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Lichen planus

Lichen planus (LP) is a pruritic, papular eruption characterised by its violaceous colour and polygonal shape, sometimes with a fine scale. It is most often found on the flexor surfaces of the upper extremities, genitalia and on the mucous membranes. The cause of lichen planus is unknown but it is most likely a T-cell-mediated immunological disease. The antigen involved remains unidentified [1].

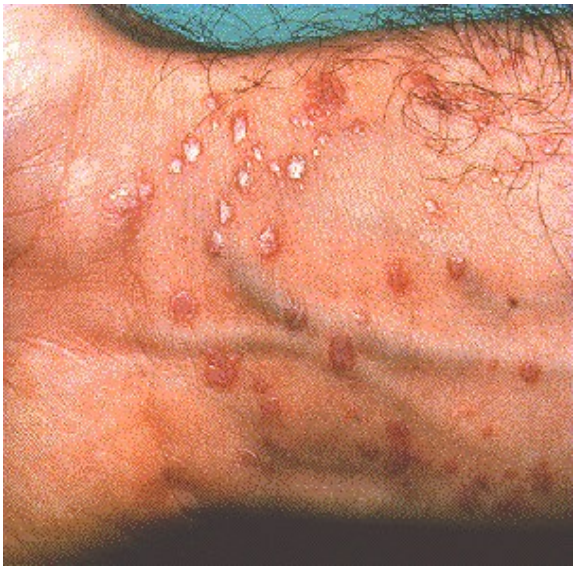
Epidemiology

- Cutaneous LP has a prevalence of approximately 0.2% to 1% of adults worldwide, but oral LP is more common and reported in 1% to 4% of the population [2].
- It can occur at any age but is more common in middle age.
- Most studies report a male:female ratio of 1:1.5.
- It can be precipitated by trauma (Köbner's phenomenon).
- Immunologically mediated (perhaps triggered by a virus) and can occur in families.
- Associated with primary biliary cirrhosis [3] and both hepatitis B and hepatitis C (these patients are twice as likely to have LP) [4].

Presentation

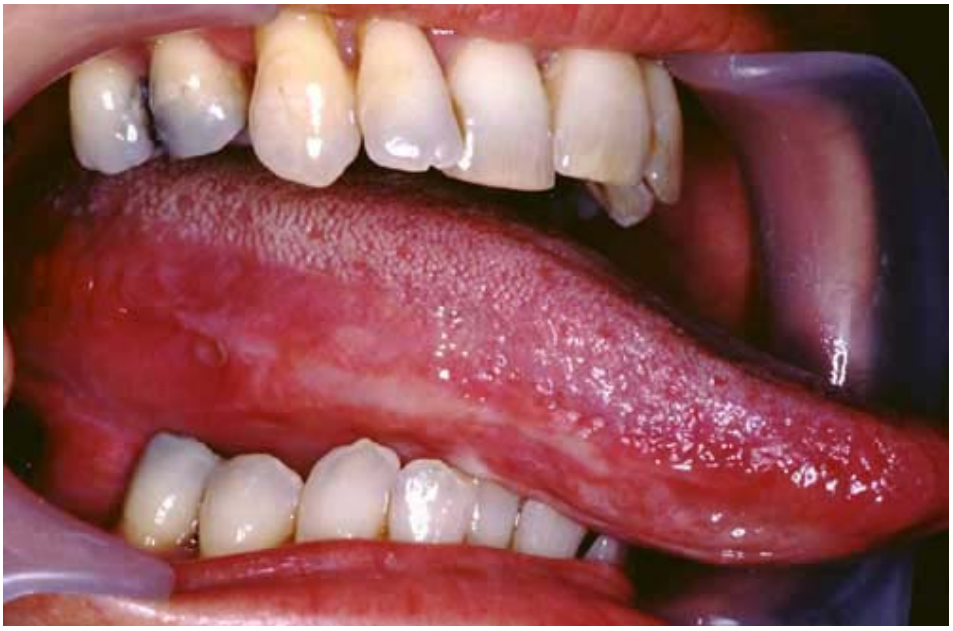
- Onset is usually acute, affecting the flexor surfaces of the wrists, forearms and legs.

- The typical lesion is an intensely itchy 2-5 mm red or violet shiny flat-topped papule with white streaks ('Wickham's striae').



- Blisters occasionally occur.
- As the papules clear they may be replaced by brown discolouration (especially in the dark-skinned). Lesions may occur on any part of the body surface but most commonly on the front of the wrists, flexor aspects of the forearms, genitals, lumbar region and ankles and shins (where lesions are most commonly hypertrophic, frequently very itchy and may ulcerate).
- On the palms and soles the papules are firm and yellow.

- Mucous membranes are commonly affected:
    - Classically, white slightly raised lesions with a trabecular, lacy appearance on the inside of the cheeks.



    - The mucous membrane lesions are often asymptomatic but can be very painful and difficult to treat. Oral lichen planus may cause sensitivity to heat. There is also an association with mercury fillings [5].
    - Lesions may also be found on the genitalia, anus, larynx and, very rarely, on the tympanic membrane or oesophagus (where it can present as dysphagia and cause benign strictures).
- Nails are involved in up to 10% of patients: longitudinal lines and linear depressions of the nail plate, severe dystrophy and complete destruction of the nail bed may occur.
- The scalp is usually spared but lichen planus affecting the scalp may cause permanent scarring alopecia.

Variations of lichen planus

As well as the classical form, the following can occur:

- **Hypertrophic lichen planus** - this causes very itchy lesions, usually found on the extensor surfaces of the extremities, especially the ankles. They can last for a long time and leave residual scarring and pigmentation.
- **Atrophic lichen planus** - a few lesions are present which are often resolving annular or hypertrophic lesions.
- **Erosive/ulcerative lichen planus** - found on mucosal surfaces and develop from sites where lichen planus previously developed.
- **Follicular lichen planus** - this is also known as lichen planopilaris. Keratotic papules are present that may merge into plaques. The condition is more common in women than in men and often involves mucous membranes and nails. A scarring alopecia sometimes develops.
- **Annular lichen planus** - purely annular lesions are rare. Papules with an atrophic centre may develop on the male genitalia or the buccal mucosa.
- **Vesicular and bullous lichen planus** - usually these develop from existing areas of lichen planus. The lower limbs and the mouth are the most common areas. Rarely, a combination of lichen planus and bullous pemphigoid can develop, called lichen planus pemphigoides.
- **Actinic lichen planus** - this is seen in subtropical regions such as Africa, the Middle East and India. The typical appearance is of nummular patches with a hyperpigmented centre surrounded by a hypopigmented area. The condition is mildly itchy and often spares the nails, scalp, mucous membranes and covered areas.
- **Lichen planus pigmentosus** - more commonly affects darker skin - eg, people from Latin America or Asia are commonly affected. It resembles another condition called erythema dyschromicum perstans (ashy dermatosis) and some authorities maintain that it is indeed the same condition. It is relatively rare.

Histology

Lichen planus can usually be diagnosed clinically and histology is not often required. Skin biopsy is characteristic:

- There is a 'saw-tooth' pattern of epidermal hyperplasia and vacuolar alteration of the basal layer of the epidermis along with an intense upper dermal band-like lymphohistiocytic infiltrate (mainly T cells).
- This initially develops around blood vessels at the dermal/epidermal junction and disrupts the basal epidermal layer.
- There is a reduced number of melanocytes in this region and focal areas with a thicker granular layer and infiltrate (the 'Wickham's striae').
- Direct immunofluorescence shows globular deposits of IgM (occasionally IgG and IgA).

Differential diagnosis

- Drug eruption (lichenoid) - eg, thiazides, antimalarials, gold.
- Eczema.
- Psoriasis.
- Candidiasis.
- Cutaneous graft-versus-host-reaction.
- Discoid lupus erythematosus.
- Granuloma annulare.
- Lichen amyloidosis.
- Leukoplakia.
- Lichen sclerosus.
- Pemphigus.
- Pleomorphic (small-cell) T-cell lymphoma.
- Sarcoidosis.
- Basal cell carcinoma.
- Toxoplasmosis.

Management[6]

- Treatment is not always needed. Skin lichen planus may resolve spontaneously within a year, although mucous membrane lichen planus may be more persistent and resistant to treatment.
- If drugs are suspected as the cause, they should be stopped.
- Symptomatic treatment for itching - eg, moderately potent topical steroids (intralesional steroid injections may be beneficial for patients with severe and persistent itch) and sedating antihistamines.
- Topical treatment using potent or super-potent steroids is used for persistent lesions, particularly on the shins. Occlusion is best obtained using cling film or Icthopaste® bandage.
- Topical steroids are considered to be the first-line treatment for oral lichen planus although there are no randomised controlled trials comparing them with placebo. There is weak evidence to support the use of ciclosporin and aloe vera.
- Other drugs, such as azathioprine, calcineurin inhibitors, mycophenolate mofetil, dapsone, retinoids and hydroxychloroquine, can be used in difficult cases[4].
- Psoralen combined with ultraviolet A (PUVA) radiation treatment has been used to reduce pruritus and help to clear the lichen planus[7][8].

Complications

- People with oral lichen planus have a 1.1% risk of developing oral squamous cell carcinoma (OSCC); therefore, regular follow-up for these patients is recommended[9]. A higher rate of transformation is found among smokers, people with alcohol dependency, and HCV-infected patients.
- Rarely, carcinoma may develop in association with vulval lesions in women[10].
- Hypertrophic lesions may leave residual hyperpigmentation.

Prognosis

- Spontaneous resolution of cutaneous lesions usually occurs over 12-24 months but hypertrophic lesions can last longer[2].
- Oral lesions usually have a chronic and progressive course and may never completely resolve.
- The degree of pruritus tends to decrease with time.

Further reading

- Sanatkhani M, Mosannen Mozafari P, Amirchaghmaghi M, et al; Effect of cedar honey in the treatment of oral lichen planus. Iran J Otorhinolaryngol. 2014 Jul;26(76):151-61.
- Arora SK, Chhabra S, Saikia UN, et al; Lichen planus: a clinical and immuno-histological analysis. Indian J Dermatol. 2014 May;59(3):257-61. doi: 10.4103/0019-5154.131389.

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