The possibilities of future successful operations for intra-cardiac conditions, which are conjured up by the virtual success of this one. I understand that a French surgeon recently removed, with permanent success, a rifle bullet which had lain in the right ventricle for five months. Unfortunately, I cannot meantime give a reference to the account of his operation.

**BRAIN ABSCESS IN A CASE OF PARATYPHOID B.**


Royal Army Medical Corps.

The importance of a more accurate clinical and bacteriological differentiation between diseases of the coli group appears to be amply justified by the findings of the present campaign. Statistics are as yet incomplete, but those we have since the outbreak of hostilities demand a closer investigation of the interesting paratyphoid group. The following case of paratyphoid B which recently occurred at No. 1 General Hospital presents a particularly interesting complication.

The patient, aged 21, a private, was admitted into No. 1 General Hospital on February 3, 1915. He gave a history of feeling ill, with pains in the abdomen, diarrhea and headache commencing on January 26. In addition, he now complained of pains in the back and legs. There were sordes, furred tongue, and characteristic spots on abdomen, which was tympanic and tender on palpation; spleen enlarged. No abnormal signs in lungs and heart. Urine normal. Nothing characteristic in the faeces. Pulse 110; temperature 103°F.

On February 4 a provisional diagnosis of enteric fever was made, and the patient was removed to the isolation division of the hospital. He complained of severe pain in the right side of the head and seemed very ill and drowsy. The pulse became dicrotic. Cultures were made from the blood, but proved to be sterile. No organism of the typhoid group could be isolated from the urine or faeces.

On February 8 the patient developed a hemiplegia of the left arm and leg; his left facial and left hypoglossal nerves were also paralysed. He had incontinence of urine and faeces, but no vomiting. No abdominal or cremasteric reflexes could be elicited. His expression was clouded and he became more drowsy, dull and apathetic. He replied to questions very slowly, thickly and not immediately, and yawned occasionally. He complained of pain in the right temporal region and the back of the right ear. Percussion over these areas made him wince. There was no oedema over either mastoid, but tenderness was present over the right mastoid area, especially over the tip. Tenderness was also elicited over and down the right side of the neck in line with the internal jugular. On examination of the ears, beyond a slightly injected Shrapnell's membrane and a little injection around the handle of the malleus on the
Clinical and other Notes

right side, nothing of note was found. There were no signs of past or present middle-ear disease. Nose and throat examination revealed nothing abnormal. Examination of the fundi was difficult, but the edge of the right disc appeared rather hyperemic and indistinct. The pulse was no longer dicrotic, but full and slow; the temperature, on the other hand, remained high.

A diagnosis of right temporo-sphenoidal abscess was made, and on the strength of the definite tenderness over the right mastoid it was decided to explore this region first, and if nothing should be found to trephine over the usual site. Unfortunately the patient collapsed under the anesthetic before any operative procedure was begun. It was deemed advisable to proceed further. Lumbar puncture was performed and ten cubic centimetres of clear cerebrospinal fluid were withdrawn under no excess of pressure; cultivations of it were sterile. The subsequent history of the case was characteristic of a gradually increasing intracranial pressure. Coma and full stertor developed on February 12, and death supervened the next morning.

Post-mortem examination revealed the following: The spleen, somewhat enlarged, was attached by recent adhesions to the diaphragm. The upper pole showed purulent softening. The walls of the greater part of the ileum were atrophic, thin, and transparent, and in parts intensely hyperemic. There was a uniform enlargement of the corresponding mesenteric glands, those in the ileo-caecal angle being most markedly affected. In that area individual glands were as large as beans; some were fused by an inflammatory cedema and showed on section central necrosis. The serious aspect of the cæcum presented a picture of intense hyperemia with numerous adhesions. The lymphadenoid tissue of the ileum appeared to be but slightly affected, considering the amount and severity of the ulceration. The appearance suggested a general hypoplisia of the lymphadenoid tissue. Ulceration was confined to the lower two feet of the ileum and to the adjacent portion of the cæcum. The ulcers, irregularly placed, were pitted, varying in size from a pea to a shilling, with sinuous edges raised towards the mucous coat, well marked and slightly indurated, resting on the muscularis mucosa the floor was granular and of the usual striated appearance. The opposed area of serous surface showed neither localized peritonitis nor adhesions, and there was an entire absence of subserous follicles suggestive of tubercular infection. The ulcers did not tend to encircle the gut, but had a follicular distribution, apparently with no definite relation to the lymphadenoid tissue. They suggested an acute process and appeared of recent formation. The largest, occurring near the ileo-cæcal valve, measured three quarters of an inch across. The lesions were not typical of either enteric fever or tuberculosis. The vessels of the dura mater were unduly injected. Beyond a slight engorgement of the capillaries leading down from the anterior part of the Sylvian fissure, the arachno-pial membrane was
normal. There was a considerable oedema of the right brain, well seen in the frontal and temporo-sphenoidal lobes. The right hemisphere was much larger than the left, overlapping it along the longitudinal fissure and to a certain extent displacing it. On section, an abscess about the size of a shilling was found embedded in the outer and posterior aspect of the right optic thalamus. The adjacent limb of the right internal capsule was partially destroyed. Pigmentation and encapsulation were absent. The oedema on section was very obvious. There was the usual displacement and distortion of mesial structures, the fornix being pushed aside and the left ventricle being flattened. The abscess had not ruptured into the right ventricle.

For the following report we are indebted to Lieutenant M. K. Acheson, M.A., M.D., Bacteriologist, No. 1 General Hospital:

"Several attempts were made with negative results during life to isolate from the blood, feces, urine, and cerebrospinal fluid the organism causing the patient's illness. At the post-mortem a non-motile, Gram-negative bacillus was obtained in pure culture from the spleen. In bile salt glucose and mannite it gave acid and gas; no change took place in bile salt lactose.

"The Bordet-Durham reaction was tried, with the results shown in the following table:

<table>
<thead>
<tr>
<th>Dilution</th>
<th>1 in 40</th>
<th>1 in 80</th>
<th>1 in 160</th>
<th>1 in 320</th>
<th>1 in 640</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typhoid</td>
<td>Complete</td>
<td>Partial</td>
<td>Partial</td>
<td>Partial</td>
<td>Negative</td>
</tr>
<tr>
<td>Paratyphoid A</td>
<td>Almost complete</td>
<td>Partial</td>
<td>Very slight</td>
<td>Negative</td>
<td>Negative</td>
</tr>
<tr>
<td>&quot; B</td>
<td>Complete</td>
<td>Complete</td>
<td>Partial</td>
<td>Partial</td>
<td>Partial</td>
</tr>
<tr>
<td>Gaertner</td>
<td>No agglutinating serum available.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

"As the brain was at once placed in formalin solution, no bacillus could be isolated from the abscess when sections were cut.

"It is unfortunate that the Bordet-Durham reaction for Gaertner could not be performed, but the evidence, both clinically and bacteriologically, seemed fairly conclusive that the disease was due to the Bacillus paratyphosus B."

A FIELD ELECTRIC LAMP.

By Major G. H. Brown,
Royal Army Medical Corps.

The accompanying scale drawings illustrate a form of portable electric lamp suitable for dug-outs used as advanced dressing stations. The lamp figured was made in the field.

Battery.—8 dry cells (1½ volts), giving 12 volts. These are arranged four on each side of the box, and are wired in series. Life of cell = 50 hours. Cost £2-50 fr. each.

Bulb.—12 volts. One with metal filament and low "amperage" is