

Case Report

A rare case of hypertrophic lichen planus caused by ingestion of ink

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ABSTRACT

Lichen planus is a papulosquamous disorder that affects the skin as well as mucous membrane. It is classified into different variants according to the location and morphology. Hypertrophic lichen planus is one of the clinical variants. Here we have described a case of four-year-old boy with unusual presentation of hypertrophic lichen planus caused by chewing refill of ballpoint pen.

Keywords: Hypertrophic lichen planus, Histopathology, Lesions

INTRODUCTION

Lichen planus (LP) is a common papulosquamous disorder that affects the skin, mucous membranes, nails and hair.¹ It is a disease of multiple etiology which includes autoimmunity, drugs, hepatitis C, colour developers and upper respiratory tract infection.²⁻⁵

Many variants in morphology and location exist, including oral, nail, linear, annular, atrophic, hypertrophic, inverse, eruptive, bullous, ulcerative, lichen planus pigmentosus, lichen planopilaris, vulvovaginal, actinic, lichen planus-lupus erythematosus overlap syndrome, and lichen planus pemphigoides.⁶ Hypertrophic lichen planus (HLP) occurs on the extremities, especially the shins. It is the most pruritic variant. The lesions are thick, elevated, and purplish in colour and hyperkeratotic.⁷

The exact mechanism associated with LP is unknown; however, autoimmunity and drug-related induction are two the proposed mechanisms.⁶ There are very few literatures reporting severe skin reactions leading to LP due to tattooing.^{8,9}

This paper reports a case of HLP caused due to ingestion of ink from a ballpoint pen.

CASE REPORT

A four-year-old boy from a village in central Kerala, India was presented in 2012 with multiple, pruritic lesions all over the body for the past eight months. It started on the shin which spread to rest of the body in due course of a month (Figure 1). There was no history of similar manifestation. Family history and treatment history were not contributory. He was immunised as per World Health Organization (WHO) recommendations and his milestones were normal.

General physical examination was unremarkable. There was no associated pallor, icterus or lymphadenopathy. Systemic examination did not reveal any abnormality. On clinical examination, the skin showed hypertrophic scaly lesions all over the body. He had no nail changes, and his scalp and mucosa were normal. Patient had no tattoo on the body. Routine haematological and biochemical investigations were normal. Screening for hepatitis was done and found to be normal. There were no significant chest X-ray findings as well.



Figure 1: Clinical photograph showing multiple pruritic plaques.

Child gave a history of chewing refill of the ball pen while sitting with his sister who is studying in higher class. The provisional diagnoses made were verrucous lichen planus, atopic dermatitis and disseminated eczema.

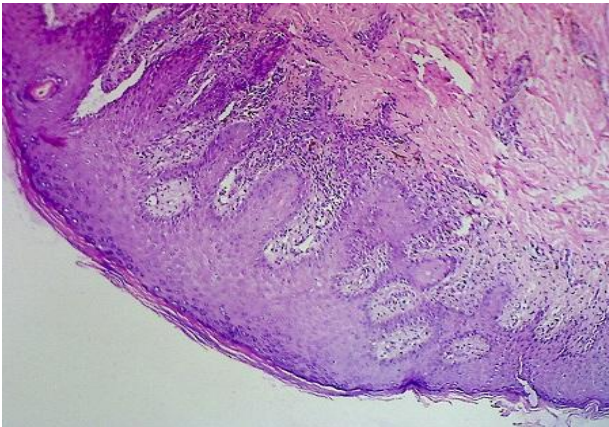


Figure 2: Photomicrograph of skin showing basal cell vasculization at dermo-epidermal junction (H and E, ×40).

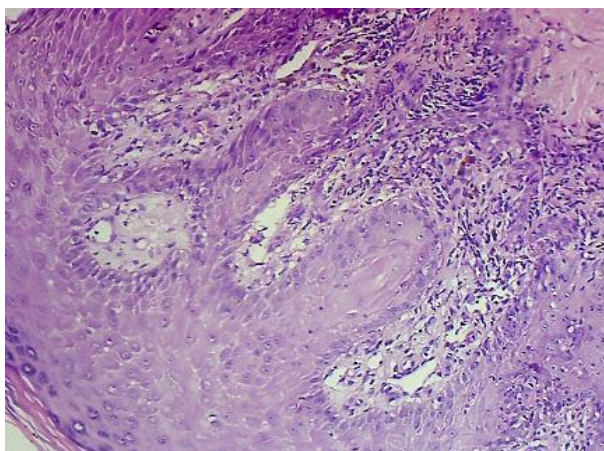


Figure 3: Photomicrograph showing epidermal hyperplasia with elongation of rete ridges (H and E, ×100).

Histopathological features

A biopsy was taken from the lesion. On histopathological examination, the following findings were noted in the epidermis—Hyperkeratosis, acanthosis, basal cell degeneration (Figure 2 and 3). Dermis showed saw-toothing of dermoepidermal junction and band like lymphocytic infiltrate. Melanophages were seen in the dermis.

Patch test was performed with Indian standard series and patient reported after 48 hours. It was positive 2+ to para phenylene diamine 1%. The ink which the patient was chewing was subjected to ferric chloride test and was found to be positive for the presence of phenol.¹⁰ Patient was asked to stop chewing refills containing ink. He was given cyclosporine 0.5 mg/kg for 5 days and topical mometasone furoate was prescribed for one week. Patient improved completely within one month. Patient was followed up for 18 months and then for every two years up to eight years with no signs of relapse.

DISCUSSION

HLP is one of the clinical variants, which occur on the extremities, especially the shins. It is the most pruritic variant of all LP.^{11,12} Here, we report a very unusual presentation of HLP caused by chewing refill pen.

Ink contains pigments, dispersants, resins, humectants, defoamers, wetting agents, pH modifiers and biocides. Triphenyl methane which is a phenolic compound is used in ink as a dye for its colour and as biocide to prevent the contamination of its organic matter.^{13,14} So it implicates the role of dye/colourants used in ink in causation of LP.

CONCLUSION

This case is being reported for the uniqueness in that ingestion of phenol related chemical has caused HLP. It also points to the necessity of ruling out contact/ingestion of phenol containing products in cases of HLP.

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Ethical approval: Not required

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