CASE OF LEPROSY SEEN IN A VENEREAL DISEASE CLINIC IN BRITAIN

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Cases of leprosy are infrequently seen in venereal disease clinics in Great Britain. In view of this the following case is interesting enough to merit publication.

Case Report

A married British metal-worker aged 36 attended the medical out-patients department on May 12, 1951, with a history that he had been perfectly well until a month previously, when swelling of the ankles, arms, and hands developed. This was accompanied by a nodular rash on the face, back of the hands, forearms, and dorsal aspects of the feet. He was feeling perfectly well. He was admitted for investigation, and a tentative diagnosis of sarcoidosis was made.

A biopsy report on one of the nodules on the dorsal aspect of the left forearm was very suggestive of sarcoid, but a second biopsy was asked for. Unfortunately at this time he had discharged himself from hospital as he felt so very well. An x-ray film of the chest and finger-joints did not confirm the diagnosis.

In September, 1951, he developed a profuse nasal discharge which was occasionally blood-stained, especially first thing in the morning. This was treated by his own doctor with little success. In April, 1952, he was referred to the oto-rhino-laryngologist, Mr. Petty, who suggested that a Wassermann test be taken; this was found to be positive. The patient was then referred to the Infirmary.

On examination on May 2 a discrete symptomless nodular eruption was present on the face, back of the hands, extensor surface of the forearms, and dorsal aspects of the feet. The nodules measured about $\frac{1}{4}$ by $\frac{1}{4}$ in. (0.3 by 0.3 cm.). A non-irritating squamous erythematous rash was present over the anterior surface of both tibiae. The lesions had remained unchanged during the past twelve months.

The information was elicited that from 1938 to 1943 the patient had served abroad whilst in the armed Forces and had returned to England in the latter year. He had not been out of England since. Whilst abroad he served in India, Iraq, Palestine, Abyssinia, South Africa, and the Libyan Desert, and some of the regiments in which he served had coloured personnel. There was no history of venereal infection or any convincing clinical evidence of venereal disease. Nothing abnormal physically was elicited in the cardiovascular or central nervous system. Blood Wassermann and Kahn tests at this time were negative. Cerebrospinal fluid examination was within normal limits. His wife's Wassermann and Kahn reactions were negative.

A specimen of the patient's blood was forwarded to the Venereal Disease Reference Laboratory, St. Peter's Hospital, Whitechapel, on May 9. The routine Wassermann test was positive, serum diluted 1 in 128; cardiolipin Wassermann reaction positive; routine Kahn test positive; and Price's precipitation reaction negative. Dr. Orpwood Price reported: "In the absence of any history of syphilis, I should like to test another specimen from this patient before expressing an opinion."

On May 23 a routine Wassermann test was positive, serum diluted 1 in 32; a routine Kahn test negative, and Price's precipitation reaction negative. Dr. Orpwood Price reported: "The general pattern of this patient's serology and the history appears to favour the opinion that the positive reactions are non-syphilitic in nature. I therefore suggest that

he be tested at monthly intervals in order to find out the general pattern of his serological reactions." At this stage a tropical non-venereal disease was regarded as a likely cause of the serological reactions.

Further specimens of blood were tested on June 27 and July 17; the reactions of the former were anti-complementary, and the latter sample was reported on as follows: "Routine Wassermann reaction positive, serum diluted 1 in 64; cardiolipin Wassermann reaction positive; routine Kahn reaction negative; Price's precipitation reaction negative."

On July 4 a biopsy of one of the nodules on the right cheek showed a histological picture closely resembling sarcoid. On July 31 a biopsy of one of the nodules on the forehead showed a similar histological picture to the previous sections. Cutaneous leishmaniasis and sporotrichosis were ruled out.

Sections were then forwarded to Professor R. A. Willis, of Leeds University. He expressed the opinion that the sections showed nothing histologically very distinctive, suggesting leprosy as a remote possibility. Ziehl-Neelsen-stained sections revealed a profusion of intrahistiocytic acid-alcohol-fast bacilli. A nasal swab and ear clippings showed moderate numbers of *Mycobacterium leprae*.

Photograph showing squamous erythematous rash on anterior surface of tibia.

When Dr. Orpwood Price was told that the patient was proved to be suffering from leprosy he suggested that he should perform Nelson's treponemal immobilization test on the patient's serum as a matter of interest; this test gave a clear-cut negative result.

Discussion

When a patient with a positive Wassermann reaction gives no history of venereal disease and no convincing clinical evidence of venereal disease, specimens of blood should be examined at monthly intervals to determine the general pattern of the serology. If it is then concluded that the positive reactions are non-syphilitic in nature and are probably in the nature of biological false-positive reactions, steps must be taken to determine the cause of those reactions. Confirmed (to exclude technical error) positive standard serological reactions occurring in the absence of treponemal infection are biological false-positive reactions. Stokes and James (1949) consider that the biological false-positive may be part of a general-infection reaction mechanism shared by many diseases and forms of injury and more highly developed in some persons than in others.

Moore and Mohr (1952) state that the chronic biological false-positive reaction is not innocuous and not to be discussed lightly, but is often, perhaps usually, a manifestation of serious underlying disease. The chief conditions in which such a reaction may occur are leprosy, the allergic diseases such as disseminated lupus erythematosus, periarthritis nodosa, rheumatoid arthritis, rheumatic fever, and sarcoid. Stokes, Beerman, and Ingraham (1944) state that a biological false-positive Wassermann reaction is found in 60-80% of cases of leprosy.

It is of interest that in the present case Nelson's treponemal immobilization test was negative, as this test is claimed to differentiate between true and biological false-positive Wassermann reactions. Nelson *et al.* (1950) state that the treponemal immobilizing antibody does not occur in the serum of normal persons or of those suffering from non-treponemal diseases. They have shown that of 57 lepers seropositive by standard tests (76% of those tested), 47 were negative with the treponemal immobilizing test. The incidence of positive reactions with the latter test was approximately the expected incidence of syphilis in the social and socio-economic groups from which the lepers were drawn.

It is feasible that our patient contracted leprosy as a result of prolonged contact with coloured troops.

Summary

A case of lepromatous leprosy exhibiting a chronic biologically false-positive Wassermann reaction is presented. The importance of considering the possibility of a biological false-positive Wassermann reaction in the absence of convincing clinical evidence of syphilis is stressed. Steps must be taken to determine the cause of the false-positive reaction. Histologically the lesions somewhat resembled sarcoid.

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Medical Memorandum

Two Cases of Polyarteritis Nodosa with Uraemia

Polyarteritis nodosa is now being diagnosed during life with increasing frequency (Klein, 1949). The following cases manifested general symptoms, particularly kidney involvement with uraemia. The first patient died in a uraemic state, whilst the second apparently recovered.

CASE 1

A house-painter aged 62, the father of three healthy children, was admitted to the surgical department on March 29, with complaints of severe pain and superficial ulcerations in the lower extremities of two months' duration. The family history was irrelevant. He had suffered from bronchial asthma for the past 17 years, and had been using ephedrine to relieve his attacks. Physical examination revealed limited chest excursions with musical rales in both lungs; the heart sounds were muffled, but no murmurs were heard. The blood pressure was 120/70 mm. Hg, and the pulse rate 74. The lower extremities were warm, with small petechiae and small areas of superficial necrosis over the toes and the medial and lateral areas of both legs. The right dorsalis pedis artery was not palpable. The E.S.R. and full blood count were normal, the blood urea was 42 mg. per 100 ml., W.R. and Kahn were negative; a chest radiograph showed increased lung and hilar markings, and the aorta enlarged and elongated.

A tentative diagnosis of thromboangiitis obliterans was made, and periaxillary sympathectomy was performed on both femoral arteries (Leriche). At operation the arteries were found to be constricted. The patient made an un-

eventful recovery, the ulceration of both legs improving and after leaving hospital healing completely and never reappearing. He continued to have occasional asthmatic attacks. The pain in the legs recurred three months after operation, but was less severe, and appeared on exposure to cold; he continued thus for about a year and a half, until readmission. Four weeks before this he began to suffer from very severe frontal and occipital headache, accompanied by dizziness, but without vomiting. The headache was severer at night than during the day; analgesics gave relief for a few hours only. He noticed that his legs had become swollen, and two weeks later his face also became swollen, especially around the eyes. On several occasions his urine was red. There was no lumbar pain and no frequency or dysuria. His urine contained albumin, many red cells, and a few white cells and casts. The blood urea was 56 mg. per 100 ml. He looked pale, with slight oedema of the face, especially around the orbits, and of the legs. Physical examination was normal throughout, but there was tenderness on fist percussion over the loins. His blood pressure was 200/120. *Fundi*: Disk boundaries blurred, blood vessels enlarged, arterial reflexes increased, many haemorrhages and cotton-wool exudates.

A few days after admission the patient developed a severe generalized epileptiform seizure, with loss of consciousness and white foam at the mouth. His blood pressure was 250/150. He was given aminophylline intravenously, and the attack subsided. On the sixth day after admission his temperature rose to 102° F. (38.9° C.). He complained of slight pain in the pharynx, but examination revealed no apparent reason for the fever. The white cells numbered 10,800, a few days later increasing to 19,200 per c.mm. The differential count showed a shift to the left, the eosinophils remaining between 2 and 3%. The urine showed no change. Sulphadiazine and penicillin were given with no effect on the temperature. The headaches increased. The blood urea rose to 77-98 mg. per 100 ml. Plasma euglobulin was increased. Cold fraction strongly positive—irreversible at room temperature. On the fourteenth day after admission he developed a slight cough. On physical examination there was slight dullness at the base of the right lung, with many crepitations. An x-ray film of the lungs showed density of the right base. Eye-ground findings showed improvement. The haemorrhages and exudates were absorbed. On the twentieth day the patient complained of abdominal pain; the abdomen was soft and there was no localized tenderness. The white cell count was 20,000 per c.mm., and the urine showed no change.

The protean nature of the complaints—headache, fever, cough, abdominal pain, pain in the extremities, the fluctuating nature of the eye-ground changes, as well as the anaemia, leucocytosis, the increased E.S.R., the blood-protein changes, and the renal insufficiency—suggested polyarteritis nodosa.

During the following week the patient's condition deteriorated. The urinary findings became more pronounced, especially the haematuria. The blood urea increased in a few days from 98 to 262 mg. per 100 ml., and he died on the twenty-sixth day after admission, in a uraemic state.

Typical changes of polyarteritis nodosa in the kidneys, myocardium, liver, spleen, pancreas, and mediastinal fat tissue were seen at necropsy.

CASE 2

A married woman aged 25, with two healthy children, emigrated to Israel from Yemen in 1948. Three years before admission, when she arrived from Yemen at an immigrant transit camp in Aden, she had suffered for a few months from a febrile disease of unknown nature, and apparently recovered. Eighteen months later, a few weeks after arriving in Israel, she started to run a mild fever, fluctuating during the day, accompanied by severe headaches, pain in the neck, shoulders, and abdomen. She vomited three or four times daily. The attending physician suspected pregnancy, since menstruation stopped with the onset of the illness. This condition lasted for a fortnight, after which she felt better, and during the following month