THREE CASES OF PAROXYSMAL HAEMOGLOBINURIA IN SOLDIERS.

BY

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IN view of the comparative rarity of this condition the following cases possess considerable interest. All three men were in the early stages of their military training and paraded sick owing to discoloration of the urine, which, coupled with a feeling of great exhaustion, caused them considerable alarm.

CASE I.

Private H., aged 18. No history of venereal disease. Woke up one morning after night operations feeling very weak and shivery, and noticed that his urine was red in colour. His temperature was 100.8°; no physical signs could be detected, except that the spleen was just palpable. The urine was dark brown and contained heavy deposits; it showed the presence of albumin, and gave a positive reaction to the guaiacum test. On microscopic examination a few red corpuscles, a quantity of amorphous pigment, and some bladder epithelium were seen. Spectroscope examination showed the absorption bands typical of methaemoglobin.

The patient was put to bed with hot-water bottles and given warm drinks. After twenty-four hours the urine was clear, and he felt quite well, though weak. He was given an iron and arsenic tonic, and returned to special duty in a few days. He had no recurrence while under my observation.

CASE II.

Private S., aged 32, had suffered from malaria in 1912 while in the tropics. He had led a sedentary life until enlistment. His attack started suddenly with severe lumbar pains after exposure to cold and wet.

On examination he had a temperature of 102.2°, which, however, quickly fell after rest in bed. There were no abnormal physical signs; the spleen was impalpable. His urine, which was examined both microscopically and spectroscopically, presented the same characteristics as in the preceding case, differing only in specific gravity. A blood examination showed a leucocytosis of 9,800. This man continued to pass blood-stained urine for forty-eight hours. He was given similar treatment, and was soon back at work. He is now in Mesopotamia, and when I last heard from him had had no recurrence.

CASE III.

Private J., aged 28, had had a similar attack previously in civilian life. On this occasion the onset was sudden, accompanied with great exhaustion. His temperature was 102° and the spleen just palpable. After being put to bed he complained of an intense "itchiness" all over. The urine had the same physical, microscopic and spectroscopic characteristics as previously described, and he also had a leucocytosis.

He recovered from this attack in twenty-four hours, but had a relapse about six weeks later. He was eventually put to clerical work and has not suffered since.

In all these three cases the exciting cause was apparent exposure to cold coupled with considerable bodily exertion. In none was there any admission of syphilitic taint. The Wassermann reaction was not done in any of the cases. On examining the cases admitted into Guy's Hospital during the last few years, I find that in the last three the Wassermann test was performed, and was positive in all of them. Malaria is cited by some authorities as an etiological factor, and Case II had suffered from this disease. It is interesting to note that in none of these cases was the initial temperature under 100°, and that in none of them did the urine clear up under twenty-four hours. This apparent severity was, no doubt, due to the considerable exposure and exertion undergone.

The most generally accepted theory of causation is that a haemolysis exists in the blood of these cases, the amoceptor of which will only unite with the red blood cells in the presence of the complement, and at a low temperature. This low temperature was present in all the cases under consideration. It seems to me that these men, all of whom had lived sedentary lives prior to enlistment, when thrust rapidly into the full stress of military life, had given way at the weakest point, which in them happened to be in the blood. I am convinced that were a more gradual system of early training recruits more generally adopted many fewer would succumb and be invalided out of the service. In Cases I and II the patients were put back and allowed only the minimum of physical effort, which was increased by degrees with the view of more thoroughly hardening them and enabling them to with-

stand both cold and exposure. So far, after nearly a year in both cases, neither has to my knowledge suffered a relapse.

HEART-BLOCK IN JAUNDICE.

BY

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THE following case occurred in a hospital some months ago, where I saw him with Lieutenant Joscelyne. It was the first example that I have come across of heart-block complicating jaundice, and I now put it on record, after reading Dr. J. Davenport Windle's paper.¹ Dr. Windle states there that he does not accept the commonly-made statement that the heart tends to be slow in jaundice, and with this I fully agree. For years in civil hospital practice I have noticed this, and since coming to France, where we see a good many cases of jaundice, the point has been brought more home to me than ever. But Dr. Windle goes on to say that in his knowledge heart-block has never been demonstrated, and hence my reason for now recording the following case. It was, as will be seen from the tracings, one of partial heart-block, and, strange to say, was at once relieved completely, and, as far as we were able to observe, permanently, by a single dose of atropine.

An officer, aged 43, was admitted to hospital suffering from jaundice. It had existed for about two weeks, and was preceded by nausea and vomiting, but no pain. There was no history of syphilis, but the patient admitted having drunk too freely for years.

FIG. 1.

He looked ill and was deeply jaundiced. There was no oedema at first, but there was some before he left for England. There was some slight irregular fever. The liver was not palpable and seemed small on percussion. The spleen could

FIG. 2.—Immediately after exercise.

not be felt. The urine contained no albumin on several examinations. The pulse could be felt to be irregular in that it often missed beats, and no heart sounds occurred in the pauses. A little exertion, such as sitting up in bed several times, caused

FIG. 3.—Twelve minutes after atropine.

it to become quite regular. Tracing 1 shows the pulse while the patient was at rest. The a-c interval will be seen to get longer and longer until it is more than $\frac{2}{3}$ second, and then the ventricle misses. After this pause the a-c interval is shorter at first, but gets longer and longer until another ventricular miss occurs. Figure 2 shows the action after the exercise described. The a-c interval is still too long, but the stimulus gets through in time and the ventricle does not miss, so that the pulse is regular for a period. It will be seen that this slight exercise caused the auricular rate to fall from 72 to 68. Next day tracings were again taken and showed these same features. Then $\frac{1}{2}$ grain of atropine sulphate was given hypodermically,