SEVENTY-ONE CASES
OF
CEREBRO-SPINAL MENINGITIS
BY
FRANCIS H. WILLIAMS, M.D.
REPRINTED FROM
THE MEDICAL AND SURGICAL REPORTS OF THE
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By Francis H. Williams, M.D.

It is not my intention to consider here the various epidemics of cerebro-spinal meningitis that have occurred since 1805 in the United States and other countries, nor the recognition in recent years of a diplococcus as a cause of this serious malady, but with the kind permission of the medical staff of the Boston City Hospital, to give an outline of the cases that have entered their services, as well as my own, between January 1, 1897, and December, 1897, seventy-one in all. The records are in many instances incomplete for various reasons; many patients do not speak English or they may be brought to the hospital in an unconscious condition and unaccompanied by friends. The tabulation by localities shows that one part of the city has not been markedly more affected than another. The patients have been youths and adults, as children have been sent to the Children's Hospital. The mortality has been nearly 61 per cent.; forty-nine died; twenty-two recovered.

The disease has been characterized by sudden onset; the most constant symptom has been headache, associated usually with some tenderness to pressure in the neck or pain on movement there or retraction of the neck. Delirium occurred in most of the cases, vomiting was a frequent symptom and strabismus, failure of the pupils to react, nystagmus, diplopia, or optic neuritis have been often noted. The temperature was very irregular, and this want of regularity is quite characteristic of the disease. The pulse in some cases was rapid, in others it was less than normal, and in still others it was slower than the symptoms present would lead one to expect. In nineteen cases there was herpes labialis.

The leucocytes were counted in thirty-two cases, and in twelve of these there were at some period of the disease less than
10,000; this was true in four of the fatal cases, but a subsequent count in three gave a great increase in numbers; in the fourth there was no subsequent count. If, therefore, the leucocyte count when used in the diagnosis of cerebro-spinal meningitis, gives no leucocytosis, a second count should be made. In thirteen cases, more than one count was made and the subsequent count or counts showed a marked increase in the leucocytes in the six fatal cases (three of these have been alluded to above); in the remaining seven that recovered there was a striking decrease in five, no change in one, and in the seventh the decrease was followed by an increase and this again was succeeded by a diminution. These cases indicate that the leucocyte count may sometimes assist in the prognosis.

The serum test for typhoid fever was tried in ten cases and was positive in one only, that of a negro.

Lumbar puncture was done in forty cases, and judging from these this puncture does no harm and it readily establishes the diagnosis when fluid containing the organisms is found; it is sometimes very serviceable for diagnosis as often there is no history and the symptoms may be few. It should be borne in mind that the bacterial examination may give a negative result even in cerebro-spinal meningitis unless the test is made by those who have had much experience. The operation for lumbar puncture, under strict antiseptic precautions, is readily done by using a small trocar to tap the sac surrounding the spinal cord and drawing off some of the fluid; the point of insertion is between the third and fourth lumbar vertebrae. I have usually chosen a point slightly lower than the lowest part of the spinous process of the second lumbar vertebra, and one inch outside of it, and inserted a small sized trocar, somewhat downward and inward to a depth of rather more than two inches. I have always used a trocar instead of a needle, as the latter is liable to be bent or broken off, and is too small to allow the thick pus that is present in some cases to flow through it easily.

The present treatment of the disease is wholly unsatisfactory; but the fact that we have the means of making an early diagnosis in many cases, offers the hope that better treatment may be found.
<table>
<thead>
<tr>
<th>Date</th>
<th>Symptoms</th>
<th>Observations</th>
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</thead>
<tbody>
<tr>
<td>Aug.</td>
<td>Puncture.</td>
<td>CO</td>
</tr>
<tr>
<td>Jan.</td>
<td>Headache.</td>
<td>Slight</td>
</tr>
<tr>
<td>Mar.</td>
<td>Strabismus, +</td>
<td>Tuberculin, +</td>
</tr>
<tr>
<td>Apr.</td>
<td>Retrac.</td>
<td>hack, +</td>
</tr>
<tr>
<td>May</td>
<td>Ptosis, +</td>
<td>Stiff, +</td>
</tr>
<tr>
<td>June</td>
<td>Frontal</td>
<td>Slight</td>
</tr>
<tr>
<td>July</td>
<td>Diplopia</td>
<td>Hydrocephalus.</td>
</tr>
<tr>
<td>Aug.</td>
<td>Delirious, +</td>
<td>Henry</td>
</tr>
<tr>
<td>Sep.</td>
<td>Pain, +</td>
<td>S.</td>
</tr>
<tr>
<td>Oct.</td>
<td>Headache, +</td>
<td>O'B.</td>
</tr>
<tr>
<td>Nov.</td>
<td>Pain, +</td>
<td>O'C.</td>
</tr>
<tr>
<td>Dec.</td>
<td>Pain, +</td>
<td>O'C.</td>
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</tbody>
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*Note: Details of other observations and symptoms are not fully legible.*