International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Review on: Lichen Planus

Dr. Dipali S. Bolde[1], Mr. Shreyash S. Sabban[2], Miss. Vaishnavi S. Raut[3], Miss. Likita Karampuri[4]

[1]Assistant Professor, Department of Pharmacology, Amepurva Forum's Nirant Institute of Pharmacy, Solapur, Maharashtra, India
[2,3,4]Student, Department of Pharmacology, Amepurva Forum's Nirant Institute of Pharmacy, Solapur, Maharashtra, India

Abstract:
An inflammatory skin disease that is common is lichen planus. It is not a sign of cancer but is it infectious. It looks like reddish-purple, glossy, hard bubbles.[1] It is a condition caused by inflammation that mainly impacts the skin and salivary glands, but it can also affect the nails, scalp, stomach, and anogenital areas. We study a variety of treatment choices while also analysing the data that is currently available for guidance management and the variety of clinical presentations.[2] the prognosis of Oral LP not only differs from that of cutaneous LP but there is little doubt that in a few Instances LP is a premalignant condition.[3]

Fig 1: lichen planus [4]

Keywords: Lichen Planus Disorder, Types, Treatment, Puva Therapy

Introduction:

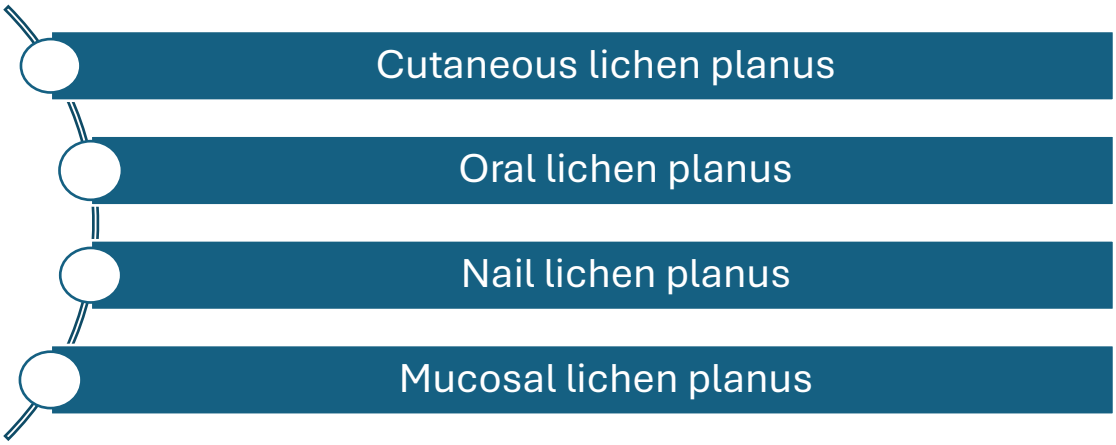
Lichen planus (LP)—also called lichen ruber planus—comes from the word lichen, which means something that spreads quickly and suddenly and has flat, plain, and flexible papules. Even yet, the Greek medical research has the initial reports and observations of LP on skin [5] There are three main subtypes: cutaneous LP (CLP), mucosal LP (MLP), and scalp LP (lichen planopilaris, LPP).[6]A class of long-term inflammatory diseases known as LP impact layered cells of the epithelium. LP is currently thought to be an autoimmune disease driven by T cells, in which toxic T cells with a CD8 receptor attack the skin and

cause a particular type of rashes [7],[8],[9],[10],[11],[12],[13] oral LP is a persistent illness that may or may Not go away. [14] Once the causing medicine is stopped, drug-induced LP progressively Goes away. In [15]

What is lichen planus?

One inflammatory skin and mucous membrane condition that has no recognized origin Is lichen planus (LP). Usually present on the wrists, lower back, and ankles, it manifests As violaceous, pruritic papules and plaques [16] A T cell-mediation known as lichen Planus (LP) affects the skin.. In rare cases, if there are no changes to The skin or mucosa, it could also impact the nails. Moreover, a number of medications, Usually antihypertensive ones, or illnesses, especially viral hepatitis, can cause LP.[17]

Types of lichen planus:



Cutaneous lichen planus: Middle-aged adults typically have small, Itchy, violaceous Pimples when they have cutaneous lichen planus (CLP), which most commonly affects the bending surfaces of the Legs.[18]

Fig .2 : cutaneous lichen planus [21]

cutaneous lichen planus is red to brown, violaceous, very irritating flat papules. The most Common affected areas are the extremities, where pruriginous Papules are typically seen on the medial side of the wrist. When Wickham striae are present, dermatoscopy could be useful. These Typically appear as whitish, yellow, net-like lines and dots that are Encircled by radial capillaries that are both linear and dotted.[19] CLP has a wide range of subtypes and can affect nearly every area of the body. The many LP kinds are summarized in Cutaneous LP. vaccinations, and should be differentiated from lichenoid drug reaction, which can mimic idiopathic LP clinically.[20]

Oral lichen planus: OLP is a chronic inflammatory condition affecting the Mouth's mucous membrane, presenting as open sores, red, swollen tissues, or White, lacy patches that can hurt and burn in addition to other discomforts [22],[23],[24]The sole treatment for oral lichen planus, according to many authors, is corticosteroid. It's normal practice nowadays to utilize oral synthetic retinoid, such as 75 mg of exterminate daily, to improve oral lichen planus [25]. Additionally, some medications, such as Fluroqunolance Acetonide (FAO) compared to Trimetinone Acetonide (TAO), have greater and faster efficacy in treating OLP signs and symptoms [25]. Compared to corticosteroids applied topically, oral corticosteroids have extraordinarily severe adverse effects. Numerous authors have reported notable improvements in OLP indications When using immune-Suppressant medications such tacrolimus and cyclosporine, as well as topic Al corticosteroids like clobetasol [26,27]

Fig .3 : oral lichen planus [28]

Planopilaris lichen planus:

Lichen Plano pilaris (LPP) harms or influences hair and hair follicles. LPP is essentially a severe, inflammatory, and uncommon disorder Characterized by patchy hair loss that is followed by keratosis Pilaris (KP). Skin that is too thick and too hard to the touch is

caused By abnormal keratin formation in hair follicles, which deviates from Normal physiology in KP. On the scalp, red pimples or lesions appear That itch and burn [29]. Loss of follicular orifices, perifollicular Erythema, and follicular hyperkeratosis are characteristics of lichen Plano polarises. A scalp lesion affects the parietal and vertex regions; They can be solitary or many. LPP symptoms include hair loss, burning, itching,

scaling, and soreness [30] Women are more likely Than men to suffer from LPP, a rare inflammatory scalp illness [31] Therapy for Planipalas' lichen is no longer effective [32] Nonetheless, the first line of treatment may involve the use of an extremely strong Topical or intralesional corticosteroid. Retinoids and oral Corticosteroids may be used as a second line of treatment. A Patient's condition and case report will determine the appropriate Usage of other medications, such as thalidomide, Mycophenolatemofetil, and cyclosporine [32] The most common side effects include hair fragility, scalp burning, scaling, and itching. The more irreparable the damage is when treatments for lichen planopilaris are delayed, the more urgent intervention is required.[33] Graham-Little-Piccardi-Lasseur syndrome, frontal fibrosing alopecia (FFA), and classic LPP are the three main subclinical variations that have been identified. Lichen planopilaris

primarily affects the parietal regions, sometimes coexisting with oral or cutaneous lesions. However, total scalp involvement can also occur [34]

Fig.4: planopilaris lichen planus (hair) [35]

Nail lichen planus :

Nail lichen planus first appeared in the fifth and sixth degradation stages Of life [36]. Nail deformities affect about 10% of adult individuals with cutaneous lichen planus [37] The majority of the time, nail lichen planus is unrelated to skin or mucosal LP; yet, patients with this condition may experience severe and premature nail matrix degradation [36]. The development Of scars, the extent of lesions, and the degree of inflammation determine Whether the nail plate changes permanently or temporarily [38]

Fig . 5 . Nail lichen planus [39]

Genital lichen planus: Genital and extra-genital lichen planus are the targets of this subtype of mucosal

lichen planus, which also causes burning and irritation in these areas. In the end, both genders experience sexual dysfunction due to this illness, which seriously impairs the genital region. The clitoris is the primary region on females' genital tracts where scars form. Additionally, there is a narrowing of the vaginal introits, or cavity opening. A patient with male genital LP may also have pain when urinating. Severe inflammation in the genital area causes dyspareunia. The development of squamous carcinoma is occasionally associated with this disease. The first option is to employ an ultra-potent topical corticosteroids [40],[41] Since its evolution, genital lichen planus has proven to be a significant annoyance. It is identified in men by flat-topped, pink, glossy papules on the glans and coronal sulcus. On the other side, it is argued that females with vaginal stenosis, which causes anatomic distortion, have sexual dysfunction Have sexual dysfunction [42]

Risk factor: OLP is thought to be a complex illness with a wide range of exacerbating factors and triggers:

- drugs, dental materials, psychological stress.
- HHV-6, HHV-7, EBV, VZV, HPV, hepatitis C.
- liver dysfunction.

OLP is also linked to systemic diseases:

- Hypothyroidism.
- Diabetes.
- Hypertension.
- Dyslipidemia.

Diagnosis: In lichen planus, the diagnosis is primarily made by carefully examining the patient's symptoms and skin appearance. A comprehensive clinical examination and history of the patient should indicate that the symptoms are suggestive of various signs of LP.These include involvement of the genitalia and mouth, accompanied by discomfort, dysphagia, and dyspareunia; involvement of the scalp, resulting in alopecia scarring, follicular hyperkeratosis, and dispensations. Finally, an ocular involvement should be ruled out and the lid margins, conjunctiva, and eyeballs should all be inspected [79].Histological examination of skin specimen biopsies is frequently adequate to rule out other illnesses because LP has the typical band-like appearance. An LP pemphigoides should be evaluated when violaceous papules coexist with Tight blisters. Enzyme-linked immunosorbent assay (ELISA) testing can also be Used to determine whether autoantibodies against BP180 or BP230 are Circulating. CLP, MLP, and LLP symptoms can mimic those of other inflammatory conditions. Patients with MLP should have leukoplakia or candidosis checked out, and Histological and serological testing should be used to exclude out lupus in Patients with LPP. [80],[81].

- **Bioscopy:** A tiny portion of the afflicted tissue is removed by your healthcare Professional so that it may be examined in a lab. The tissue is inspected to Determine whether lichen planus-typical cell patterns are present.
- **Blood examinations.:** A blood sample may be taken to check for lichen Planus-related health issues. Take hepatitis C, for instance.

Prevention:

- Prevent skin injuries.

- Scrubbing, apply cool compresses.
- Never overstress yourself.
- In order to treat oral lichen planus, give up smoking, stop from drinking, Practise proper oral hygiene.
- stay away from any foods that seem to cause your mouth.

Treatment:

Topical corticosteroids:

few published prior to 1970 included patients With LP. Two of the seven patients who received three daily doses of 0.2% Fluocinolone acetonide were cleared after an unclear amount of time [46]In a Double-blind trial, 29 patients with LP received fluocinonide topically as opposed To hydrocortisone and betamethasone valerate topically. However, the patients Were mixed in with other patients who had different dermatoses.[47]In order to lessen discomfort and inflammation, topical corticosteroids are Frequently used in the treatment of OLP. Triamcinolone acetonide is frequently Found in lozenges or abase.[48] Triamcinolone suspension taken orally has Also been employed with success.[49] While betamethasone valerate pellets or aerosol have been demonstrated to be Moderately useful in treating OLP, hydrocortisone hemi succinate in aqueous Solution appears to be of little use in this regard.[44],[50],[51]

Fig .6 : topical corticosteroids [52]

Synthetic corticosteroids:

The class of corticosteroids known as glucocorticoids is in charge of combating a Variety of conditions, including dermatitis, allergic reactions, autoimmune Responses, and inflammation. Corticosteroids have demonstrated success in the Therapeutic treatment of several dermatoses. More remarkable localized effects Are produced by ointments containing varying potencies of corticosteroids than By creams. Topical

corticosteroids are well known for their anti-inflammatory Properties. Because they stop the process of mitosis, which stops lesions from Growing, corticosteroids are the greatest antimitotic for preventing skin scaling [54].

Glucocorticoids are an anti-inflammatory and immunosuppressive subgroup Of corticosteroids. It can be administered parenteral or orally for severe skin Conditions. However, it is only effective in treating severe cases of lichen planus And is limited to use in both acute and chronic skin disease conditions.

Numerous adverse effects, including osteoporosis, myopathy, osteonecrosis, Lipidemia, elevated blood sugar, hyperpiesia, weight gain, mood changes, Insomnia, and gastrointestinal issues, are associated with prolonged and Excessive usage of glucocorticoids [54]

When administering corticosteroids, Such as delta cortril, as a second line of treatment for a severe instance of the Condition, it is important to take into account the aforementioned side effects. For individuals with diffuse erosive OLP or multi-site disease, systemic Corticosteroids are likely the most effective therapeutic option; nevertheless, the Research on their usage is primarily composed of non-randomized clinical trials.

Prednisone and methylprednisolone have both been used to treat resistant Severe erosive OLP. [55] For OLP patients, systemic prednisone can be used to Manage erythema and ulcers, however this treatment option is not superior to Topical triamcinolone acetonide alone.[56]

Photochemotherapy:

Long-wave ultraviolet light (PUVA) and 8-Methoxypsoralen have been utilized in Photochemotherapy with efficacy in treating skin lesions and cutaneous lichen planus.[57],[58] It was initially applied to treat OLP that was resistant.[59]In patients treated with UVA without systemic or Topical photosensitizers, 87% showed significant improvement.[60] PUVA therapy May also have therapeutic effects, according to certain research.[94]Although oral Mucosa is more resistant to phototoxic damage than skin, photosensitization with Topical 0.01% trioxsalen can be utilized as a therapy to prevent PUVA side effects[62,63] .

Some of the negative effects of PUVA with 8-methoxypsoralen include ;

- Headache
- nausea
- dizziness
- symptoms related to the eyes and paraesthesia [64]

when traditional treatment is ineffective for severe cases of erosive OLP, Photochemotherapy may be helpful.[65]

Puva therapy:

There is not much proof that PUVA is effective in treating cutaneous LP. In Some cases, PUVA can help patients with resistant, long-standing LP recover quickly or Reduce itching during the first few weeks of treatment [66]. Bath PUVA may be more beneficial than oral PUVA, but results should be taken cautiously because there is a Chance that the disease produced by PUVA[67]or after treatment[68] may improve. In The most current open study[68].

methoxsalen at a dose of 1 mg/L was used to cure 11 Out of 12 patients with resistant LP, or to significantly improve their condition.

The local Success of PUVA therapy is supported by the absence of any lateral effects observed, And up to 4 years of complete remission have been reported in half of the patients. With A handful of one patient

who showed involvement of the hand, feet, and nails of Undetermined evolution following PUVA, the surface and kind of diseases were not Described in detail...

Combinational drug therapies for treating Lichen planus:

1. **Topical corticosteroids + Topical immunomodulators**: Combining corticosteroids (e.g., triamcinolone) with immunomodulators (e.g., pimecrolimus) can enhance anti-inflammatory effects.
2. **Oral antihistamines + Topical corticosteroids**: Antihistamines (e.g., diphenhydramine) can relieve itching, while corticosteroids reduce inflammation.
3. **Retinoids + Corticosteroids**: Oral retinoids (e.g., acitretin) can be combined with topical or oral corticosteroids for severe cases.
4. **Cyclosporine + Corticosteroids**: Cyclosporine (an immunosuppressant) can be added to corticosteroid therapy for resistant cases.
5. **Hydroxychloroquine + Corticosteroids**: Hydroxychloroquine (an antimalarial) has anti-inflammatory effects and can be combined with corticosteroids.
6. **Methotrexate + Corticosteroids**: Methotrexate (an immunosuppressant) can be used with corticosteroids for severe, recalcitrant cases.

Patient's counselling:

Pharmacists should offer thorough information and support to patients with lichen planus in order to properly manage the condition. This is a patient counselling guide:

Living and Personal Hygiene: Avoid Irritants ; Steer clear of strong soaps or skin care items that could aggravate the afflicted regions.

Oral Hygiene: Avoid hot or acidic foods as they may exacerbate symptoms of oral lichen planus. Maintain excellent oral hygiene.

Reporting and Monitoring: Symptom Tracking : Document symptoms together with any ameliorations or possible triggers. When to Seek Help Notify their healthcare provider of any new or worsening symptoms.

Emotional Support: Address any worries regarding the disease's chronic nature and how it affects day-to-day functioning, providing resources for assistance if required.

Pharmacists can help patients better manage their lichen planus and enhance their quality of life by giving them this information.

Conclusion:

The main aim of this review was to help make a decision about how best to treat lichen planus. Different forms of lichen planus can be treated with topical and systemic corticosteroids. The decision is based on the side effect identify and disease level..[69]

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