of wax</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Deafness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>10</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Type of Disease</th>
<th>Number of Cases</th>
<th>Invalided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inflammation external meatus</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Inflammation middle ear</td>
<td>31</td>
<td>1</td>
</tr>
<tr>
<td>Perforation membrana tympani</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Accumulation of wax</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Obstruction of Eustachian tube</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
<td>1</td>
</tr>
</tbody>
</table>

The figures for 1908 have been taken from the admission and discharge book; in 1909 all the cases, except 3, came under my personal observation.

It can be seen that for both years the majority of admissions are for middle ear disease, and that this type of ear disease is responsible for almost all the invaliding.

In 1908, 25 out of the 29 cases of middle ear disease were in men who had under eighteen months' service, and 13 out of these 25 had under six months' service.

In 1909, 31 out of 34 cases admitted, who came under my direct observation, were subjected to careful investigation and examination. Of these 31 cases 6 were primary attacks of acute suppurative otitis media following influenza, tonsillitis, &c. Twenty-five were cases of chronic
suppurative otitis media, all of whom gave a history of having had a
discharge from the ear prior to enlistment; while in 18 of the latter there
was clear and unmistakable evidence that active disease was present at the
time of their enlistment.

As regards length of service, 15 cases had six months' service and under,
10 cases eighteen months' service and under.

So far, I have been dealing with the cases returned under the heading
of middle ear disease, but one must also take into account the loss to the
Army by death and invaliding from the complications of middle ear
disease. It is impossible to estimate this loss, which few will deny exists,
as these cases are invariably returned under the heading of the most
serious disease—e.g., meningitis, abscess of brain, lateral sinus thrombosis,
&c. Other diseases such as pneumonia and diarrhoea may also occur as
sequelae of middle ear disease.

Preysing¹ gives the results of post-mortem examinations on 100
children, whose ages varied from 1 day up to 3 years, and who had died
from various causes. Of these 81 showed middle ear disease, which was
bilateral in 73. Bacteriological examination brought out the fact that
by far the most common organism present was the pneumococcus. Out
of 121 positive results Preysing¹ found the pneumococcus present in 112.
He also lays stress upon the association of diarrhoea with middle ear
suppuration.

It is not improbable that an unprotected "discharging" ear, scattering
its bacilli broadcast in a barrack-room, might be responsible for some of
the so-called barrack-room sore throats.

The figures for the Devonport Garrison, given above, taken in con-
junction with those for the Colchester Garrison, quoted by Major Porter,
show that a considerable amount of middle ear disease could be prevented
from gaining an entry into the Army. The question is, How is it to be
done?

Our first line of defence is the recruiting medical officer's examination.
I agree with Major Porter that it is quite impracticable on account of
the time required, especially at large recruiting stations, to clean out and
examine by speculum the ears of every prospective recruit, even supposing
the recruiting room was efficiently equipped with the necessary light and
instruments, and that the medical officer was accustomed to work of this
kind. Very obvious cases can, of course, be detected by simple tests—
such as Major Porter suggests—though I have seen a recruit of forty-eight
hours' service with an aural polypus protruding from the external meatus.

It is not always an easy matter to detect certain types of middle ear
disease. In my experience a fair percentage of the cases that are enlisted
are men with a very small perforation, situated in the upper part of the

Clinical and other Notes

membrana tympani (Shrapnell's membrane), with a scanty discharge from the meatus. Cases of this type are extremely chronic, and present a certain amount of difficulty even to the skilled observer working with a good artificial light and special instruments. Again, owing to anatomical variations, some cases present considerable difficulty in the way of a complete examination.

We must, therefore, face the fact that, unless every recruiting medical officer is a skilled aurist, having the time and necessary instruments at his disposal, which is obviously impracticable, these cases, so common amongst the class from which our recruits are drawn, must frequently get through our first line of defence. For example, Cheatle, examining 1,000 school children, found that 335 of these had a discharge from one or both ears.

Recognising this fact, we must fall back on our second line of defence and adopt means to prevent any man suffering from middle ear disease completing three months' service. This will entail the ears of every recruit being thoroughly examined by a skilled aurist at some period or other during his first ten weeks of service, and the fact noted in his medical history sheet.

Unfortunately, the number of medical officers who specialise in otology, with laryngology and rhinology, is very small; I do not think there are a dozen in the whole Corps who have qualified in this subject since the Captain's Course was instituted.

Until we can command the services of a sufficient number of officers accustomed to examining ears, the method indicated above must remain as an ideal to be aimed at. As a preliminary step towards attaining this ideal, officers must be encouraged to take up the study of ear diseases, and accustom themselves to working with a forehead mirror and artificial light.

I would suggest as the best means to this end that ear, nose, and throat departments, under the charge of a specialist, should be established at all military hospitals of 200 beds and over. Ample clinical material will be found amongst the men, women, and children.

There is a large field of work in these diseases in the Army, which is hardly touched upon at present. All junior officers could be attached for instruction at the same time as they are going through the company office. Details, such as the most suitable hours for the clinic, &c., could be worked out by the medical officer in charge of the department in conjunction with the officer in charge military hospital, and the medical officer in charge of families. A number of these departments would operate for the good of the Army in many ways. They would be a great boon to the women and children who, except in two or three stations, are almost entirely dependent on civil hospitals for treatment in throat, nose, and ear diseases. A large number of the chronic middle ear cases, who often spend on an average thirty to fifty days in hospital, could be efficiently treated as out-patients, with a considerable saving to Govern-
ment. They would also afford prospective specialists the opportunity and means of working up their subject; while the prospect of eventually holding the charge of such a department would encourage many officers to take up the study of these diseases.

It would not entail much expenditure to carry out such a scheme as I have indicated; the principal item would be the necessary equipment, a certain amount of which is already available in the various medical and surgical stores and district loan equipment, while the eventual saving to the Government would be very large.

In conclusion, I would like to draw attention to a leading article, entitled "The Development of Specialism," which appeared in the British Medical Journal of April 16th, 1910. A Guy's Hospital committee pointed out that in the case of diseases of the ear and throat such special skill in the use of instruments for diagnosis and operative procedure is necessary, that it can hardly be expected of one who is also a general surgeon.

---

A VISIT TO THE PARIS RADIUM INSTITUTE.

By MAJOR F. J. W. PORTER, D.S.O.
Royal Army Medical Corps.

For the past month I have been privileged to attend this Institute, and to see a good deal of the excellent work which is being done. It has occurred to me that a short account of what I have seen may be of interest to readers of the Corps Journal.

The Laboratoire Biologique du Radium (to give its proper title) was opened at 41, Rue d'Artois, on July 1st, 1906, as the practical outcome of eighteen months' previous work with radium by Dr. Wickham. It is about five minutes walk from the Arc de Triomphe, and is in a large private house, three rooms of which are devoted to a laboratory of physics, one to chemistry, and two to histological work.

There are places for experiments on animals, and a workshop for the manufacture of filters and of peculiarly shaped carriers, which are frequently necessary to carry the radium applications into awkward places.

There is a number of waiting rooms for treatment of patients, but no beds are available. One English and two French nurses are busily engaged in attending to the patients, and very careful records of all cases are kept by the two secretaries who are employed. Every case is photographed, and colour photography is extensively used. Two other doctors also assist in the treatment of the out-patients.

All researches connected with surgical pathology are conducted by Dr. Louis Wickham, whilst Dr. Dominci is concerned with the medical aspect of the work. Since the opening of the Institute, Dr. Degrais has