Clinical and other Notes

There were no Koplík's spots nor otherwise any glands to be felt.

Bacteriological Findings.—Throat swabs, collected as early as possible yielded mostly Pfeiffer's bacilli, with some associates, most commonly diphtheroids, Gram-positive diplococci, or M. catarrhalis.

(1) Agglutination tests were made against Pfeiffer's bacillus isolated from some of the cases, and positive results up to 1 in 100 in three cases were obtained.

(2) There was no appreciable change in the blood elements (with the exception of the case already referred to) but if any, it was in the sense of a moderate leucocytosis.

I have attached to this report¹ some references, but prefer for the present to abstain from discussion.

Cases of this nature have certainly come to notice before, and even in the spring of this year, something very similar was reported by the Medical Correspondent of the Times.

SOME CLINICAL DETAILS FROM A DEPOT HOSPITAL.

By BREVET MAJOR C. S. P. HAMILTON, D.S.O.
Royal Army Medical Corps.

(1) A CARDIAC AND ANEURYSM CASE.

PATIENT, Serjt. G., aged 29. Nine years' service. Admitted on August 23, 1921, with the following history:

History.—Up to eight weeks ago he was absolutely fit, doing ordinary duty as permanent instructor to an Infantry Territorial Unit. His duties included physical training instruction to his men, and he himself actually performed the various physical training movements up to the day of his illness. He was a physical training instructor in France for the last three years of the war.

Eight weeks ago, on or about June 23, 1921, the patient was taken ill with severe pains across the lower part of the chest and the pit of the stomach, the pain completely "doubled him up." He went to a doctor who diagnosed his case as "gastritis," and sent him away for a fortnight's leave. When he returned from leave he noticed himself getting short of breath, and the pain, though better, still came on at intervals, no vomiting. Bowels were not constipated. He went to another doctor about a fortnight after returning to his work, as he found himself unable to do his duty. The doctor now found that he had a "lump" behind his right knee. He was ordered to bed, but actually only rested during the day in a chair, and walked about the room as he wished. His doctor wrote to his Unit, and applied to have him removed to hospital, suffering from "popliteal aneurysm and cardiac disease."

Previous Illnesses.—He was never sick during the whole of his service, and never remembered any illness since childhood; did not give any definite history with regard to infectious fevers. Married; no children; wife no history of miscarriages.

¹ Printed elsewhere as Current Literature.
Condition on Admission.—Admitted on August 23, 1921, the journey in the ambulance was a long one, being about twenty-five miles. On admission his condition was as follows: Face white and puffy; lips cyanosed. Expression anxious, marked dyspnæa. Marked clubbing of the fingers. A large pulsatile swelling in the right “popliteal space” which proved to be an “aneurysm.” Pulse 124; temperature, 99.4°F. On examination of the chest, bulging over precordial area, marked heaving. Pulsation over the whole of the apical area; right side of heart ½ inch to right of sternum. Apex beat downwards and outwards sixth space 4½ inches. On auscultation a double mitral murmur conducted both outwards and upwards, very loud. These murmurs were heard over all the valvular areas, and entirely obliterated any normal heart sounds. The lungs showed some râles over both the bases posteriorly. The left carotid, the left axillary, brachial and radial pulses were almost entirely obliterated; a feeble pulse was, at times, just perceptible, but so feeble that one could hardly appreciate it, whilst the right pulse was well marked, though irregular in force and rhythm. Blood-pressure, 129-125, right radial. Left side no blood-pressure record could be taken. Eyes: Reacted to light and accommodation. Mouth: Septic stumps and gingivitis; tongue, dry furred. Liver: Palpable and tender. Spleen: Palpable and tender; some ascites. Urine: Specific gravity, 1020; albumen ++ present; bile salts present. Blood: Negative to Wassermann reaction on two occasions.

On the second day in hospital the patient had a temporary left-sided facial paresis from which he recovered in eighteen hours.

Treatment.—Patient was treated with pot. iod. and a modified “Tufnell diet.” His condition was desperate from the very beginning, and he died on September 7, 1921, i.e., fifteen days from the date of admission, and two and a half months from the onset of the disease. No post-mortem was obtained.

SUMMARY.

As seen from the above history, the case is remarkable because:—

1. Of its sudden onset without any definite history of previous illness.
2. Its rapid course.
3. The considerable arterial degeneration.
4. In the absence of a positive Wassermann reaction and any objective signs of syphilis, it is difficult to assign a cause for this serious and rapid cardiac condition. Oral sepsis plus the strain of physical training may have been contributing causes.

(2) NOTES ON TRAUMATIC SYNOVITIS OF THE KNEE JOINT.

Traumatic synovitis of the knee joint is, without doubt, serious when occurring in a young man whose livelihood depends upon his agility.

The tendency is to relegate this injury to the class of minor troubles, to record that “it will not interfere with the future efficiency of the soldier,” and on the part of the medical profession generally to treat it with scant attention. How often one hears a patient, when giving a history of his affection, say, “I was treated by a doctor just for a few days; he painted the knee with iodine, and told me to wear a bandage.”

Below is appended a table, showing a few cases admitted to the Crowborough Military Hospital, from July 10, 1921, to October 30, 1921.
<table>
<thead>
<tr>
<th>No. of case</th>
<th>Joint injured</th>
<th>Mode of injury</th>
<th>Total service on admission</th>
<th>Total number of injuries</th>
<th>Length of time under treatment each injury</th>
<th>Total time in hospital</th>
<th>Percentage of total service in hospital</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>S.R.K.</td>
<td>Whilst riding</td>
<td>32 weeks</td>
<td>Two</td>
<td>3, 5</td>
<td>8</td>
<td>21.6%</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>S.L.K.</td>
<td>Football</td>
<td>60 &quot;</td>
<td>Three</td>
<td>20, 8, 6</td>
<td>34</td>
<td>61.5%</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>S.R.K.</td>
<td>Fall on rough ground</td>
<td>28 &quot;</td>
<td>Five</td>
<td>8, 3</td>
<td>11</td>
<td>35.8%</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>S.L.K.</td>
<td>Twist, running</td>
<td>104 &quot;</td>
<td>One</td>
<td>4</td>
<td>4</td>
<td>3.6%</td>
<td>First three injuries in civil life</td>
</tr>
<tr>
<td>5</td>
<td>S.R.K.</td>
<td>Football</td>
<td>104 &quot;</td>
<td>Five</td>
<td>5, 3, 2, 5, 2*</td>
<td>17</td>
<td>16.0%</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>S.R.K.</td>
<td>Boxing</td>
<td>26 &quot;</td>
<td>Two</td>
<td>4, 1</td>
<td>5</td>
<td>18.5%</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>S.R.K.</td>
<td>Walking</td>
<td>28 &quot;</td>
<td>One</td>
<td>3</td>
<td>3</td>
<td>9.6%</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>S.R.K.</td>
<td>Football</td>
<td>338 &quot;</td>
<td>Three</td>
<td>5, 4, 3</td>
<td>12</td>
<td>3.5%</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>S.R.K.</td>
<td>Football</td>
<td>20 &quot;</td>
<td>Two</td>
<td>Not treated</td>
<td>5</td>
<td>20.0%</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>S.L.K.</td>
<td>Football</td>
<td>88 &quot;</td>
<td>Two</td>
<td>5, 4</td>
<td>9</td>
<td>9.7%</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>S.R.K.</td>
<td>Kicked by horse</td>
<td>130 &quot;</td>
<td>One</td>
<td>5</td>
<td>5</td>
<td>3.6%</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>S.L.K.</td>
<td>Football</td>
<td>208 &quot;</td>
<td>Two</td>
<td>4, 4</td>
<td>10</td>
<td>4.6%</td>
<td>Transferred to another hospital</td>
</tr>
<tr>
<td>13</td>
<td>S.R.K.</td>
<td>Hockey</td>
<td>78 &quot;</td>
<td>Two</td>
<td>3</td>
<td>3</td>
<td>3.7%</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>S.R.K.</td>
<td>Skating</td>
<td>6 &quot;</td>
<td>One</td>
<td>4†</td>
<td>4</td>
<td>33.3%</td>
<td>+ Transfer</td>
</tr>
<tr>
<td>15</td>
<td>S.R.K.</td>
<td>Football</td>
<td>80 &quot;</td>
<td>One</td>
<td>8</td>
<td>8</td>
<td>9.0%</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>S.R.K.</td>
<td>Hit with stick</td>
<td>308 &quot;</td>
<td>One</td>
<td>2</td>
<td>2</td>
<td>0.8%</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>S.R.K.</td>
<td>Football</td>
<td>6 &quot;</td>
<td>Three</td>
<td>Civil life, 7</td>
<td>7</td>
<td>83.8%</td>
<td>Two first injuries in civil life</td>
</tr>
<tr>
<td>18</td>
<td>S.L.K.</td>
<td>Kicked by horse</td>
<td>32 &quot;</td>
<td>One</td>
<td>4</td>
<td>4</td>
<td>11.1%</td>
<td>Transferred direct to another hospital</td>
</tr>
<tr>
<td>19</td>
<td>S.L.K.</td>
<td>Football</td>
<td>308 &quot;</td>
<td>Seven</td>
<td>Six first injuries in civil life and seventh displaced cartilage</td>
<td>4</td>
<td>9.0%</td>
<td>Transferred direct to another hospital</td>
</tr>
<tr>
<td>20</td>
<td>S.R.K.</td>
<td>Kicked by horse</td>
<td>36 &quot;</td>
<td>One</td>
<td>Transferred</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>S.R.K.</td>
<td>Knock on bench</td>
<td>40 &quot;</td>
<td>Three</td>
<td>Civil life, 4</td>
<td>4</td>
<td>9.0%</td>
<td>Two first injuries in civil life</td>
</tr>
<tr>
<td>22</td>
<td>S.R.K.</td>
<td>Kicked by horse</td>
<td>24 &quot;</td>
<td>One</td>
<td>2</td>
<td>2</td>
<td>7.5%</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>S.L.K.</td>
<td>Football</td>
<td>73 &quot;</td>
<td>Two</td>
<td>20, 2</td>
<td>22</td>
<td>27.5%</td>
<td>Transfer first time cartilage operated on</td>
</tr>
</tbody>
</table>


All figures are in weeks. Percentage derived from the total service up to the day of discharge from hospital.
On analysing this table the following deductions can be arrived at:—

The total number of cases admitted for traumatic synovitis of the knee was twenty-three. In fourteen of these cases the right knee was affected; in eight of these cases the left knee was affected; in one of these cases both knees were affected.

Direct force caused the injury in six cases. Indirect force (twists, etc.), was the causative factor in nineteen cases.

From the table it will be seen that a definite history of injury to the knee in civil life was obtained in three cases, but probably this falls far short in number of the exact figure. The actual percentage of time spent in hospital out of the patients' total service is interesting, but does not of itself prove anything very much, as so many of the actual patients are recruits with very short service. However, a few cases should certainly be mentioned, such as:—

Case No. 2, total service sixty weeks, percentage of time in hospital, 51.5 of total service.
Case No. 3, total service twenty-eight weeks, percentage of time in hospital, 35.8 of total service.
Case No. 5, total service 104 weeks, percentage of time in hospital, 16.03 of total service.
Case No. 23, total service seventy-eight weeks, percentage of time in hospital, 27.5 of total service.

Careful measurements of the calf and thigh muscles were taken in every case. (The calf muscles were measured at an equal distance in each leg above the tip of the internal malleolus. The thigh muscles were measured at a point four inches above the adductor tubercle in each thigh, thus obviating any possible mistake, such as including the upper part of the synovial sac of the knee-joint).

The Result of the Measurements in the Various Cases.—Marked wasting in the quadriceps extensor group of muscles on the affected limb was found in eight of the cases out of twelve. These twelve cases were all those in which one or more previous injuries had occurred. In five cases admitted for first injury, some slight wasting of the quadriceps extensor was found, and in each one of these five cases the wasting was of the muscles of the affected limb. In no case was wasting found in the sound limb.

The calf muscles only showed wasting in four cases, in two of which the wasting was marked, and they both had histories of several previous injuries, and in the other two cases the wasting, though being noticed in the affected limb, was only slight, and these were primary cases.

Marked flat feet in the early stage was noticed in four cases, and the condition was always more marked on the affected side. In three of these cases there was a history of more than two previous injuries; the remaining one being a primary case.

The Final Aim in Treatment is Threefold:—

1. To rid the joint of fluid and, if possible, the synovial membrane of all thickening.
2. To reproduce full range of movements in the joint.
3. To improve the tone of the muscles of the thigh and leg, thereby also improving the tone of the capsule and ligaments of the knee-joint.

The final ambition should be to procure measurements of the thigh and calf
Clinical and other Notes

muscles of the affected side equal to the normal measurements of the muscles of the unaffected side, i.e., the measurements taken on admission. Unless the muscles and ligaments do obtain as near as possible their normal tone, the likelihood of future injury is very great. It must be borne in mind that a stretched capsule and ligaments generally remain weak for a considerable time, and on this assumption regulation of a patient's future work greatly depends. An infantry-man certainly should not be allowed to resume full duty too soon. Treatment prolonged a few weeks will probably save many months of enforced future illness.

One can meditate on this table and ask oneself the following questions:—

(1) Is traumatic synovitis of the knee a trivial disease?
(2) Should recruits with a history of injury to the knee be enlisted if any signs are observed?
(3) Should a knee-joint once injured, however slightly, providing that fluid is present, be treated at an M.I. room or in quarters?
(4) What guide is there as to how one should fill in the Accidental Injury Form B. 117?
(5) What action should be taken with regard to a patient's future service?

To the above questions the following answers seem most fitting:—

(1) Traumatic synovitis of the knee-joint should never be looked upon as a trivial disease.

(2) Any man presenting himself for enlistment should be rejected if a history of previous injury to the knee within the last twelve months is obtained, and at the same time thickening of the synovial membrane is found. Also he should be rejected even if no history is obtained when any marked thickening of the synovial membrane is observed in a knee-joint.

(3) No synovitis of the knee-joint should be treated, except under conditions when the patient is able to lie in bed until all the fluid has disappeared.

(4) Army Form B. 117, when filled in, cannot be truthfully completed “unlikely to affect his future efficiency as a soldier.” Any traumatic synovitis is liable to affect a soldier’s future efficiency.

(5) If a patient has suffered from more than two attacks within twelve months from his injury, then he should be sent up before a Board with regard to his fitness for further service.

Naturally the man’s work must be taken into account; a cavalry-man or infantry-man is more liable to break down completely through an injured knee, than a headquarters clerk or nursing orderly.

Probably many will disagree with the above views, but this article will serve its purpose if it calls attention to the fact that knee cases require serious thought.

Permission to publish the above notes has kindly been given me by Lieutenant-Colonel J. G. Bell, D.S.O., the Officer Commanding Crowborough Military Hospital.