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Case Report

Milia Over Healing Leprosy Plaque: A Rare Presentation

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Milia are benign keratinous cysts that present as small, firm, dome-shaped papules. Leprosy is a chronic granulomatous disease caused by *M leprae.* It is well known to damage skin adnexa, including eccrine glands, due to infiltration of inflammatory cells or by pressure from granuloma formation followed by their subsequent repair. We report a 12-year-old male with multiple milia over a healing plaque of BT Hansen's disease to highlight the rare presentation where the healing process and not the acute inflammatory reaction was crucial in milia formation because of the occurrence of milia only over resolving lesions without lepra reactions.

Keywords : Leprosy, Lepra Reaction, Milia

Introduction

Milia are benign keratinous cysts of skin that present clinically as small, firm, dome-shaped white papules measuring 1-2 millimetres (mm) in diameter (Langley et al 1997). They have been classified as primary and secondary milia. Primary milia arise from the lower infundibular portion of vellus hair follicles. They are present at birth over the newborn's nose, scalp, eyelids, cheeks, gum border (Bohn nodules), and palate (Epstein pearls). Secondary milia are usually formed after trauma, burns, prolonged use of topical corticosteroids or bullous disorders as sequelae of damage to the adnexal structures (Kumudhini et al 2018, Kurokawa et al 2016). Its diagnosis mostly remains clinical. The described case of milia formation over leprosy lesions remains underreported

Case Report

A 12-year-old male presented with multiple erythematous, asymptomatic papules and plaques involving the face, left arm and hand of 1 year duration. A cutaneous examination showed multiple erythematous, well-defined, oval to circular plaques of variable size and shape present over the left cheek, nose (Figure 1), extensor aspect of the left arm and dorsum of the left hand. Plaque on the dorsum of the hand showed pseudopodia formation with one satellite lesion. Sensation to touch, pain and

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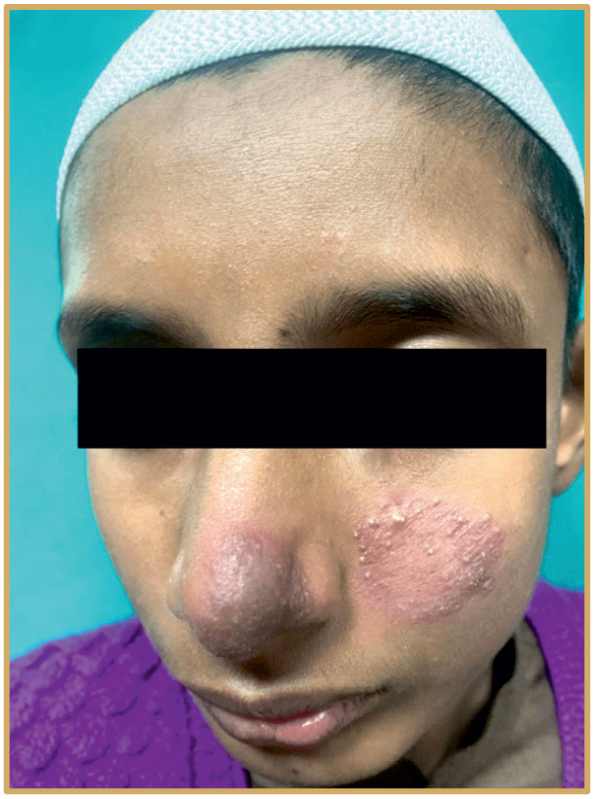

Fig 1 : Multiple white-coloured milia over a subsiding plaque of leprosy on Left cheek

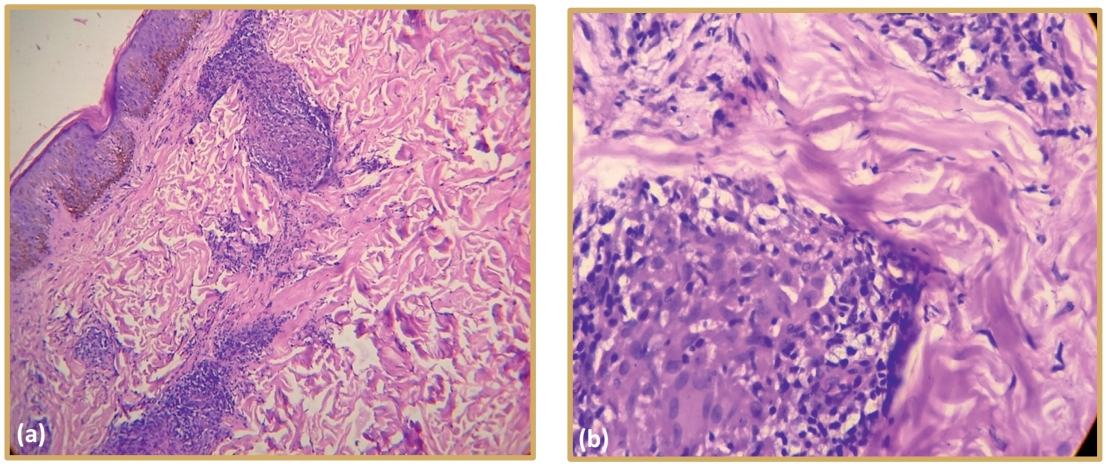

Fig 2 : Histology shows keratinized stratified squamous epithelium with parakeratosis (a) The underlying stroma is fibro collagenous with granuloma containing Langhans giant cells surrounded by lymphocytic infiltrates (b) (Stain H&E, (a)-10X, (b)-40X)

temperature were absent over the plaques. Left radial and radial cutaneous nerves and left ulnar nerve had grade 2 and grade 1 uniform thickening and were non-tender. There was no clinical evidence of lepra reaction. A slit-skin smear examination from the plaque over the left cheek showed no acid-fast bacilli. A skin biopsy from the plaque over the left cheek showed periappendageal and perivascular granulomatous cell infiltrates, and a few epitheloid cell granulomas with Langhans giant cells surrounded by lymphocytic infiltrate in hematoxylen and eosin stained sections (Figure 2) and no acid-fast bacillion Fite-Faraco staining. With a diagnosis of borderline tuberculoid (BT) leprosy downgrading to borderline lepromatous (BL) leprosy, treatment with WHO MDT-MB was initiated with monthly follow-up.

After four months of treatment, the patient reported a few tiny, white, asymptomatic papules appearing over the flattened leprosy plaques and sparing the normal skin (Figure 1). His parents did not consent to the biopsy. After needle extraction of these lesions, a clinical diagnosis of milia was made.

Discussion

Only one case report of 2 patients with type 1 lepra reaction developing milia over healing lesions has been described in the literature (Sandhya et al 1994).

Ours was a biopsy-proven case of BT downgrading to BL leprosy, not in reaction. A milium may develop from any epithelial structure and, on serial sections, can usually be seen connected by a cord of undifferentiated epithelial cells to the parent structure, whether this is the hair follicle, sweat duct, sebaceous duct or epidermis (Leppard & Sneddon 1975). However, the exact pathomechanism of this phenomenon in leprosy remains conjectural. Since leprosy is well known to damage skin adenexa, including eccrine glands, due to infiltration of inflammatory cells or by pressure from granuloma formation, it remains plausible that milia, in this case, were derived from eccrine ducts damaged by inflammatory cells infiltrate followed by their subsequent repair. It was also interesting to note that the occurrence of milia only over-resolving lesions without lepra reactions occurred in this case. It reflects that the healing process and not the acute inflammatory reaction perhaps remain crucial in milia formation. However, the possibility of missing the initial dim intuitive milia over leprosy lesions at the first visit, which enlarged and became visible over the period, can not be ruled out with impunity.

Conclusion

We report this case to highlight the rare presentation of healing process of Hansen's disease plaques with milia formation. However, more cases need to be reported to ascertain whether there is a confirmed association, or the findings are merely by chance.

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