# Chapter 17
# 70-Year-Old Male with Nodules over Frictional Areas

**Vikas Shankar and Rashid Shahid**

**Abstract** Lepromatous leprosy usually presents as symmetrically distributed, small, multiple, shiny hypopigmented, erythematous, or coppery, shiny macules, papules, and nodules with normal sensation or mild sensory loss. The infiltration of the skin of the face with loss of eyebrows, eyelashes, and nasal septum destruction gives the appearance of leonine facies. The nerve involvement is symmetrical with glove and stocking anesthesia. The lepromin test is negative. In the following chapter, a clinical case scenario of lepromatous leprosy has been elaborated who has nodular lesions which mimicked xanthomas clinically.

**Keywords** Lepromatous leprosy · Leonine facies · Globi · Xanthoma

## Clinical Presentation

A 70-year-old male patient, farmer by occupation, resident of Bihar presented in our outpatient department with multiple and asymptomatic skin-colored to yellowish nodular eruptions over extremities and trunk for the last 1 year. There was no history of similar problems in family members. The patient gave history of intermittent epistaxis. Also, there was no history of hyperlipidemia and cardiovascular disease among family members. Physical examination showed multiple discrete skin-colored to yellowish shiny nodular eruptions over the bilateral knees, elbows, trunk, Achilles tendons, dorsum of the hands, palms, soles, and scrotum of size ranging from 0.2 to 0.6 cm in diameter predominantly in frictional areas (Figs. 17.1, 17.2, 17.3, 17.4). Sensory examination revealed patchy loss of sensation over bilateral upper and lower extremities. Non-tender, bilaterally symmetrical thickening of the ulnar and common peroneal nerve was present.

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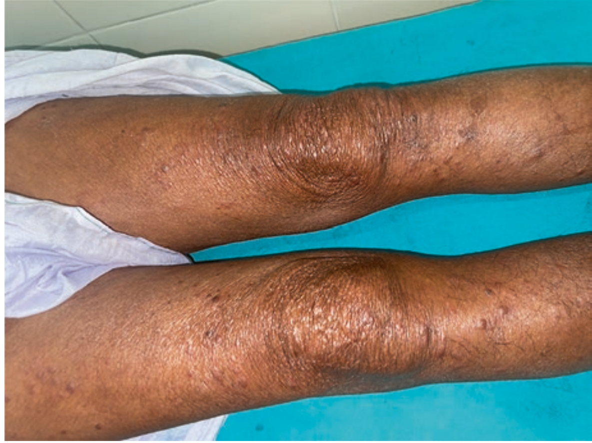

**Fig. 17.1** Multiple nodules over bilateral knees

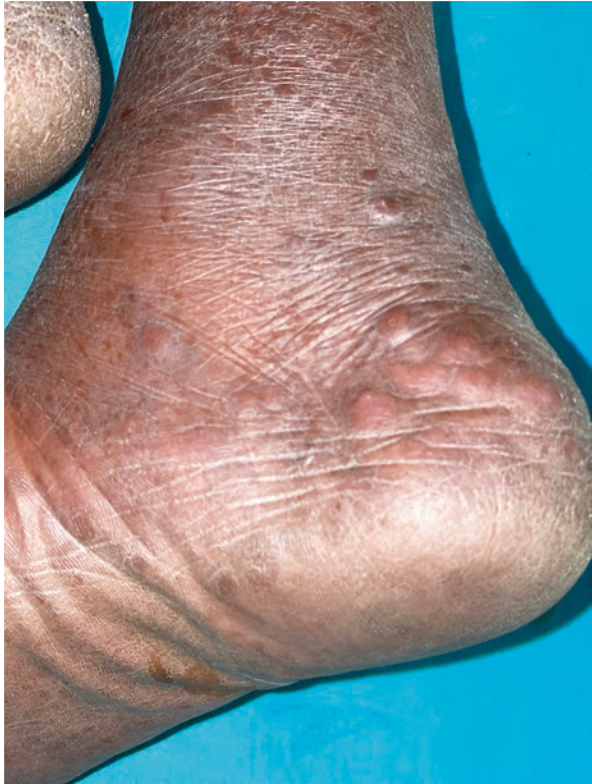

**Fig. 17.2** Skin-colored to yellowish nodules over the Achilles tendon

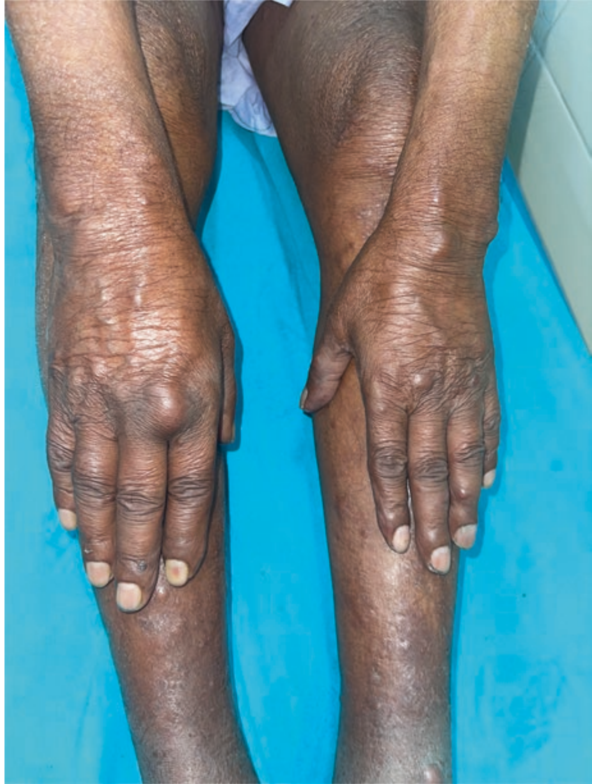

**Fig. 17.3** Nodules over the dorsum of the hand

## What Is Your Diagnosis?

- Lepromatous leprosy
- Xanthoma
- Sarcoidosis
- Leishmaniasis

## Investigation

- Routine hematological parameters revealed mild anemia with Hb 11 gm%; serum ACE and fasting lipid profile were normal.
- Slit skin smear from the eyebrows, earlobes, and the lesional areas showed many acid-fast bacilli (BI = 3+).
- Skin biopsy from the shiny skin-colored nodule showed epidermal atrophy with a grenz zone. There were multiple foamy histiocytes and few lymphocytes located around perivascular, periappendegeal, and perineural. Multiple acid-fast bacilli arranged in globi are present (Fig. 17.5). No sub-epidermal edema or neutrophile is seen in the infiltrate.
- USG of nerve showed symmetrical nerve thickening of the ulnar nerve, radial cutaneous nerve, and common peroneal nerve.

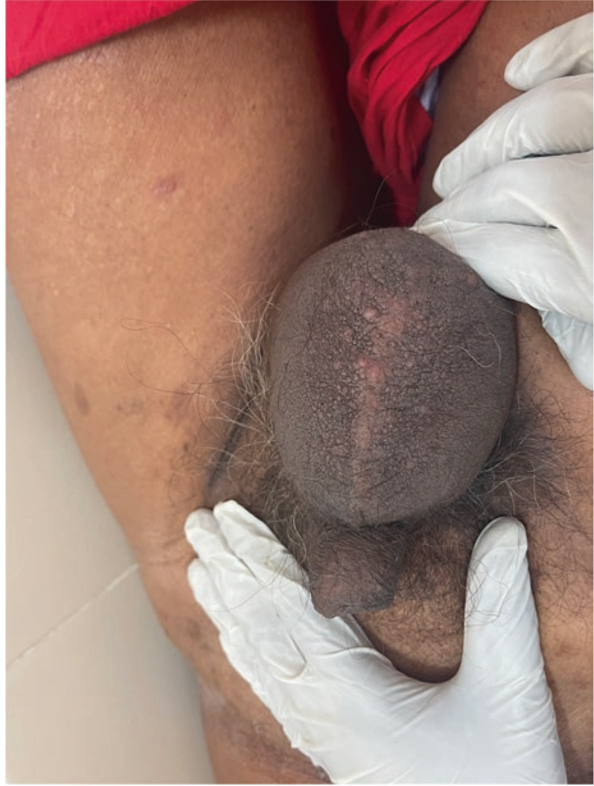

**Fig. 17.4** Nodules over the scrotum

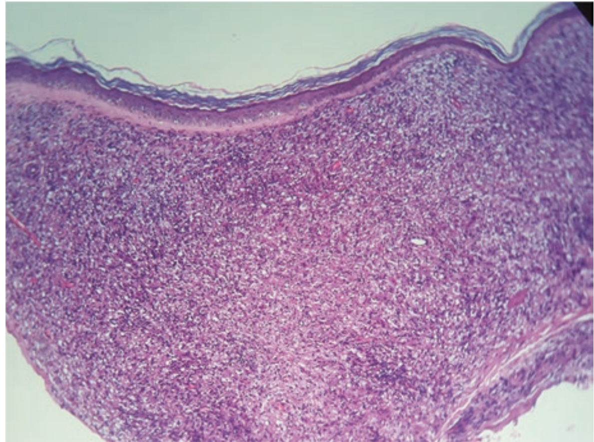

**Fig. 17.5** Foamy macrophages throughout the dermis (H&E ×100)

## Final Diagnosis

Lepromatous leprosy not in reaction without disability.

## Discussion

Lepromatous leprosy patients have low cellular immunity and high bacillary load [1]. The proportion of lepromatous leprosy cases is on an increasing trend [2]. The morphological presentations include macules, papules, nodules, and plaques which are usually widespread, symmetrical in distribution. The most common sites involved are the face, ear lobules, trunk, extremities especially over joints, elbows, fingers, buttocks, genitalia, and rarely mucous membranes also. Delayed treatment can lead to diffuse infiltration by bacilli in body parts resulting in thickening of the skin in the ear (Buddha ear) and face (leonine facies). Systemic involvement included epistaxis, blocked or stuffy nose, corneal xerosis, ulceration, lagophthalmos, bony resorption, gynecomastia, anemia, and atrophy of testis. Bilaterally symmetrical gloves or stocking anesthesia may be present [3]. Edema over bilateral ankles and legs is found due to increased capillaries permeability and gravity [4].

The diagnosis of lepromatous leprosy is often based on clinical features. However, in some cases of diagnostic dilemma investigations like skin biopsy, slit skin smear, and nerve conduction, study should be done. Histopathological findings of lepromatous leprosy include atrophy of the epidermis, rete ridges flattening, subepidermal grenz zone, and macrophages in the upper dermis. Slit skin smear shows plenty of acid-fast bacilli with Ziehl-Neelsen stain. Nerve conduction study shows abnormality of sensory and motor nerve function. Cases of lepromatous leprosy without lepra reaction are treated with WHO treatment guidelines: rifampicin, clofazimine, and dapsone for 12 months. Patients are counseled to complete their treatment and care of anesthetic areas (Fig. 17.6).

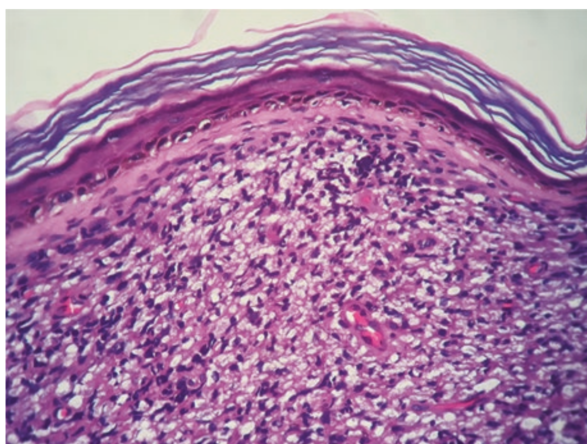

**Fig. 17.6** Grenz zone, foamy macrophages, and scant lymphocytes (H&E ×400)

Current case presented with skin-colored to yellowish nodules predominantly over frictional areas mimicking xanthoma lesions and was later on diagnosed as lepromatous leprosy based on clinicohistopathological correlation. The patient was started on multiple drug therapy as recommended by WHO for 24 months because of a high bacteriological index.

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