



THE FIGURE. Scaly and erythematous lesions on a healed leprosy patch.

rosy activity. All of our patients had features of subacute eczema with erythema and scaling. In leprosy, erythematous induration is an important sign of activity and scaling is not a feature (except in subsiding reaction). Again, unlike eczematous lesions, the induration due to leprosy gradually increases in size. A history of vesiculation dictates strongly against leprosy.

Clinicians and leprosy workers should be aware of such presentations because they can easily be misinterpreted as a relapse of the leprosy. When in doubt, field workers should refer such cases to the nearest center where expert opinion and histopathological study, if necessary, can be obtained. It would be interesting to know why eczematous lesions were confined to the healed patch of leprosy. This could most likely be a coincidence or may represent a localized form of asteatotic eczema⁽¹⁾ resulting from the destruction of the pilosebaceous units by leprosy which was further aggravated by scratching.

In the fourth patient seen by us the eczematous lesion was due to an avoidable cause. This person initially had a tuberculoid lesion on the dorsum of the right foot and a markedly thickened, superficial pe-

roneal nerve coursing down the antero-lateral aspect of the same leg. During the period of MDT, two relatively asymptomatic nodular swellings had insidiously formed in the nerve, indicating abscess formation. After 9 months of therapy the skin lesion had completely subsided while the residual nerve thickening and the nodules persisted. The surveillance period of 2 years was unremarkable, and he was declared cured with the reassurance that the nerve thickening and nodularity were likely to remain for a long period but required no treatment. Some months later he came back with an erythematous, crusted and oozing eczematous lesion around a discharging sinus at the site of a nerve nodule. History revealed that a doctor in his home town had tried to aspirate the nodule. Symptomatic therapy along with systemic antibiotics cleared the eczema and, after weeks of proper care, the sinus showed signs of healing. To avoid such complications it is important to mention in the discharge slip that these nodules are best left alone in the interest of the patient so that no doctor attempts to tamper with them⁽²⁾.

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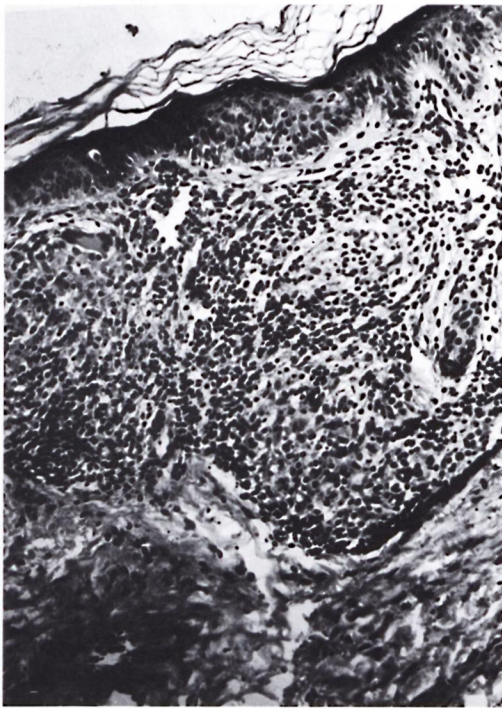
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Borderline Tuberculoid (BT) Leprosy Confined to a Tattoo

TO THE EDITOR:

Mycobacterium leprae, the presumptive causative organism of leprosy, has a reservoir in patients afflicted with paucibacillary

and multibacillary leprosy. Although its precise mode of transmission is only speculative, transmission through prolonged and intimate skin-to-skin contact with an in-



THE FIGURE. A compact granuloma, showing plentiful lymphocytes and epithelioid cells along with an occasional giant cell located in the upper dermis (H&E $\times 200$).

fecting patient and by the respiratory route have been traditionally incriminated. In view of the long incubation period of the disease, it may be hard to elucidate clearly the portal of entry. In addition, inoculation of the organism through a tattooing needle has been documented time and time again (¹⁻⁵), indicating that the infection may occur through injury and puncture wounds. This aspect may not be significant as far as the transmission of the disease in nature is concerned. Tattooing of the skin in females as well as in males is a popular custom in countries where leprosy is endemic. Invariably, those practicing the profession are ignorant about its hazards, and sterilization of the tattooing needle is the major casualty. Therefore, a tattooing needle may play a significant role in leprosy transmission in such areas. It is imperative to record such a situation to highlight this mode of transmission of the disease. This aspect compounds the situation with the increasing prevalence of HIV infection the world over (⁶). Furthermore, the reports of inoculation leprosy, with rare exception, tend to de-

scribe disease patterns conforming to paucibacillary groups having relatively good immunity. This tends to support the hypothesis that immunogenicity and subsequent development of either an effective or an ineffective (suppressor) response to mycobacterial infections, including *M. leprae*, depend largely upon the route of infection and the type/nature of antigen-presenting cells encountered (⁶⁻⁸).

Case no. 1. PW, a 30-year-old woman, was apparently well 3 years ago when she noticed a change in the color (hypopigmentation) of her skin on and around a tattoo on her left forearm. The tattooing was done simultaneously on identical areas of the left and right forearms 10 years ago. Initially, the lesion was small and conformed only to the tattoo. In the course of 3 years it has increased to its present size, and she has not been able to appreciate any sensation over the patch.

Examination of the left forearm revealed a well-defined, serrated, hypopigmented, uniformly indurated plaque. The induration was largely confined to the circumference of the lesion. There was loss of sweating, and temperature, touch, and pain sensations were impaired. The median and ulnar nerves were enlarged and tender. A slit-skin smear examination was negative. Microscopic examination of the hematoxylin-eosin (H&E)-stained section was characterized by a well-formed granuloma comprised of plentiful lymphocytes, epithelioid cells, and a giant cell. Although the nerve was infiltrated, it was still possible to identify it. The granuloma was confined to the upper and mid-dermis (The Fig.). Acid-fast bacilli could not be identified using Fite's stain. The preceding clinical features were indicative of borderline tuberculoid (paucibacillary) leprosy.

Since then, the patient is being administered multidrug therapy consisting of 100 mg of diaminodiphenylsulfone orally daily and 600 mg of rifampin orally; the latter was given in daily dosages for the first 15 days and then changed to single monthly dosages.

Case no. 2. TW, a 24-year-old woman, was well 6 months ago when a mild discoloration (hypopigmentation) of the skin just above the left ankle joint was noticed by her husband. It was confined to a tattoo. The

tattooing had been done about 3 years ago. She did not experience any numbness or tingling over it.

On examination, a well-defined, 2 × 2 cm, hypopigmented plaque with irregular margins was present on and around the tattoo. The plaque was dry and scaly, with mild erythema. It was located just above the left lateral malleolus. There was impairment of the sensations of temperature and touch. The proximal nerve was enlarged and tender. Histopathology was similar to Case no. 1.

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Cutaneous Lipids and Mast Cells in Murine Leprosy

TO THE EDITOR:

While studying the deposition of mycobacterial lipids in the lesions of murine leprosy, we made some observations on the numbers and distribution of cutaneous mast cells that we would like to share with the readers of the JOURNAL.

Mycobacterium lepraemurium (MLM), the rat-leprosy bacillus, is structurally a highly complex microorganism. A great deal of its complexity resides in its lipidic envelope that makes this and other pathogenic mycobacteria highly resistant to the hostile microenvironment found within the host phagocytic cells. Since this lipidic envelope plays a critical role in the intracellular survival of mycobacteria, this laboratory started a series of studies on the lipids of MLM to get insight into their composition, struc-

ture, and biological effects on certain manifestations of the host's immune competence. In this first study, the lipid families that accumulate in the bacilli-laden macrophages of the granulomas found in the skin, liver, and spleen of mice bearing a 4–6 month infection with MLM, were investigated. For the study, tissue fragments were embedded in O.T.C. compound (Miles laboratories, Naperville, Illinois, U.S.A.), quickly frozen on dry ice, sectioned in a microtome cryostat (Tissue-Tek II; Miles) set at -25°C , and the sections (6–8- μm thick) air-dried and preserved unfixed until stained. Standard stains included hematoxylin-eosin for general histology⁽⁹⁾, Ziehl-Neelsen for acid-fast bacilli⁽⁹⁾; Sylven⁽⁷⁾, alcian blue⁽¹⁴⁾, and orcein-giemsa⁽¹⁰⁾ for mast cells; Rio-Hortega's and Mallory's