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ORIGINAL RESEARCH

ORAL LICHEN PLANUS – A RETROSPECTIVE CLINICAL STUDY IN A TERTIARY CARE CENTRE

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ABSTRACT

Background:Oral lichen planus (OLP) is a chronic inflammatory disorder with a relatively high prevalence varying from 0.9 % to 1.2%. It may be confined to oral cavity or associated with the skin, nails and other mucosal sites. Oral lesions are chronic, rarely undergo spontaneous remission and are often a source of morbidity. OBJECTIVE - To investigate the epidemiological and clinical characteristics of oral lichen planus (OLP) in a group of patients.

Materials and Methods: This is retrospective study done at Gandhi Hospital from 2017 to 2019. A total of 64 lichen planus patients with oral involvement were included. OLP is diagnosed based on the morphology and associated lesions on the skin, nails or other mucosa. A biopsy was done in doubtful cases.

Results: Out of 64 studied patients females(41) outnumbered males(23) .The common age group was 30-60yrs. Isolated OLP was observed in 42%, with cutaneous LP 50%, with nail involvement 3%, and with genital mucosa 4 %. Buccal mucosa is the commonest site (84%) followed by tongue 28% and lip 20%. LP involving the lower lip with actinic changes 5(39%) and pigmentation in 8(61%). The common patterns observed were reticular 65.6%, erosive 11% and pigmented 11%. Other associations were submucosal fibrosis in 6, diabetes 10, hypothyroidism 4, vitiligo 1, retro-positive 4, HCV in 2.

Conclusion: In our study reticular pattern involving the buccal mucosa was the commonest. Our study showed that LP involving the lower lip was mimicking actinic cheilitis which may be differentiated. Association of LP with HCV was seen in only in 3.1 % of cases. Regular follow-up was needed for erosive or ulcerative and atrophic LP.

Keywords: Oral Lichen Planus, inflammatory, clinical features, epidemiology, retrospective study.

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INTRODUCTION

Lichen planus is an idiopathic inflammatory skin disease that affects any ectodermal derived tissue such as the skin and mucosal membranes, often with a chronic course with relapses and periods of remission. It is derived from Greek word leichen, "tree moss"; Latin planus, "flat". The prevalence of lichen planus varies geographically with a range from 0.14% to1.27%.[1] The prevalence is 2.6% in Indian population.[2] Atleast two-third cases affects adults aged between 30 and 60 years. The average age of occurrence in females is in their 50s and 60s and in males it is little bit early. No sexual predilection seen and less common in children.[1]

Oral involvement occurs in approximately 60% to 70%of patients with lichen planus and may be the only manifestation in 20% to 30% of patients.[3]

Various types of oral lichen planus have been described, such as reticular, plaque-like, atrophic, papular, erosive or ulcerative, and bullous forms.[4]

The buccal mucosa is the most common site of involvement followed by the tongue and gingiva. Gingival involvement may take the form of gingival stomatitis or desquamative gingivitis and is the sole manifestation in 8% of oral lichen planus. On the other hand, oral lichen planus is the most common cause of desquamative gingivitis, accounting for 75% of cases.[1]

Although the etiology and pathogenesis of OLP are not fully understood, it has been associated with multiple disease processes and agents, such as viral and bacterial infections, autoimmune diseases, food allergies, stress, habits, trauma, diabetes, hypertension, medications, vaccinations and dental restorative materials. Certain factors are known to aggravate the disease.[3] These include stress, anxiety, smoking, spicy food and mechanical trauma.[5,6]

An association has been observed with HLA-A3, A11, A26, A28, B3, B5, B7, B8, DR1, and DRW9. HLADR6 is usually linked to hepatitis C virus-associated OLP.[7-9]

Materials commonly used in restoration treatments in the oral cavity have been identified as triggering elements for OLP, including silver amalgam, gold, cobalt, palladium, chromium and even non-metals such as epoxy resins (composite) and prolonged use of denture wear. Oral lichenoid drug reactions may be triggered by systemic drugs including NSAIDs, beta blockers, sulfonylureas, some angiotensin-converting enzyme (ACE) inhibitors, and some antimalarials, contact allergens including toothpaste flavorings, especially cinnamates.[10-13]

OLP may occasionally be associated with autoimmune disorders such as primary biliary cirrhosis, chronic active hepatitis, ulcerative colitis, myasthenia gravis, and thymoma. Studies have revealed that both diabetes mellitus (DM) and high blood pressure are associated with OLP.[3,14]

MATERIALS & METHODS

This is a retrospective study done at Department of DVL, Gandhi Hospital between January 2018 and December 2019. A total of 64 cases of oral lichen planus who visited the department were included in the study. A thorough history and physical examination was done. Information regarding age and gender of patients and the clinical forms of the lesion were recorded. The severity of symptoms was assessed based on the clinical presentation into mild, moderate or severe. Clinical findings regarding site of involvement, associated symptoms at the time of diagnosis were recorded. Any other systemic symptoms enquired. Thoroughly investigated to diagnose any systemic disease like diabetes mellitus, hypo or hyperthyroidism, hypertension and any other systemic diseases. Diagnosis of oral lichen planus was made based on the morphology and associated lesions on the skin, nails or other mucosa. In doubtful cases a biopsy was done to confirm the diagnosis. Patients were treated either with Triamcinolone topical application, which is of medium potency or with systemic prednisolone. Patients with erosive and atrophic lesions were followed up regularly.

RESULTS

The study group included 64 patients of which males were 23(36%) and females were 41(64%) with a male to female ratio of 1:1.8. There was a wide age range in the study population, youngest being 8 years and the oldest was 67 years. There was no significant age difference between genders. The disease duration range was between 3 months and 7years. Lichen Planus limited oral mucosa was observed in 23(42 %) cases, associated with cutaneous was seen in 32(50 %) cases, with nail involvement in 2(3%), and with genital mucosa 3(4 %). Buccal mucosa was the commonest site of involvement in 54(84%) cases followed by tongue involvement in 18(28%) cases and lip in 13(20%) cases. The common pattern observed was reticular pattern in 42(65%), next common was erosive form 7(11%) and pigmented 7(11%) form. Desquamative gingivitis was observed in 3 (4.7 %). Lichen planus involving the lower lip with actinic changes in 5(39%) cases and classic pigmentation in 8(61 %). Most common systemic association was Diabetes mellitus seen in 10(16%) cases, the other associations were hypothyroidism in 4(6%) cases, vitiligo in 1(2%) case. HIV positive was seen in 4(6%) cases and 2(3%) were HCV positive. Submucosal fibrosis was seen in 6(9%) cases.

Table 1: Shows sex distribution

Gender	Oral Lichen Planus (Total – 64)
Male	23 (36%)
Female	41(64%)

Table 2: Site of the lesions

Site of lesion	Number of patients
Buccal mucosa	54(84%)
Tongue	18(28%)
Lips	13(20%)

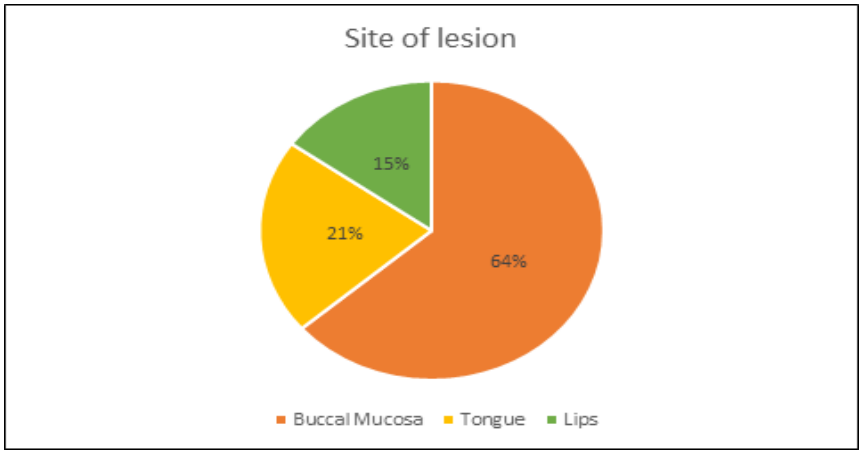

Figure 1: Shows site of involvement

Table 3: Involvement of skin, oral mucosa and other structures

Type of LP	Frequency (n)	Percentage (%)
OLP Only	27	42%
OLP with Cutaneous LP	32	50%
OLP with Nail Involvement	2	3%
OLP with Genital LP	3	4%
Total	64	100%

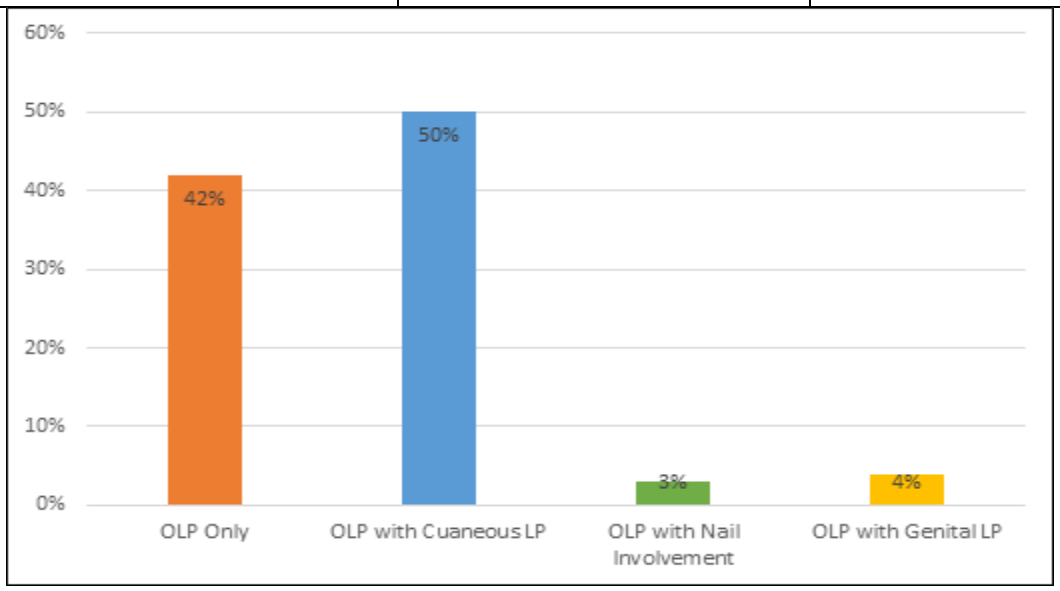

Figure 2: pattern oral lichen planus observed

Table 4: Common Pattern of OLP Observed

Type	Frequency (n)	Percentage (%)
Reticular	42	65.60%
Erosive	7	11%
Pigmented	7	11%
Desquamative gingivitis	3	4.70%
Total	59	92.30%

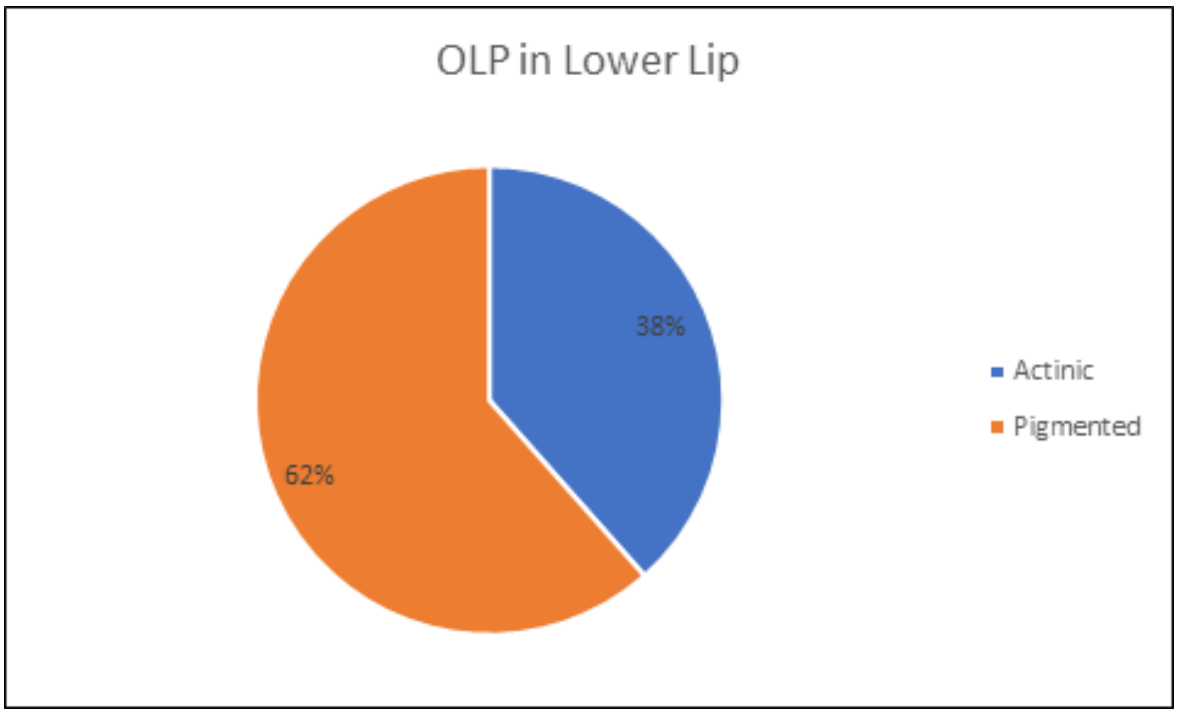

Figure 3: Lower lip morphology in OLP

Table 4: Co morbidities associated with OLP

Co morbidities	Frequency (n)
Submucosal Fibrosis	6
Diabetes Mellitus	10
Hypothyroidism	4
Vitiligo	1
RVD	4
HCV	2
Total	27

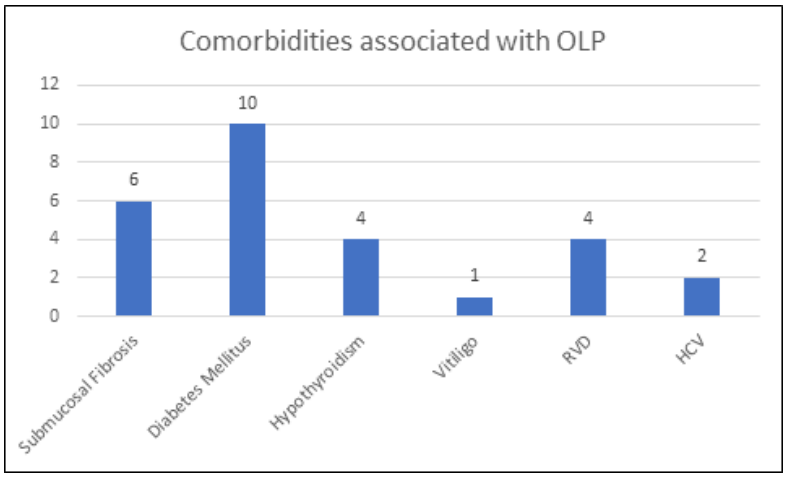

Figure 4: Co-morbidities associated with Oral LP

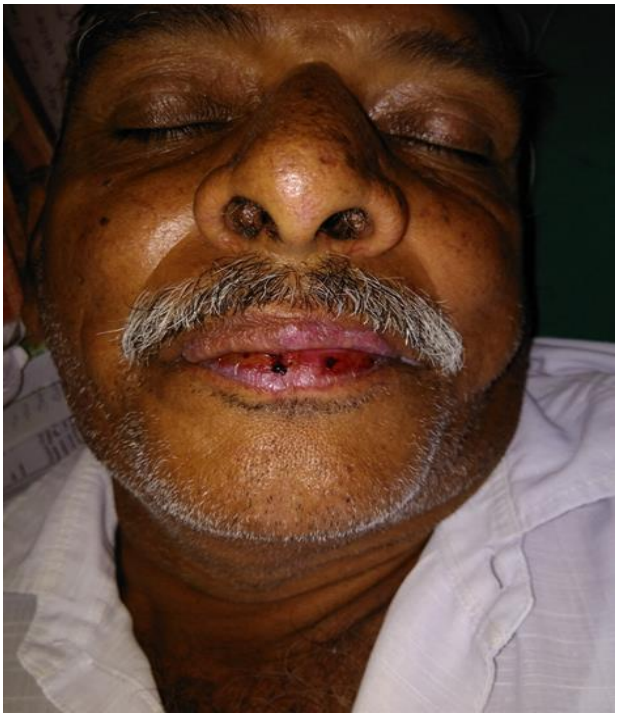

Image 1: Reticulate pattern over lips

Image 2: Reticulate pattern over the tongue

Image 3: Reticulate and ulcerative pattern over the tongue

Image 4: Reticulate and ulceratve pattern over glans penis and scrotum

Image 5: Reticulate pattern over buccal mucosa

Image 6: reticulate and pigmented pattern over buccal mucosa and lips respectively

Photo 7: Actinic pattern over lower lip

Image 8: pigmented pattern over lower lip

DISCUSSION

The population included in the present study was found to be in agreement with other reports showing a predisposition for females.[15] There were no gender differences in any of the clinical parameters investigated, such as type of lesion, distribution in oral locations, extent of involvement and associated conditions. In this study OLP was most often been reported in middle- aged patients with 30-60 years of age which was in concurrence with Boorghani M et al.[16]

Extra-oral involvement in OLP has been found in a total of 37 (58%) of cases, including 50% cutaneous, 4 % genital, and nail lesions. The frequency of cutaneous involvement is similar to that reported by Bidara et al,[17] and Ilana K et al,[18] whereas the frequency of genital lesions is lower in our study when compared to Bidara et al.[17] In comparison, a large retrospective study by Carbone et al,[19] reported a frequency of 2.9% for genital manifestations in OLP patients which is more in line with the findings from the present study. The buccal mucosa was the site most affected, followed by the tongue in agreement with Oliveira et al,[20] and other studies.[21] Lips were third most common site of involvement in the present study whereas gingival involvement was third most common site in other retrospective studies.[20,21] The reticular form was the most frequent, followed by the erosive form comparable to the findings of Oliveira et al.[20,21]

The most common co-morbidity associated with oral lichen planus in the present study is Diabetes mellitus followed by submucosal fibrosis, this was in contrary to the findings of Olivera et al where the most common co-morbidity was Hypertension,[20] this can be attributed to the changing dynamics in prevalence of diabetes mellitus in the Indian sub-continent.

The prevalence of HCV sero-positivity among study patients was less 2(3%) in this study, when compared to A Konidena et al,[22] where it was 12% out of 25 studied oral lichen planus patients. The association of vitiligo and hypothyroidism can be attributed to oral lichen planus being an immune-mediated mucocutaneous disorder with autoimmune tendencies. People diagnosed with an autoimmune disease have a 25% chance of developing an additional autoimmune disease.[22]

Oral submucosal fibrosis was a complication of chronic inflammatory process in oral cavity . In the present study 6(9.4%) of patients had submucosal fibrosis which is less when compared to 30% in a study done by Shteiner M et al in 2021,[23] this discrepancy in the prevalence of sub mucosal fibrosis can be attributed to the inclusion of only clinically discernable fibrotic bands in our study , where as Shteiner M et al,[23] included both clinically and questionnaire based diagnosed cases of sub- mucosal fibrosis.

In our study we have observed the lower lip lichen planus (20%) lesions were mimicking actinic cheilitis. The histopathological diagnoses were lichen planus associated with solar elastosis. The systemic nature of lichen planus and the malignant potential of actinic cheilitis should be taken into account in the planning of the treatment and follow-up of such cases.

CONCLUSION

Oral lichen planus is common among females and it is most commonly associated with cutaneous lichen planus and reticular form being the most frequent presentation. Oral Lichen planus with actinic cheilitis like presentation should be assessed properly to prevent unnecessary treatments and should be kept under regular follow up to rule out malignancies. Oral lichen planus being associated with HCV and diabetes mellitus makes it difficult to tailor the treatment with minimal side-effects. Further more studies are needed to establish Submucosal fibrosis as a common finding in oral lichen planus.

Limitations of the study:

The limitations of this study is it being and observational retrospective study and study sample being less.

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