

Oral Mucosal Lichen Planus in a 9 year old child- A Case Report

Abstract

Lichen planus (LP) is a fairly distinctive mucocutaneous disease. The etiology of the condition appears to be complex and multifactorial with unique histopathological features. Immunofluorescence studies have provided some insight into a proposed immunopathogenesis. Lichen planus is seen frequently in the middle aged and elderly population. The female to male ratio is of approximately 2:1. Children are rarely affected. The incidence of oral lichen planus in children is reportedly high among the Asians. We present a 9 year-old Indian child with the documented clinical aspects, histopathology and immunofluorescence studies.

Key words: lichen planus, childhood , immunofluorescence,

Introduction

Lichens are primitive plants composed of symbiotic algae and fungi. The term planus is Latin, for flat. The strange name of the condition was provided by the British physician Erasmus Wilson, who first described it in 1869 and reported 6% of prevalence in the general population. Wickham in 1895 described the characteristic appearance of white striae that develop atop the flat surfaced papules. Lichen planus is predominantly a disease of the middle aged and elderly population. Oral lichen planus is rare in childhood, and only a few reports on this subject have appeared in the literature. The etiology of the condition remains obscure, but it appears to be complex and multifactorial. In some patients it may be idiopathic but in most of the cases the condition is exacerbated or even provoked by a variety of drugs & dental materials.^{1,2} Viruses, genetic factors and lifestyle also play a significant etiological role. Basal cells are the prime targets of destruction in oral lichen planus. The mechanism of basal cell damage is related to a cell mediated immune response involving Langerhan's cells, T lymphocytes & macrophages. Histochemical studies have identified a T-cell origin with CD4 & CD8 subsets in oral Lichen Planus. Though the clinical features of oral lichen planus are similar in adults and children, yet the prognosis seems to be more favorable in children.^{3,4}

Case report

A 9-year –old girl was referred to the Department of Oral Pathology and Diagnosis, Sibar Institute of Dental Sciences, Guntur, with a chief complaint of a burning sensation in

the mouth while consuming spicy food for the past three months. On intra-oral examination a grayish white patch with white striae were observed bilaterally on the buccal mucosa extending into the retromolar fossae (fig-1). There were no skin lesions. Medical and family history was not significant. Incisional biopsy of the buccal mucosa revealed the histological features consistent with a diagnosis of Lichen planus and immunofluorescence study demonstrated linear deposition of fibrinogen along the basement membrane zone (fig-4, 5). Routine hematological investigations revealed nothing untoward.

The patient was referred to the dermatopathologist for treatment and remains under review.

Discussion

Childhood lichen planus is a very rare entity. Studies of children with mucocutaneous lichen planus have shown a very low incidence of oral involvement.⁴ Usually lichen planus tends to occur most commonly in females. However Sharma et al. found the male to female ratio as 2:1 in their 50 childhood lichen planus patient series. Oral LP may be present anywhere in the oral cavity. Buccal mucosa, tongue and gingiva are the most common sites. The clinical presentation of oral lichen planus are diverse, ranging from the classical white bilaterally symmetrical reticular network found characteristically on the buccal mucosae, to widespread and debilitating ulcerative lesions. Usually LP lesions are asymptomatic but a burning sensation may be associated with few cases.¹ The clinical presentation & site predilection in our case are consistent with the classical description of LP.

The exact etiopathogenesis of LP is unknown. An inborn error of metabolism has been cited, such as glucose-6-phosphate dehydrogenase deficiency, and long lasting abnormal

glucose metabolism with glucose intolerance. An association between oral LP and hepatitis C virus infection has been reported in the literature but it still remains controversial.⁵ Genetic factors and lifestyle also play a significant etiological role. More recent studies suggest that at least 50% of the cases reported, had familial histories of lichen planus. Whatever the etiology is, the primary event starts with the damage of the basal layer of the epithelium. An unidentified allergen may have an originating effect on this immunological – based process.

It is unusual for children to use those drugs known to be associated with lichenoid reactions. However there are reports of childhood lichenoid eruptions following the administration of hepatitis B vaccine.^{6,7}

Shklar described the three classic microscopic features of oral LP as, hyperorthokeratosis or hyperparakeratosis, a band like layer of chronic inflammatory cells within the underlying connective tissue, subepithelially and liquefactive degeneration of the basal cell zone. The rete ridges may be absent or hyperplastic, but they classically have a pointed / saw tooth shape.³ In our case also, histological findings were consistent with the above findings (fig-2, 3).

Jorden et al in 2002, stated that LP shows a characteristic pattern of fibrinogen deposition outlining the basement membrane zone (BMZ) and extend irregularly into the superficial lamina propria, described as a shaggy or fibrillar pattern.^{8,9} In our case also the same characteristic pattern as mentioned above was noticed (fig-4, 5)..

According to the result obtained by the immunofluorescent study, we thought that the possible etiology was of immune mediated onset.

In the general treatment of oral lichen planus, oral antihistamines and topical corticosteroids are the main therapeutic agents. For extensive involvement, oral steroids can

be used at doses of 1-2mg/kg/day. Adverse effects must be considered carefully. Dapsone, Griseofulvin and PUVA are alternate therapeutic agents in children. Recently ultraviolet B phototherapy has also been found to be safe and effective in patients with eruptive and widespread disease.¹⁰

Summary

Lichen planus is not a life-threatening disease, but, is known to be an intense pruritic disorder. It may cause irreversible scarring, which may not be acceptable cosmetically. This, then results in a low quality of life.

Lichen planus is rare in children and oral mucosal involvement is rarer still. Yet, this condition cannot be ruled out while considering the differential diagnosis of other white lesions of the oral mucosa. Such a diagnosis followed by early treatment will help the general clinician, to avoid the complications arising due to this disorder, thereby presenting the patients with a better quality of life.

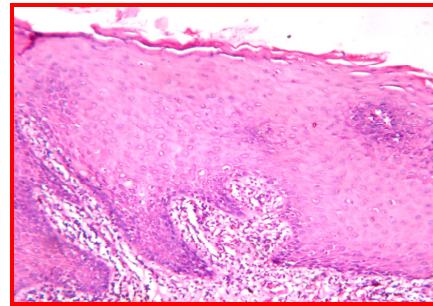
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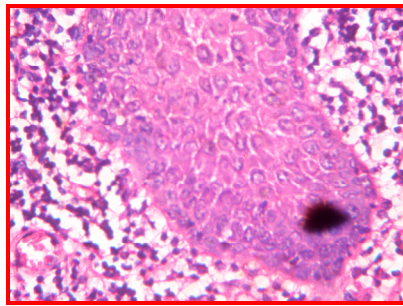
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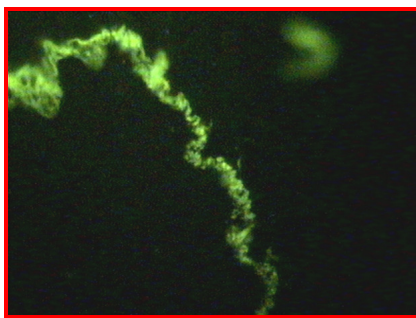
Grayish white lesion showing characteristic interlacing white lines (fig-1)



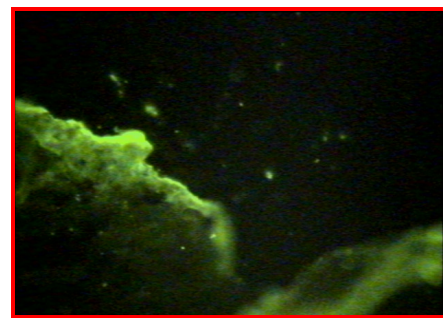
Hyperparakeratosis & saw tooth appearance of rete pegs (fig-2)



Basal cell degeneration & subepithelial band of lymphocytes (fig-3)



Fibrin deposition along the BMZ extending as irregular strands into the superficial lamina propria (DIF) (fig-4)



Linear deposition of fibrin along the BMZ (DIF) (fig-5)