question is raised as to the nature of a papular eruption frequently seen within healing patches in the third week.

The opinion is expressed that until an antibiotic effective against dermatophytes is discovered, or some understanding of the normal body defences against superficial mycosis is achieved, the mainstays of management of the problem will continue to be good unit morale and hygiene, and acceptance by all concerned of the principle of early complete treatment of every case.

My thanks are due to Lieut.-Colonel J. P. Baird, M.D., M.R.C.P., for helpful criticisms of this paper.

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SCRUB TYPHUS IN THE DIFFERENTIAL DIAGNOSIS OF VENEREAL DISEASE

BY

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In 1955, 106 infections of scrub typhus were diagnosed in military personnel in the Far East. An analysis of the signs and symptoms of 12 patients of this group showed that fever and chill were present in 9 patients, generalised lymphadenopathy in 11, rash in 5 and eschar with enlargement and tenderness of the regional lymph nodes in 3. Other constant findings were slow pulse and leucopenia.

In most cases the disease was contracted during operational or training duties in the jungle, and it is probable that in many instances the offending rickettsiae gained entry to the body through the skin of the legs, thighs and genitals.

It is possible that an eschar of or near the genitals may be confused with venereal disease, particularly lymphogranuloma venereum, which includes in its symptomatology genital ulcer, painful enlargement of the inguinal lymph glands and high fever. Further, the broad spectrum antibiotics, the tetracyclines and chloramphenicol often used in the treatment of lymphogranuloma venereum are very effective against the rickettsiae of scrub typhus. In view of this it is thought worthwhile recording the medical details of two soldiers referred to the Venereal Disease Department of the British Military Hospital, Singapore, as suffering from venereal disease. Both patients were eventually diagnosed as cases of scrub typhus and were successfully treated for this condition.

Case No. 1

A British soldier was evacuated from the jungle and admitted to the British Military Hospital, Kluang, on 14th March, 1956, complaining of a fever which had been present for twelve hours and an enlarged tender swelling of his right groin for four days. The previous history was irrelevant: his last admitted
sexual exposure was six months previously. As examination revealed the presence of a small ulcer, one half-inch in diameter, involving the skin of the right side of the scrotum, and a painful enlargement of a right inguinal lymph gland, he was transferred to the Venereal Disease Department of the British Military Hospital, Singapore, the next day as a case of venereal disease for investigation.

On examination the patient complained of pain in the right groin and abdomen. The temperature was 102° Fahrenheit, but the pulse rate was relatively slow, 65 beats per minute. A small infected ulcer about half an inch in diameter was present on the skin of the right side of the scrotum, and there was a large gland in the right inguinal region which was very painful and tender on palpation. The skin overlying the swelling was erythematous.

Laboratory Investigations.—The total leucocyte count was 2,600 per cu. mm. (neutrophils 46 per cent, lymphocytes 49 per cent, basophils 1 per cent, monocytes 4 per cent). The cells appeared normal. No malarial parasites were seen. A clinical diagnosis of scrub typhus with an eschar of the scrotum was made. Blood was sent for Weil-Felix test and treatment with aureomycin was instituted, three grammes being given immediately, followed by half a gramme six-hourly.

The temperature became normal within forty-eight hours and remained so; the eschar healed rapidly and the glandular swelling subsided. The patient was found fit for duty on 26th March, 1956, only ten days after admission. Unfortunately the record of the result of the Weil-Felix test has been lost.

Case No. 2

A native soldier from Rhodesia was referred and admitted to the Venereal Disease Department of the British Military Hospital, Singapore, on 13th October, 1956, for treatment of a painful ulcer of the skin of the right inguinal region. He had recently been on operational duty in the jungle. There had been no sexual exposure since June, 1956, when he contracted a venereal sore of his prepuce for which he was treated with a combined course of streptomycin and sulphathiazole. At that time the Frei test and Wassermann reaction were negative.

Examination on admission revealed a sick patient with a temperature of 103° Fahrenheit. His pulse rate, however, was relatively slow (70 per minute). A small shallow ulcer of the skin was present in the left inguinal region immediately below the medial end of Poupart's ligament, a left inguinal lymph gland was enlarged and there was a generalised lymphadenopathy.

Laboratory Investigations.—The total leucocyte count was 4,500 per cu. mm. (neutrophils 61 per cent, lymphocytes 36 per cent and monocytes 3 per cent). The Wassermann reaction and Kahn test were negative.

A clinical diagnosis of scrub typhus with an eschar of the thigh was made; blood was sent for Weil-Felix test and treatment with chloramphenicol was started, three grammes on the first day followed by one gramme daily for five days. The response was dramatic. The patient became afebrile within twenty-four hours. The eschar healed rapidly and the lymph gland subsided in a few days. The result of the Weil-Felix test confirmed serologically a diagnosis of scrub typhus (see Table 1).
Table 1. Readings of Weil-Felix test in Case 2

<table>
<thead>
<tr>
<th>Date</th>
<th>Titres at which agglutination obtained with suspensions of:</th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Proteus OX 2</td>
<td>Proteus OX 19</td>
<td>Proteus OXK</td>
<td></td>
</tr>
<tr>
<td>15 10 56</td>
<td>60</td>
<td>&lt;30</td>
<td>&lt;30</td>
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</tr>
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</tr>
<tr>
<td>16 11 56</td>
<td>30</td>
<td>&lt;30</td>
<td>240</td>
<td>240</td>
</tr>
</tbody>
</table>

Note.—Titres are expressed as the reciprocals of the highest dilution of the patient’s serum at which agglutination was observed.

The patient was seen again on 17th May, 1957, when he was fit and well. Blood taken for Wassermann reaction on that date was negative.

SUMMARY

Two cases of scrub typhus are described. In both, the existence of a genital eschar with regional adenitis pointed to venereal infection. Although only two cases have been recorded during the previous two years at the Venereal Disease Department of the British Military Hospital, Singapore, it is possible that others have been missed and it is considered that scrub typhus should enter into the differential diagnosis of certain types of genital ulcers, particularly those occurring in soldiers serving in areas where scrub typhus is endemic.

Thanks are due to Colonel R. J. G. Morrison, Consultant Physician, Far East Land Forces, for his encouragement.

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A TRIAL OF METHODS FOR MASS INOCULATION

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From The David Bruce Laboratories

PROVISION of a safe technique for mass inoculation has demanded much thought, particularly in the Army, as the possibility of the transfer of infection on a serious scale is well established. The ideal procedure to minimise this hazard is to provide a sterile syringe and needle for each inoculation, but this would in practice prove too costly and time consuming. It has been shown by Hughes...