REPORT ON DISEASES OF THE EAR, NOSE AND THROAT IN THE ARMY, WITH SPECIAL REFERENCE TO MIDDLE EAR SUPPURATION AS A CAUSE OF UNFITNESS FOR SERVICE.

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As aural specialist to the Scottish Command for the past sixteen years I have had the opportunity of studying the diseases of the ear, nose and throat which are prevalent among the troops, of observing the incidence of the various diseases and of noting the effect of such diseases upon fitness for service.

It appears to me that a few notes on those matters may be of some value to those who are responsible for the general health of the Army and accordingly I submit the following report and commentary.

It would serve no useful purpose to include the years just after the War, when statistics were complicated by the inclusion of war injuries and of diseases directly due to active service. More valuable for the present purpose is a statement of the conditions obtaining in the Regular Army during recent years.

The report therefore is based upon the cases examined at the Military Hospital, Edinburgh Castle, from 1927-1935 inclusive, a period of nine years. During the period, 2,931 new patients were seen, an average of 325 per year. An examination of the records reveals the fact that two diseases, or rather groups of diseases, far outnumber all others in frequency. They are (1) tonsillitis, and (2) middle-ear suppuration (otitis media suppurative) as set forth in the following table:

TABLE I.—INCIDENCE OF TONSILLITIS AND MIDDLE-EAR SUPPURATION IN SCOTTISH COMMAND, 1927-35.

<table>
<thead>
<tr>
<th></th>
<th>1927</th>
<th>1928</th>
<th>1929</th>
<th>1930</th>
<th>1931</th>
<th>1932</th>
<th>1933</th>
<th>1934</th>
<th>1935</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total new cases attending ear, nose and throat department</td>
<td>393</td>
<td>436</td>
<td>384</td>
<td>303</td>
<td>332</td>
<td>302</td>
<td>321</td>
<td>240</td>
<td>220</td>
</tr>
<tr>
<td>Tonsillitis</td>
<td>105</td>
<td>112</td>
<td>116</td>
<td>84</td>
<td>78</td>
<td>79</td>
<td>116</td>
<td>64</td>
<td>58</td>
</tr>
<tr>
<td>Middle-ear suppuration</td>
<td>112</td>
<td>137</td>
<td>117</td>
<td>79</td>
<td>113</td>
<td>96</td>
<td>69</td>
<td>50</td>
<td>49</td>
</tr>
</tbody>
</table>

(1) TONSILLITIS.

This disease is extremely common and is one of the principal causes of admission to hospital. Official reports on the Health of the entire Army for the past few years mention the figures stated in Table II.
It is obvious from the above table that tonsillitis is one of the principal causes of inefficiency and of loss of working days. It is not a cause of permanent unfitness for service, and if the tonsils are competently removed by the dissection method the patient is permanently cured. The main indication for operation is a history of repeated attacks of tonsillitis. In order to test the efficiency of the treatment I ascertained the subsequent history of twenty-six men from one regiment (9th Lancers) who underwent operation in 1933. In no case had there been any further trouble with the throat.

Tonsillitis is probably commoner under Service conditions than in civilian life, and there appears to be no certain means of reducing its incidence. It is probably more frequent during and after epidemics of influenza. Fortunately we have, in tonsillectomy, a method of rendering the patient again perfectly fit for service.

**Inflammation of the Nasopharynx.**

Under this heading is included a large number of cases in each year, ranking about tenth in incidence as a cause of admission to hospital (see Table II).

The category is not altogether satisfactory as it must of necessity include such diseases as adenoiditis, rhinitis, pharyngitis, sinusitis and probably also nasal allergy. At all events the various forms of sinusitis, a common cause of inefficiency, should if possible be differentiated from inflammation of the nasopharynx, as the latter is in many cases a symptom rather than a disease.

(2) **Middle-Ear Suppuration (Classed as Inflammation of the Middle Ear in Army Records).**

This is another disease of great frequency. It ranks fairly low, about twentieth place, as a cause of admission to hospital (see Table II, in which, for the sake of simplicity, only a few “principal causes” have been mentioned). Nevertheless, a large proportion of the patients treated by the
aural specialist, one-fifth to one-third of total, suffer from inflammation or suppuration of the middle ear. The disease is a very frequent cause of inefficiency and ranks second to tuberculosis as a cause of invaliding. The figures for 1933 (Report on Health of Army) were 206 for pulmonary tuberculosis and 168 for inflammation of the middle ear.

In determining the question of fitness for military service, a distinction must be drawn between the recent acute case and the old-standing chronic case of otitis. This is not always easy, as the acute stage of otitis very gradually merges into the chronic stage. The period after which the acute case should be regarded as a chronic case is usually given as two to three months. Moreover a superimposed “acute exacerbation” of a chronic case may be difficult to distinguish from a simple acute otitis.

The acute cases form a varying proportion of the total, as may be gathered from the following table:

<table>
<thead>
<tr>
<th>Total cases of middle ear suppuration</th>
<th>1931</th>
<th>1932</th>
<th>1933</th>
<th>1934</th>
<th>1935</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute suppurative otitis (practically all subsequently fit for service)</td>
<td>113</td>
<td>96</td>
<td>69</td>
<td>50</td>
<td>46</td>
</tr>
<tr>
<td>Chronic suppurative otitis</td>
<td>45</td>
<td>36</td>
<td>29</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>Number of chronic cases unfit for service</td>
<td>68</td>
<td>60</td>
<td>40</td>
<td>34</td>
<td>32</td>
</tr>
</tbody>
</table>

In the great majority of cases of acute otitis the prognosis is good. Under careful treatment, a discussion of which is outside the scope of this report, the ear returns to normal and hearing is restored. Very different is the case of chronic suppurative otitis. In the worst form one may find the meatus occluded by granulation tissue in the form of an aural polypus. Or there may be masses of white flaky material known as cholesteatoma. The patient may suffer from recurrent headache and attacks of giddiness. Sometimes the mere inconvenience of a profuse discharge is the only complaint. Any one of the above conditions constitutes grounds for invaliding, although a short course of conservative treatment should be tried as a rule.

Secondly, there is the case of chronic suppurative otitis in which the suppuration is no longer present and the ear is dry. The usual complaint is deafness and one may find an intact tympanic membrane showing the scar of a previous perforation. The question of fitness or otherwise will then depend upon the extent of the deafness, which is usually unlikely to improve under treatment. In other cases a dry perforation is present. If small it may be persuaded to heal under treatment, but more frequently it is large and there is often a slight discharge of which the patient is unaware. In assessing the question of fitness, length of service must be con-
sidered. While one does not hesitate to reject a recruit with a perforated drumhead, one might advise retention of a soldier who had already served for a period of years, provided he was fit for his present duty. All the evidence must be weighed, such as the degree of deafness, whether unilateral or bilateral, the amount and nature of the discharge, if any, and the medical history of this or any other disability. In my own experience I have found that the great majority of cases of chronic suppurative otitis or of its sequela (scars, perforations, deafness, etc.) are unfit for military service. Fortunately, owing to a greater care in the examination of recruits and more thorough treatment of cases of acute otitis, the disease now appears to be less common in the Army than formerly.

The problem of middle-ear suppuration in recruits calls for separate consideration. It is a matter of the utmost importance, as much time and money may be lost to the country by the acceptance and subsequent rejection of recruits as may very easily happen when middle-ear suppuration is overlooked. If any confirmation of this statement is required, it may be found in the accompanying table, which gives the three leading causes of rejection:

**TABLE IV.—Principal Causes of Rejection of Recruits on Enlistment or Within Six Months (1931-1934).**

<table>
<thead>
<tr>
<th></th>
<th>1931</th>
<th>1932</th>
<th>1933</th>
<th>1934</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diseases of middle ear</td>
<td>3,680</td>
<td>3,057</td>
<td>3,175</td>
<td>2,464</td>
</tr>
<tr>
<td>Loss or decay of many teeth</td>
<td>2,260</td>
<td>2,460</td>
<td>2,764</td>
<td>2,162</td>
</tr>
<tr>
<td>Defects of lower extremities</td>
<td>2,509</td>
<td>2,402</td>
<td>2,494</td>
<td>1,702</td>
</tr>
<tr>
<td>Total number rejected</td>
<td>22,157</td>
<td>21,326</td>
<td>22,638</td>
<td>16,935</td>
</tr>
</tbody>
</table>

The above table shows that disease of the middle ear (usually of the nature of chronic suppurative otitis media or its sequelæ) is the principal cause of unfitness in recruits and accounts for the rejection of 50 to 60 recruits in every 1,000 who apply to enlist.

One might have given the smaller figures of the Scottish Command but they would form too small a basis for any conclusion and in any case the ratios correspond very closely to those of the entire Army.

The number of recruits examined each year is 50,000. Many are rejected at sight without being served with notice papers. Indeed, in the London Recruiting Zone in 1934, 67 per cent of the total were rejected for obvious physical defects. Of the remainder, provisionally accepted, 35 per cent were rejected on medical examination and the principal cause of rejection, as already stated, was disease of the middle ear.

It is of the utmost importance that in every recruit the ears should be carefully examined as to appearance and function. The tympanic membrane must be inspected by the electric otoscope after the removal of wax, if necessary, and the hearing for voice and whisper should be tested.
The hearing test is important, as certain diseases such as concussion deafness or otosclerosis may be present although the membrane is normal.

The presence of a perforation, even a dry perforation, should lead to rejection, as the perforated drum may be a gateway of reinfection under stress of Service conditions.

An intact tympanic membrane and good hearing should be regarded as essential to every candidate for military service. A clear unobstructed airway is hardly less important as many nasal abnormalities (enlarged turbinals, marked deviation of septum, etc.), imply a susceptibility to colds and consequent loss of working days.

In conclusion, I trust that this report, written with a view to emphasizing the importance of oto-laryngology in the Army, may be of some slight value to those who are responsible for the health and fitness of His Majesty's troops.
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