Lichen planus

Lichen planus is an uncommon skin complaint. It is thought to be due to an abnormal immune reaction provoked by a viral infection (such as hepatitis C) or a drug. Inflammatory cells seem to mistake the skin cells as foreign and attack them.

Lichen planus may cause a small number of skin lesions or less often affect a wide area of the skin and mucous membranes. In 85% of cases it clears from skin surfaces within 18 months but it may persist longer especially when affecting the mouth or genitals.

Clinical features

Lichen planus takes several forms.

Classical lichen planus

Classical lichen planus is characterized by shiny, flat-topped, firm papules (bumps) varying from pin point size (‘guttate’) to larger than a centimetre. They are a purple colour and often are crossed by fine white lines (called ‘Wickham’s striae’). They may be close together or widespread, or grouped in lines (linear lichen planus) or rings (annular lichen planus). Linear lichen planus can be the result of scratching or injuring the skin. Although sometimes there are no symptoms, it is often very itchy.

Lichen planus may affect any area, but is most often seen on the front of the wrists, lower back, and ankles. On the palms and soles the papules are firm and yellow. Very thick scaly patches are particularly itchy and are most likely to arise around the ankles (hypertrophic lichen planus).

New lesions may appear while others are clearing. As the lichen planus papules clear they are often replaced by areas of greyish-brown discolouration, especially in darker skinned people. This is called postinflammatory hyperpigmentation and can persist for months.
Hypertrophic plaques

Oral lichen planus
The mouth is involved in 50% of cases and is often the only affected area. The usual areas affected are the inside of the cheeks and the sides of the tongue, but the gums and lips may also be involved. The most common features are:

- Painless white streaks in a lacy or fern–like pattern
- Painful and persistent ulcers (erosive lichen planus)
- Diffuse redness and peeling of the gums (desquamative gingivitis)

In some cases oral lichen planus affecting the gums is due to contact allergy to mercury in amalgam fillings on nearby teeth. The cause can be confirmed by patch testing. In these patients the lichen planus may resolve on replacing the fillings with composite material. If the lichen planus is not due to mercury allergy removing amalgam fillings is very unlikely to result in cure.

Vulval lichen planus
As in the mouth, lichen planus may cause painless white streaks. Erosive lichen planus is more common and is one cause of vulvodynia (burning discomfort of the vulva). Erosive lichen planus affects the labia minora (inner lips) and introitus (entrance to the vagina). The affected mucosa is bright red and raw. The labia minora can shrink and stick to each other or to the labia majora (the outer lips). Erosive lichen planus can be very painful, preventing sexual intercourse. It can also scar, closing over the vagina.

Sometimes lichen planus affects deeper within the vagina where it causes desquamative vaginitis. The surface cells in the vagina peel off and cause a mucky discharge. The eroded vagina may bleed easily on contact.

Penile lichen planus
Classical papules are the most common form of lichen planus on the penis and mostly occur in a ring around the glans (the tip of the penis). White streaks and erosive lichen planus are much less common on the penis.
Other mucosal sites
Erosive lichen planus uncommonly affects the eyelids, external ear canal, oesophagus, larynx, bladder and anus.

Lichen planopilaris
Follicular lichen planus, also known as lichen planopilaris, results in tiny red spiny papules around a cluster of hairs. Rarely, blistering occurs in the lesions. Permanently bald patches may develop. Sometimes no follicular scaling or inflammation is present but bald areas of scarring slowly appear, often looking rather like footprints in the snow. This is known as ‘pseudopelade’.

Frontal fibrosing alopecia is thought to be a limited form of lichen planopilaris.

Lichen planus affecting the scalp

Lichen planus of the nails
Lichen planus affects one or more nails in 10% of cases, sometimes without involving the skin surface – if all nails are abnormal and nowhere else is affected it is called twenty nail dystrophy. The nail plate tends to thin and may become grooved and ridged. The nail may darken, thicken up or lift off the nail bed (onycholysis). Sometimes the cuticle is destroyed and forms a scar (pterygium). The nails may shed, stop growing altogether and rarely, completely disappear.

Lichen planus of nails

Lichen planus pigmentosa
In some patients oval greyish brown marks appear on the face and neck or trunk and limbs without an inflammatory phase. A skin biopsy reveals lichenoid features (see below), which are absent in a similar condition called idiopathic macular pigmentation.

Lichen planus pigmentosa
**Actinic lichen planus**

Actinic lichen planus only affects sun exposed sites such as face, neck and the backs of the hands.

**Bullous lichen planus**

Bullous lichen planus is rare; blisters appear within lichen planus papules or by themselves, generally on the lower legs.

**Lichenoid drug eruption**

Lichenoid drug eruption refers to a lichen planus-like rash caused by medications. It tends to cause asymptomatic or itchy pink or purple flat slightly scaly patches on the trunk, but the oral mucosa and other sites are also sometimes affected. Many drugs can rarely cause lichenoid eruptions but the most common are:

- **Gold**, used for arthritis
- **Antimalarials**
- **Captopril**

Actinic lichenoid drug eruption is confined to sun exposed sites i.e., face, neck, arms and backs of hands. The most likely drugs to cause this are quinine, taken for leg cramps, and thiazide diuretics, used for hypertension and heart failure.

Lichenoid drug eruptions clear up slowly when the responsible medication is withdrawn.

**Skin cancer**

Rarely, longstanding erosive lichen planus can result in skin cancer (squamous cell carcinoma) of the mouth (oral cancer), vulva (vulvar cancer) and penis (penile cancer). This should be suspected if there is an enlarging lump or an ulcer with thickened edges.
The diagnosis of lichen planus is often made by a dermatologist, oral surgeon or dentist by the typical appearance. However, a biopsy is often recommended to confirm or make the diagnosis and to look for cancer. The histopathological signs are of a ‘lichenoid tissue reaction’ affecting the epidermis (the skin cell layer). Typical features include:

- Irregularly thickened epidermis
- Degenerative skin cells
- Liquefaction degeneration of the basal layer of the epidermis
- Band of inflammatory cells just beneath the epidermis
- Melanin (pigment) beneath the epidermis

Direct staining by immunofluorescent techniques may reveal deposits of immunoglobulins at the base of the epidermis.

**Treatment**

Treatment is not always necessary.

**Potent and ultrapotent topical steroids**

Topical steroids such as clobetasol propionate and betamethasone propionate ointments are generally applied for 4–6 week courses. A thin smear should be rubbed in accurately once a day and stopped when the lesions have flattened with the normal skin. Brown marks are often left at the sites, which take several months to fade.

In the mouth, steroid pastes or inhalent powders may be easier to apply to affected sites. Hydrocortisone foam can be used inside the vagina.

Steroid injections into affected areas may be useful for localised disease.

**Systemic steroids**

In extensive cases systemic steroids such as prednisone may be prescribed for a few weeks or longer. This will lessen the itch and often clear up the lichen planus completely. However, it may recur later. Systemic steroids may have serious side effects, so discuss this treatment with your dermatologist.

Other treatments include long term antibiotics, oral antifungal agents, phototherapy, acitretin, methotrexate and hydroxychloroquine. The immune modulating drugs that inhibit calcineurin, tacrolimus ointment and pimecrolimus cream, may be useful for oral and genital lichen planus.

**Related information**

On DermNet NZ:

- Itchy skin lesions
- Genital skin problems
- Oral lichen planus

Other websites:

- Lichen planus – emedicine dermatology, the online textbook
- Cicatricial Alopecia Research Foundation

DermNet does not provide an on-line consultation service. If you have any concerns with your skin or its treatment, see a dermatologist for advice.