INOCULATION LEPROSY SUBSEQUENT TO ROADSIDE INJURY

RADHA RANI MITTAL, F. HANDA AND SUBHASH CHANDER SHARMA

Summary

A case of high resistance tuberculoid inoculation leprosy occuring after 6 months at the site of road side injury in a 30 years old male is reported. It is the first case report of inoculation leprosy occuring as a result of road side abrasion wound. This case confirms that tuberculoid leprosy can occur by inoculation and without prolonged skin to skin contact.

After the discovery of Lepra bacillus by Hansen in 1874, it is believed that leprosy is a chronic infective disease. The most common mode of transmission appears to be through the skin or mucous membrane following direct prolonged contact of a susceptible person with an infective patient.

Evidence of successful transmission of leprosy into mice by foot pad inoculation has been provided by workers like Shepard and Mac Rae[1,2] and Levy et al[3]. In man presumptive evidence in favour of inoculation leprosy through the skin is provided by a number of reports in literature where the disease developed after a slight prick with a needle or a wound with a sharp instrument which has already been used for, or on leprosy patient. Delangen[4], reported leprosy after accidental inoculation by an infected needle. Marchoux[5] reported a medical assistant developing leprosy 8 years after an iujury at the site of a needle prick while removing a leprosy nodule. similar case has been reported by Lowe and Chatterjee[6] Porrittand Oslen[7], at the site of tattooing. Sehgal et al[8] subsequent to small pox vaccination and Sehgal[9], at the site of tattooing. All these carefully observed cases favour the skin as being an important site of entry of infection in Leprosy.

Case Report

A 30 years old male reported in skin out patients clinic with the complaints of a single erythematous patch over Lt. medial malleolous of 1½ years duration. Patient suffered an injury resulting in abrasion wound at this site while kicking to start his scooter on a road side stand in New Delhi. The wound healed in 20 days time but after 6 months patient noticed an erythematous patch over this area which remained stationary till about 8 months back when he developed six to eight sattelite lesions around this patch. 2 months later patient noticed slight numbness over this patch. There was no history of tingling sensations. Patient is a sales representative and is visiting Uttar Pradesh area once a year for one month period for the last 3 years.

Department of Skin & V. D.
Government Medical College &
Rajendra Hospital, Patiala.

Received for publication on 12—3—1975

There was no family history of leprosy. General physical examination revealed no abnormalities.

There was an almost circular, dry, erythematous and indurated patch about 2 c.m. in diameter over medial malleolous with 6-8 sattelite lesions at 5 O Clock and 11 O Clock positions. (Fig. 1 page No. 191). The patch as well as the sattelite lesions had well defined margins which were slightly raised above the skin surface. Sensations of touch, temperature and pain were impaired over the patch. Lateral popliteal and posterior tibial nerves were not thickened. There was no lymphadenopathy.

Skin Smear-No acidfast bacilli could be seen.

Histopathology : A biopsy from this area showed in the dermis foci of granulomatous infiltration comprising of lymphocytes with occasional epithelioid cell foci in the centre. The granulomatous infiltration was mostly seen in upper dermis and no caseation necrosis could be seen. There was infiltration around the nerve bundles also. No acid fast bacilli could be seen in the section. Appearance was consistent with that of tuberculoid leprosy.

Discussion

Weddell and Palmer[10] and Weddell[11] postulated that mycobacterium leprae may enter the body by inoculation. This has been supported by other authors under the name of inoculation leprosy. Inoculation leprosy presents in the form of one or two patches of tuberculoid leprosy at the site of trauma. Usually in this type lesions do not disseminate and patient is unlikely to develop lepromatous leprosy. It is important to note that incubation period of inoculation leprosy is very variable Badger[12]. It can vary from few days to few months or even some years as reported by Poritt and Oslem[7], who reported two American Marines developing leprosy 3 years after being tattooed; Sehgal et al reported inoculation leprosy developing 6 months after small pox vaccination[8], and Sehgal[9] also reported leprosy occuring 7 years after tattooing. In our patient incubation period was 6 months.

Inoculation leprosy is thus a definite entity and important to be recognised from pathogenesis point of view. This case proves that inoculation at a local site can also occur after roadside injury and it is one of the modes of transmission of inoculation leprosy in addition to others reported previously. Patients with only one or two patches of leprosy should always be questioned directly with regard to any local injury.

The patient has been put on Diaminodiphenyl sulphone (Dapsone) and is being followed up for therapeutic response.

REFERENCES

1. Shepard C C & MacRae DH: Mycobacterium Leprae in the foot pad of the mouse, Int J Lep., 30: 291, 1962.

2. Shepard C C & MacRae DH : Mycobacterium Leprae in mice, Minimal infective dose relationship between staining quality and infectivity and effect of cortisone, J Bact, 89 : 365 - 1965.

3. Levy L., Faal P & Murry LP: Morphology of Mycobacterium Lepra in tissue sections, correlation with results of mouse foot pad inoculation, Arch Derm, 100: 618. 1969.

4. Delangen: A case developing leprosy after accidental inoculation with an infected needle, In Notes on Leprosy edited by Darmendra, Govt. of India Ministry of Health, Delhi 2nd Ed. : 1967, p. 212.

5. Marchoux: A medical assistant developing leprosy after 8 years at the site of prick with a needle while removing a leprosy nodule, In Notes on Leprosy

edited by Darmendra, Govt. of India, Ministry of Health, Delhi, 2nd Ed.: 1967, p. 211.

6. Lowe J & Chatterjee S N: Scarification, tattooing etc. in relation to Leprous Lesions of skin, Leprosy in India 11 : 14, 1939.

7. Poritt R J & Oslen RE: Two simultaneous cases of leprosy developing in tattoos, Amer J. Path, 23; 805, 1947.

8. Sehgal V N Rege VL & Vadiraj S N: Inoculation Leprosy subsequent to small pox vaccination, Dermatologica, 141: 393, 1970.

9. Sehgal VN: Inoculation Leprosy appearing after seven years of Tattooing, Dermatologica. 142: 58-61. 1971.

10. Weddell G & Palmer E: The pathogenesis of Leprosy. An experimental approach Leprosy Rev. 34: 57, 1963.

11. Weddell AGM, Jamison DG & Palmer E: Recent investigations into the sensory and neurohistopathological changes in Leprosy, in leprosy in theory and practice Wright Bristol. 2nd Ed. 1964. P. 205.

12. Badger LF: In leprosy in theory and practice, Wright Bristol 2nd Ed,1964, P73.

Final Diagnosis: Id reaction to lympho reticular malignancy.

The character of lymphglands was not typical of Tuberculosis and the severe itching also unusual in tuberculid. The pigmentation and the presence of indurated itchy papules together suggested a possible nonspecific reaction to a malignant focus probably in the lympho reticular tissue. Biopsy of one of the cervical glands proved the case to be one of Hodgkin's disease.