

Calcification of Superficial Nerves in Leprosy

G. C. PANT, M.D., D.M.R.E.

V. N. SEHGAL, M.D.

*From the Department of Radiology and Section of Dermatology, Department of Medicine,
College of Medical Sciences, Banaras Hindu University, Varanasi-5 (India)*

M. leprae has got a special predilection for the superficial nerves. The pattern of histopathological changes which ultimately emerge as a result of its lodgement in the nerve tissue has been described by some workers^{6 13}. No mention has been made about the calcification of nerves in leprosy even in the comprehensive text-book by Cochrane and Davey³. However, some workers^{1 2 4 5 7 8 9 10 11 12 15 16} have reported stray cases of its occurrence in neuritic leprosy. The study on the radiological evidence of calcification of nerves as such has not been thoroughly undertaken.

The present study was carried out to find the radiological evidence of macroscopic calcification and its probable relationship to its prognosis.

MATERIALS AND METHODS

Fifty patients, comprising 35 with tuberculoid, 10 with neuritic and 5 with leprotic nerve abscesses formed the subject for the study. These patients were collected from the 'Dermatologic' section of Sir Sunder Lal Hospital, Banaras Hindu University. The diagnosis in each case was made on clinical grounds. The involvement of the ulnar nerve at the elbow region in the form of thickening and tenderness or the formation of nerve abscess was the common denominator in all cases. All the patients were invariably on therapy with Diamino-diphenylsulphone sometime or another.

Radiological antero-posterior view of the affected elbow region was taken considering the following factors as tabulated below:—

K.V.	M.A.S.	F.F.D.	Screen film
40	8	36"	Yes

The above factors were taken into account for the X-rays of soft tissue, though the non-screened films are claimed to be ideal but in our results we found comparable contrast with the screened films to the best of our satisfaction. As a standard, small focus was chosen for radiographs of the series.

OBSERVATIONS

No evidence of radiological calcification was seen in any of our patients (Figs. 1 and 2). However, in 5 patients irregular, increased soft tissue shadow was seen in radiographs at the level of lower one third of the humerus in the region of the ulnar nerve on the medial side (Fig. 3). The patients with leprotic nerve abscesses were confirmed at operation as reported earlier by one of the authors¹⁴.

DISCUSSION

Calcification of superficial nerves in leprosy is extremely rare and has been infrequently reported. It has been observed exclusively in the neuritic variety by most of the workers^{1 2 4 5 7 8 9 10 11 12 15 16}. Some workers^{1 2 5 10 13} found oval blobs of calcification conforming to the calcification of old nerve abscesses. However, Trapnell¹⁶ and Ramanujam and Ramu¹² have reported one case each where calcification was seen radiologically in the nerve as such.



FIG 1



FIG 2

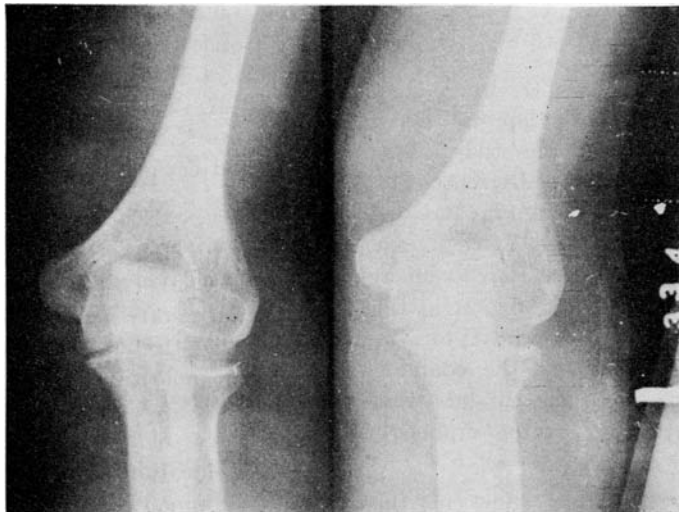


FIG 3

In our series, on the other hand, comprising different stages of the disease no macroscopic radiological calcification was seen including those of nerve abscesses which are reported to be extremely rare¹⁴. Our observations, therefore, do not support the findings of the earlier workers.

No adequate explanation for the absence of calcification in our series could be given. It seems plausible that the therapy with Diaminodiphenyl-sulphone has changed the pattern of natural course of the disease resulting in lesser degenerative changes in the nerve tissue, thus limiting the chances of deposition of calcium. The marked degenerative changes in the nerve are supposed to be the pre-requisite for dystrophic calcification.

It is unlikely that calcification of nerves in leprosy will help in the evaluation of its prognosis.

SUMMARY

Fifty patients in different stages of leprosy were studied for the evidence of macroscopic radiological calcification in superficial nerves. No calcification was seen in any of our patients.

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