CASE REPORT

Reational tattoo inoculation borderline tuberculoid leprosy with oedematous tattoos

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Summary Tattoo inoculation borderline tuberculoid (BT) leprosy in upgrading reaction with prominent tattoo oedema developing after starting paucibacillary multidrug therapy (PB MDT) is reported. The diagnosis was confirmed by histopathology. An excellent response to oral steroids and PB MDT was seen. There is only one similar report in the literature.¹

Introduction

Tattoo inoculation leprosy is uncommon. However, a collection of 31 such cases was reported by the author² from this hyper-endemic district, where tattooing is customary. The occurrence of activity due to reversal reaction in tattoo inoculation leprosy after treatment is not unexpected, but is quite interesting.

Case report

A 40-year-old lady presented with swelling of leprosy lesions and tattoos, 4 weeks after starting paucibacillary multidrug therapy (PB MDT) (100 mg dapsone tablet and 600 mg rifampicin capsule once a month). She had noticed a reddish skin lesion over tattoos on the left forearm, 5 months previously. The blue-black tattoos were applied about 20 years ago, during a weekly village market by an unknown lady tattoo artist. Four other girls had been tattooed with the same needles, before her. She had mild pain and bleeding and the wound healed within a week without oral or local medicines. The tattoo artist was untraceable.

The first lesion appeared on her forearm about 19 years after the tattooing. The forearm lesion gradually increased and four similar lesions developed on her back over a period of 5 months. Doctors were not consulted, since the patches were asymptomatic. During a village
screening camp, she was diagnosed by a paramedical worker as BT Hansen’s and put on PB MDT. About 1 month later, all the skin lesions flared up. The forearm lesion became oedematous with prominent tattoos and developed a few satellite lesions. There was no history of fever or joint pains. The patient and the relatives were unhappy with the treatment, and she was brought to our hospital.

Cutaneous examination showed an oedematous, erythematous, dry, mildly scaly, anaesthetic, raised plaque about 10 cm × 6 cm on the posterolateral aspect of her left forearm, with marked oedema of all the tattoos (Figure 1). It had a few small, erythematous, satellite lesions near the upper border. Her non-tattooed back had four circular, erythematous, raised, hypoaesthetic plaques varying between 20 and 30 cm in diameter. The other tattoos on both her arms and legs were flat. The left radial nerve at the radial groove was thickened and tender.

Systemic examination and routine haematology was normal. Skin biopsy from the forearm tattoos revealed upper and mid dermal granulomas of epitheloid cells, lymphocytes and a few Langhan’s giant cells, with clumps of tattoo pigment (Figure 2). A thin free subepidermal zone and upper dermal oedema were seen. Ziehl-Neelsen stain was negative. The diagnosis was given as tattoo inoculation BT Hansen’s in upgrading reaction, and oral prednisolone 40 mg OD, was added (tapering it over 5 months) to PB MDT, which was
continued for 10 months. The oedema subsided in about 3 months, with reduction in left radial neuritis. The skin lesions regressed in 10 months without recurrence during the 2-year follow-up.

Discussion

Tattoos have been used by humans since ancient times. Women here are still attracted by the mystique of the tattoos. This is the only ornament to accompany the body to the grave, and though acquired painfully, it is cheap and permanent and so quite popular amongst the poor. Tattoos presumably help the entry of the soul into the heaven and reduce its hardships, serve as their food pass and help reunion of souls of all female relatives. Some believe that the amount paid to the tattoo artist is deposited with the God, who takes care of their earthly
financial worries. Surprisingly, males here do not appear to need tattoos for a similar purpose, as they are seldom tattooed.

Tattooing here is usually done for a large gathering of ladies (as in a weekly market, or during a marriage ceremony) with the same unsterile needles, using a paste of soot from a kerosene lamp.

The transmission of infectious diseases through tattooing is known.\textsuperscript{3–6} Since its first description in 1939,\textsuperscript{7} there have been occasional reports of tattoo inoculation leprosy.\textsuperscript{2,8–12} The report of 31 such cases\textsuperscript{2} from this district is the largest single collection so far. Of these, there were only two MB patients. This district has a prevalence rate of 13 per 10,000 population, and during the last 17 years, there have been more than 8000 registered cases here, about 31\% of whom were multibacillary. The male:female ratio in this district is 1.2:1, as compared with that of the state, which is 1.4:1, but whether this difference may be attributed partly to the custom of tattooing amongst females of this region is a debatable point.

In this patient, the absence of any skin lesion before tattooing, the onset of the first skin patch over a tattoo mark, the histological finding of granulomata with tattoo pigment, the flare-up of skin lesions with marked oedema after starting MDT and the excellent response after adding steroids, suggested the diagnosis. It might be of interest to see if the inflammatory infiltrate in active tattoos is different from the one in other leprosy patches.

References


