

ACUTE EDEMA OF HANDS AND FEET IN LEPROSY

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We have been observing a condition of acute edema in the hands and feet in both our tuberculoid and lepromatous cases. The only reference to this condition that I have found in the literature is that by Gokhale and Kurkure (¹) in which they state that this edema is associated with edema of the eyelids. They state that, by means of the phenol red excretion test, they have detected impairment of the renal function, and they ascribe the condition to a reactional phenomenon. We have not done the phenol red test, but on our routine test by boiling we have only once detected albumen in the urine. We have not detected edema of the eyelids, but in one case there was recurrent swelling of the face. We do agree that it is a reactional condition, as in many instances it is accompanied by swelling of macules or plaques and occasionally by neuritis. In one case there was orchitis and swelling of the liver and spleen.

The edema is usually bilateral, and the hands and feet are painful. The edema pits on pressure. Histologically we have found only an acute panniculitis. We have recently found that high doses of prednisone (i.e., 20 mgm.) causes subsidence of the edema in a few days. Untreated, it may remain for months. Contractures may develop in tuberculoid cases, but not as a result of the acute edema.

There are no sequelae, but the condition requires treatment because of the pain and discomfort which accompany it.

ILLUSTRATIVE CASES

TUBERCULOID

CASE No. 12651.—Male, aged 41. Admitted on September 29, 1955, the same year in which the disease appeared. The ulnar nerves were grossly enlarged, and the patient had slight contractures of the fingers. His hands were edematous on admission, so the reaction was not caused by antileprosy treatment. Classification, tuberculoid. Treatment, DDS and Fouadin (stibophen).

On October 6, 1955, after seven days treatment, swelling and desquamation and heat of forearms down to the fingers were noted (Fig. 1). He was treated with ACTH, 5 units daily. On October 21st there was marked improvement and the ACTH was discontinued, but the pitting edema commenced again. In November he was taken off DDS and placed on aminotriazine (Mietine), but the swelling persisted and became worse in January 1956. In February the hands became painful and he was put on cortisone 10 mgm. b. d. He obtained relief in 3 weeks, after which cortisone was stopped and he was put on DDS. During the rest of the year he only once complained of pain, but his contractures became worse (Fig. 2).

CASE No. 13378.—Male, aged 55. Developed leprosy in 1957, and admitted in August

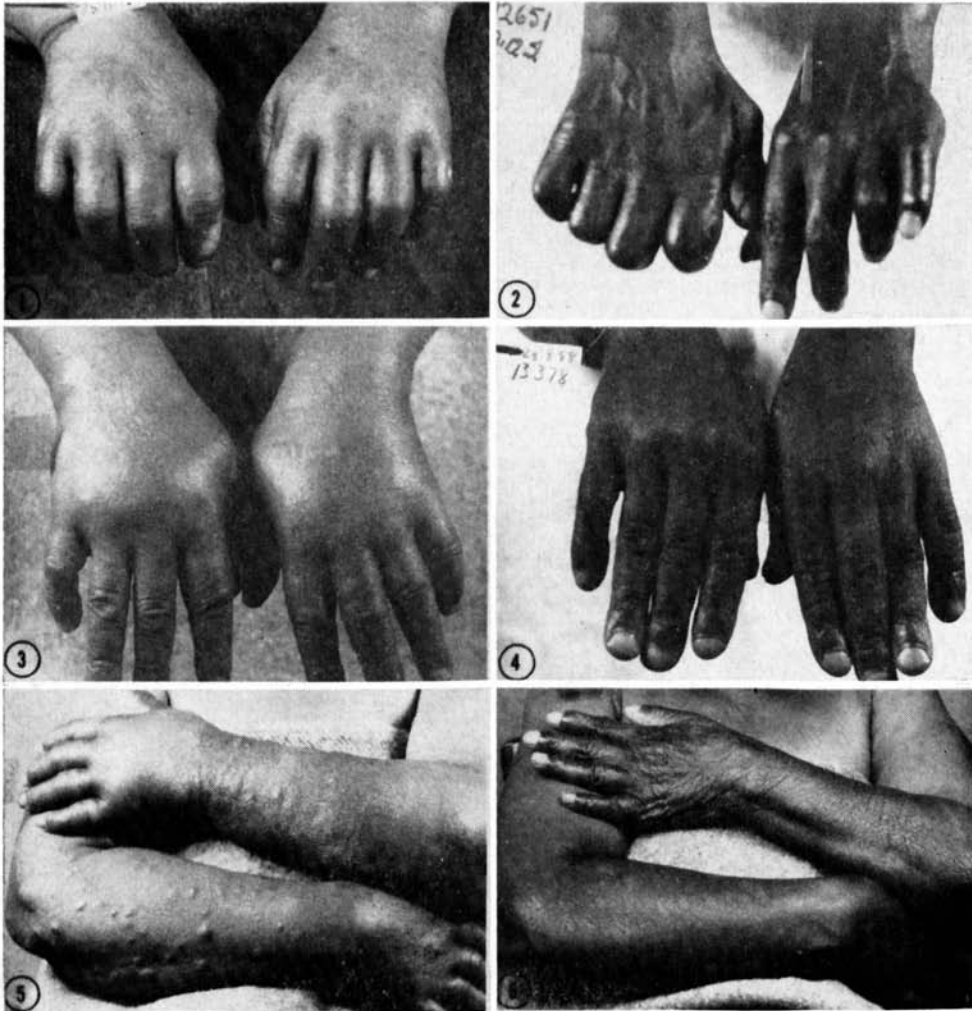


FIG. 1. Case 12651, tuberculoid leprosy. Pitting edema of hands, which are painful. Slight contractures.

FIG. 2. Case 12651, tuberculoid leprosy. Subsidence of the edema shown in Fig. 1, but increase of contractures in the interval of about 15 months.

FIG. 3. Case 13378, tuberculoid leprosy. Acute stage of pitting edema of the hands.

FIG. 4. Case 13378, tuberculoid leprosy. Hands of this patient after subsidence of the edema.

FIG. 5. Case 13343, tuberculoid leprosy. Painful swelling of left hand and swollen forearm. Elevated lesions of the forearm appear diffused, not discrete as on the right forearm. Both forms histologically tuberculoid.

FIG. 6. Case 13343, tuberculoid leprosy. Complete subsidence of the reaction, 5 weeks after the picture shown Fig. 5 was taken.

of that year. He was admitted with spongy macules. Classification, tuberculoid. Treatment, "triple treatment" with DDS, stibophen and Atabrin (2). The reaction in his hands occurred 3 months after starting treatment.

In January 1958, there were noted new small raised erythematous plaques from shoulder to wrist, probably aroused by an injection of BCG. Six weeks later the hands became edematous and painful. He was taken off the routine triple treatment and placed

on prednisone, 10 mgm. b.d. The swelling took 6 weeks to subside, and he was returned to the routine treatment.

The reaction recurred within 6 weeks (Fig. 3), and lasted a month. During the next six months he had seven such reactions with quiescent intervals in between (Fig. 4). DDS was withheld, but stibophen and Atabrin were continued. Prednisone 10 mgm. b.d. was given during the acute episodes. Nothing abnormal was detected in his urine. Contractures did not develop.

CASE NO. 13343.—Female, aged 44. Admitted October 1957, with 3 months history of leprosy. The lesions on the face were raised, spongy and plaque-like. She had a much-swollen left forearm and hand with superimposed lesions resembling nodules (Fig. 5). These infiltrations and nodules were first thought to be borderline, but histologically both types of lesions were found to be tuberculoid. Mitsuda reaction 6 mm.¹

The lesions did not improve under the triple treatment plus prednisone 15 mgm. b.d. The swelling of the forearm and hand then resembled cellulitis. There was a coarse tremor of the hand, and the hand was very painful. The condition subsided only after 4 months. No albumen was detected in the urine, and when the patient was discharged in January 1959 there were no contractures (Fig. 6).

CASE NO. 13415.—Female, aged 55. Admitted January 30, 1958, with a one-year history of red spongy macules. Classification, tuberculoid. Treatment, "triple treatment." Swelling and pain in her hands occurred after 6 months treatment.

Between June and November 1958 he had seven episodes of edema and pain in his right hand (Fig. 7). At the same time he developed red raised swellings of his macules, and complained that the skin in these areas was tense and painful. He was taken off DDS during the acute episodes and given prednisone 5 mgm. or 10 mgm. b.d. No albumen was detected in his urine. Contractures did not develop.

CASE NO. 13652.—Female, aged 50. Admitted October 1958, with 3 months history of leprosy. The lesions on the face were flat and pale. There were some raised spongy tuberculoid lesions on the right shoulder. Mitsuda reaction 3 mm.

This tuberculoid case became "clinically cured" in three months under the triple treatment. Three weeks later, however, there occurred acute edema and pain of the hands and feet which resolved in 6 days under prednisone (Fig. 8). The urine contained no albumen. A week later there was a reaction in her macules, which became raised and red. The hands and feet remained normal until a month later. On this occasion there was a tremor in the hands. During the next three months there were seven attacks of acute edema, but each one lasted a week or less. Nothing abnormal was ever detected in the urine. She has now been free from attacks for almost a year, and her macules have remained inactive. There are no contractures.

LEPROMATOUS

CASE NO. 12764.—Female, aged 32. Admitted in January 1956, with two years history of lepromatous leprosy. There was slight infiltration of the face, trunk and limbs. Mitsuda reaction 2 mm. Smears were never strongly positive, but ENL was a constantly-recurring complaint. Treatment was DDS alone.

The first complaint of acute edema of the hands occurred after 18 months treatment. It subsided after 4 days of ACTH, 5 units daily. In February 1958 the hands and feet became swollen and painful, and she was unable to make a fist. Under Butazolidin (phenylbutazone), 300 mgm. b.d. for one week, and continuing with prednisone 10 mgm. b.d., it took 40 days for the swelling to subside (Fig. 9).

In September 1958 there was a recurrence which lasted two months despite Butazolidin (short course), then ACTH, and finally prednisone 10 mgm. b.d.

CASE NO. 13885.—Female, aged 48. Admitted in June 1959, with slight infiltration

¹ This is the case reported, with photographs, in the addendum to my article on the triple treatment of tuberculoid leprosy (3).



FIG. 7. Case 13415, tuberculoid leprosy. Acute stage of painful edema of hands.

FIG. 8. Case 13652, tuberculoid leprosy. Both the hands and the feet are edematous, and the feet are also painful.

FIG. 9. Case 12764, lepromatous leprosy. Acute edema in the hands of a lepromatous case. The feet were similarly affected (see Fig. 10).

FIG. 10. Case 13885, lepromatous leprosy. Acute edema of the feet in a lepromatous case. The hands were similarly affected (see Fig. 9).

FIG. 11. Case 13971, lepromatous leprosy. Acute edema of right hand; left hand less swollen.

FIG. 12. Case 13971, lepromatous leprosy. The same hands seven days later. The skin has the "crushed tissue paper" effect.

of the face and limbs and raised erythematous plaques on the trunk and limbs. The hands and feet were intact. Classification, lepromatous. Treatment, DDS.

Four months later the patient commenced to have pain and swelling of the hands

and feet (Fig. 10). The DDS was stopped and she was given prednisone 15 mgm. b.d. The swelling subsided in 14 days. During the next four months she had six attacks. On four occasions the face also became swollen, and on two occasions the plaques became more raised and red; she also had one attack of exfoliative dermatitis. In the fifth month sugar was detected in the urine. In the following seven months she had six attacks of acute edema; one attack lasted two months, but usually the swelling subsided within a week. The urine has always been free from albumen.

CASE No. 13971.—Male, aged 28. Admitted in September 1959 with diffuse infiltration of face, trunk and limbs, with superimposed discrete nodules. Classification, lepromatous. Treatment, DDS.

One week later the patient developed a tremor of the hands, which became swollen. This was followed by orchitis and enlargement of the liver and spleen. These resolved in November but swelling and pain of hands and feet started again in December. The urine on this occasion was 3+ positive for albumen, which persisted throughout the month. He had 2 attacks of edema of the hands and feet in January (Figs. 11 and 12). He had one attack in February, accompanied by an auricular neuritis. He has been free of these attacks during the last nine months.

SUMMARY

Five tuberculoid and three lepromatous cases which developed acute edema and pain of the extremities are described and illustrated. The commonest sites were the hands. Treatment was by prednisone. There are usually no sequelae.

RESUMEN

Se describen con grabados 5 casos tuberculoideos y 3 lepromatosos que manifestaron edema agudo y dolor en los miembros. Los sitios afectados más comúnmente fueron las manos. El tratamiento fué con prednisona. Por lo general no hay secuelas.

Acknowledgment.—I have to thank the Secretary for Health, Union of South Africa, for permission to submit this article for publication.

REFERENCES

1. GOKHALE, B. B. and KURKURE, N. B. Phenol red excretion test of kidney function in leprosy patients. *Indian J. Med. Sci.* **12** (1958) 331-333.
2. DAVISON, A. R. The triple treatment of tuberculoid leprosy. *Leprosy Rev.* **30** (1959) 184-185.
3. DAVISON, A. R. The triple treatment of tuberculoid leprosy; addendum. *Leprosy Rev.* **31** (1960) 40.