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A Study of Various Morphological types of Lichen Planus

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Abstract: *Lichen Planus (LP) is a unique, common inflammatory disorder that affects the skin, mucous membranes, hair and nails characterized by purple, polygonal, pruritic papules predominantly involving the flexural areas of the body. The aim of the present study is to know the prevalence of Lichen Planus and to study of various morphological types of Lichen Planus. A total of 78 cases presenting with features of Lichen Planus were included in this study. All Lichen Planus lesions including cutaneous, mucosal, oral, nails were studied. Lichen Planus is diagnosed based on mainly clinical examination and confirmed by histo pathological findings. Among various types, predominant one was erosive and ulcerative seen in 24 cases (30.7%) followed by Follicular type (25.6%) and Reticulate type (23%) of Lichen Planus. Out of 78 Lichen Planus cases, Oral LP seen in 44 cases (56.4%). Peak incidence of Lichen Planus was observed in 31-50 years of age group. As this is a chronic disease, affected people should be diagnosed and treat as early as possible by anti inflammatory or immunosuppressive drugs. There is a chance of secondary infections and malignant transformation in Lichen Planus, need for long term follow up.*

Keywords: *Erosive type LP, Lichen Planus, Morphological types.*

I. Introduction

Lichen Planus (LP) is a unique, common inflammatory disorder that affects the skin, mucous membranes, hair and nails characterized by purple, polygonal, pruritic papules predominantly involving the flexural areas of the body [1]. It has a different morphological forms depending on the site of involvement. In the Indian series, the skin alone was affected in 70%, skin and mucous membranes in 23% and mucous membranes alone in 6% [2].

Incidence of LP vary slightly geographical areas. In London, in a series approximately 1.2% of all new cases were reported to be LP [3]. In USA it is 0.4% [1] and incidence of 0.8% was reported from Delhi, India [4].

The cause of LP remains unknown. Although LP is a multi factorial disease, the role of any one of them as a sole causative factor is still to be established. Various factors known to play a role in LP such as Genetic factors [3], immunological factors, emotional stress[5], metabolic abnormalities [6,7], infective factors [8].

Several disorders are associated with Lichen Planus more often with ulcerative colitis, alopecia areata, vitiligo, dermatomyositis, morphea, lichen sclerosus et atrophicus, thymoma, myaesthenia gravis, hypogammaglobulinemia, primary biliary cirrhosis and hepatitis C virus infection.

Lichen Planus presents in various morphological forms like Hypertrophic LP (LP verrucosus), Atrophic LP, Vesiculobullos LP, Erosive and Ulcerative LP, Actinic LP, Follicular LP, Lichen Planus Pigmentosus, Other rare variants such as Guttate, Perforating, Exfoliative, Erythematous and invisible Lichen Planus [9].

Based on the site of involvement, there are many types. Among them Oral involvement is common, occur in 60-70% of patients with LP. It may be the only manifestation of LP in 20-30% of the patients.

The treatment of LP can present a perplexing, difficult and at times insoluble problem. The variable course and self-limited duration of LP make it difficult to adequately evaluate therapy, but many treatments and procedures are in use to control the symptoms.

The aim of the present study is to know the prevalence of Lichen Planus and to study of various morphological types of Lichen Planus.

II. Materials and Methods

After institutional ethical committee, prospective study was started and study done in Government Medical College, Ananthapuramu for two years from August 2012 - August 2014.

Lichen Planus lesions can presents in a different forms [10, 11] like Annular, Linear, Hypertrophic, Atrophic, Bullous Ulcerative, Pigmented.

A total of 78 cases presenting with features of Lichen Planus were included in this study. All Lichen Planus lesions including cutaneous, mucosal, oral, nails were studied. Patients presenting with complaints of Lichen eruptions were excluded from the study.

A detailed history including the age, sex, occupation, socioeconomic status, duration of the disease, present and past illness, family and personal history were recorded as per the proforma. General and systemic examination was done. The diagnosis is based mainly on clinical examination and confirmed by histopathological findings.

Routine urine and blood examination, Liver and Renal function tests were done in all patients with Lichen Planus. Skin biopsy was sent for Histopathological examination for confirmation of Lichen Planus.

All the details regarding Lichen Planus were entered into excel sheet and analyzed.

III. Results

A total of 78 cases were observed and diagnosed clinically as Lichen Planus and was also confirmed by histopathological examination (Fig.1). Various types of Lichen Planus were observed in this study.

Lichen Planus was most commonly observed in the age group of 31- 50 years, which was 43.5% and followed by 20.5% in the age group of 21-30 years (Table No.1).

Males were predominant when compared to Females (Table No.2). Lichen Planus was observed in 43 males (55.1%) and 35 females (44.8%).

Various lesions based on the site, were observed (Table No.3). Out of 78 Lichen Planus, 28 (35.8%) were cutaneous which were predominant type of lesion (Fig. 2), 26 (33.3%) were both cutaneous and mucosal lesions, 20 (25.6%) were mucosal alone. Lichen Planus of Nails were observed in only 5 cases (5.1%).

Morphologically different types of lesions were observed (Table No.4). Among various types, predominant one was erosive and ulcerative seen in 24 cases (30.7%) followed by Follicular type (25.6%) and Reticulate type (23%) of Lichen Planus (Fig . 3).

Out of 78 Lichen Planus cases, Oral LP seen in 44 cases (56.4%). Oral Lichen Planus were observed in Mucosal alone lesions and also Cutaneous & Mucosal lesions.

IV. Discussion

Lichen Planus can occur in association with a variety of systemic disorders and drug therapies. Lichen Planus is a T cell-mediated autoimmune disease, in which inflammatory cells attack an unknown protein within skin and mucosal keratinocytes, which results in small number or many lesions on the skin and/or mucosal surfaces

Lichen Planus was most commonly observed in the age group of 31- 50 years, which was 43.5% and followed by 20.5% in the age group of 21-30 years in the present study. In western countries two thirds of cases occur between 30 and 60 years, where as in India, it is more prevalent between 20 to 40 years [12, 13]. Although no age group is exempt, the disease is uncommon in the very young and elderly.

LP affects both sexes. As per this study Lichen Planus was observed in 43 males (55.1%) and 35 females (44.8%), which shown males were commonly affected when compared to females. This is supported by Anita D Munde et al [13], reported that there is a male preponderance. In India, the disease is more common among men, while in west, slight female preponderance is reported [14]. Lichen Planus was observed more commonly in females, in a ratio of 3:2 in few studies [15, 16].

Globally the overall prevalence of Lichen Planus is about 0.1-4% [12]. In the present study among various types, predominant one was erosive and ulcerative seen in 24 cases (30.7%) followed by Follicular type (25.6%) and Reticulate type (23%) of Lichen Planus. Anita D Munde [13] has observed that reticulate type is most common in Oral LP. There is a small risk of malignant transformation in Atrophic/erosive Lichen Planus varieties [17].

In this study, Out of 78 Lichen Planus cases, Oral LP seen in 44 cases (56.4%). Oral Lichen Planus were observed in Mucosal alone lesions and also Cutaneous & Mucosal lesions. Among Mucosal Lichen Planus, Oral Lichen Planus is one of the most common [18]. In general population the prevalence or Oral LP is about 1.27-2.0% [17, 20]. Most of the Oral Lichen Planus cases occurs in Middle aged people [20]. oral Lichen Planus were associated with undiagnosed vulvar Lichen Planus in about 50% of females. [15]. There are many complications with oral LP such as persisting for many years and tends to relapses when compared to cutaneous Lichen Planus [17, 18].

Atrophic or erosive Lichen Planus is associated with a small risk of malignant transformation [17], and so people with OLP tend to be kept on long term review to detect any potential change early. Sometimes OLP can become secondarily infected with Candida organisms.

V. Figures and Tables

Fig .1 Showing Parakeratosis, inconspicuous granular with basal cell degeneration and dense inflammatory infiltrate in the upper dermis.

Table No:1 Age wise distribution of Lichen Planus

Age in years	No. of cases	Percentage
0-10	9	11.5%
11-20	10	12.8%
21-30	16	20.5%
31-40	17	21.7%
41-50	17	21.7%
51-60	4	5.1%
> 61	5	6.4%

Table No:2 Sex wise distribution of Lichen Planus

Sex	No. of cases	Percentage
Males	43	55.1%
Females	19	44.8%

Table No:3 Lichen Planus prevalence based on the site of involvement

Lichen Planus Type	No. of cases	Percentage
Cutaneous	28	35.8%
Cutaneous+Mucosal	26	33.3%
Mucosal	20	25.6%
Nails of LP	4	5.1%
Total	78	100%

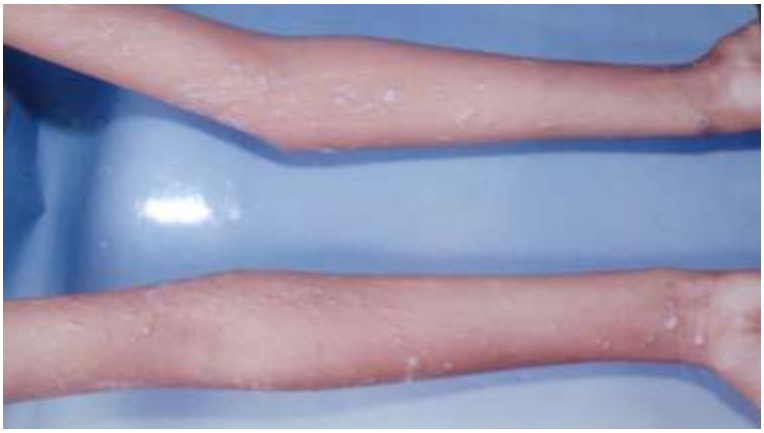

Fig .2 Classical LP with Koebner's Phenomenon

Table No: 4 Incidence of Morphological types of lesions

Morphological Type	No. of Cases	Percentage
Hypertrophic LP	9	11.5%
Erosive & Ulcerative LP	24	30.7%
Reticulate LP	18	23%
Follicular LP	20	25.6%
Vesiculobullous LP	3	3.8%
Others	4	5.1%
Total	100	100%

Fig.3 Follicular Lichen Planus

VI. Conclusion

From this study we conclude that Lichen Planus affects both sexes and most commonly seen in middle age group. Erosive, Reticulate and Follicular varieties were predominant. Oral Lichen Planus was most prevalent among all varieties of Lichen Planus. As this is a chronic disease, affected people should be diagnosed and treat as early as possible by anti inflammatory or immunosuppressive drugs. There is a chance of secondary infections and malignant transformation in Lichen Planus, need for long term follow up.

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