

## Case Report

# Lichen planus in association with malignancy- a new paraneoplastic marker - report of two cases

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**Abstract** Lichen planus (LP) is an immune-mediated disease, affecting skin and mucous membranes. It has been reported to be associated with a variety of totally unrelated disorders including different malignancies. We report two cases of internal malignancy in whom concomitant cutaneous LP was diagnosed. Can cutaneous LP be a paraneoplastic marker, needs further evidence.

### **Key words**

Lichen planus, malignancy, paraneoplastic marker.

### **Introduction**

Lichen planus (LP) is characterized by extremely pruritic, shiny, flat-topped, violaceous, firm papules varying in size from pin point to larger than a centimeter; affecting the skin, hair, genital and oral mucous membranes. Cutaneous LP 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. LP is most often self-limiting and resolves after a variable period ranging from a few months to years. It has been reported to be associated with a variety of totally unrelated disorders. Individual case reports have suggested an occasional association of lichen planus with internal malignancy. It is difficult to determine if there is a causal or a purely fortuitous association. We report two cases of cutaneous LP in association with malignancy.

### **Case 1**

A 69-year-old male patient presented with throat

pain of two months that was aggravated on deglutition. A complete work-up, including a histopathological study, revealed infiltrating well differentiated squamous cell carcinoma of the left pyriform fossa. At the same time, patient also complained of itchy, violaceous papules on hands and feet that gradually spread to involve the arms, lower limbs and trunk (**Figure 1**). Oral mucosa was spared and nails showed brittle and rough surface. Biopsy for histopathological examination from the papules showed basal cell degeneration, Civatte bodies in the epidermis and a band of inflammatory infiltrate in the upper dermis (**Figure 2**). Direct immunofluorescence revealed Civatte bodies reactive with C3 and IgM, and a ragged BMZ fibrin band which was consistent with diagnosis of LP. The patient was treated symptomatically with topical steroids and chemoradiation and the lesions totally regressed after a month.

### **Case 2**

A 52-year-old female, recently diagnosed as a case of infiltrating moderately differentiated squamous cell carcinoma of cervix presented with itchy hyperpigmented scaly plaques on bilateral lower limbs, of two years duration (**Figure 3**). Erythematous to violaceous flat-topped papules were also seen on the dorsa of

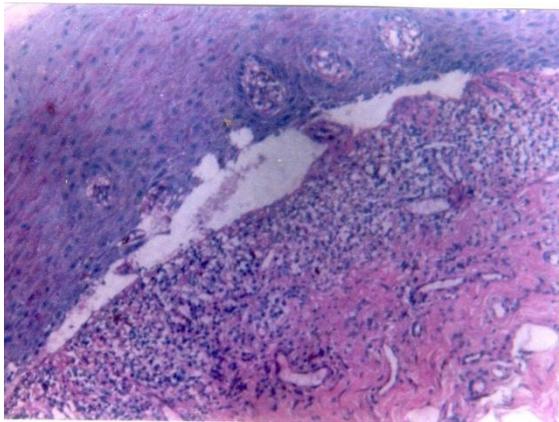
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**Figure 1** Violaceous papules on the forearms.



**Figure 2** Lichenified plaques on the legs.



**Figure 3** Photomicrograph showing a band-like inflammatory infiltrate in the dermis with basal cell degeneration.



**Figure 4** Violaceous lesions on the lips.

hands bilaterally. Hyperpigmented plaques were present on the lips with lacy reticulate plaques on the buccal mucosa (**Figure 4**). Histopathology and direct immunofluorescence findings were consistent with LP. The patient was prescribed potent topical steroids for the cutaneous lesions along with chemotherapy (cisplatin). The skin lesions subsided with post inflammatory pigmentation at two months follow-up.

## Discussion

Lichen planus, first described by Wilson in 1869, is a chronic inflammatory mucocutaneous disease, and an autoimmune disorder is considered to be the likely cause.<sup>1</sup> The suggested association of lichen planus with malignancy is controversial and the few well characterized reports of LP in patients with a malignancy usually involve the subtype, lichen planus pemphigoides or oral LP. LP pemphigoides has been described in association with stomach cancer, lymphosarcoma, neuroblastoma, craniopharyngioma and pararenal malignancy. Oral LP has been reported in association with thymoma and Castleman's tumor.<sup>2</sup>

The pathogenesis of autoimmune diseases can be either by direct injury by cytotoxic T cells as observed in lichen planus, or damage by autoantibodies induced by helper T cells as observed in malignancies.<sup>3</sup> Tumor antigens may lead to the production of an autoimmune response that may be predominantly cell-mediated but whether the autoimmune phenomenon seen in LP is triggered by malignancy in genetically susceptible patients is unclear. Although the exact pathogenesis of LP is unknown, it is thought to be cell-mediated and certain HLA types such as A3, B16, B8, Bw35 and DR1 are detected with greater frequency.

Kashima *et al.*<sup>4</sup> studied the presence of HPV in oral lichen planus lesions. Though the role of HPV in malignant transformation of infected cells remains unclear, the presence of integrated

HPV in most cancers of the cervix and in a high proportion of laryngo-pharyngeal carcinomas suggests more than a casual association.<sup>5</sup>

Lichenoid eruptions may either precede or follow the signs or symptoms of the underlying malignant neoplasm. Two pathomechanisms have been proposed (1) a preexisting and chronic lichenoid reaction pattern in the skin may predispose some patients with cancer to develop humoral autoimmunity to components of the basement membrane, and/or (2) an underlying neoplasm may spur the development of a cell-mediated lichenoid interface dermatitis; otherwise concealed basement membrane epitopes then become exposed and thus vulnerable to recognition by autoreactive T cells, ultimately leading to B cell activation and autoantibody production which is the basis for the epitope spreading phenomenon as proposed by Glen *et al.*<sup>6</sup>

LP is best considered a mucocutaneous reaction pattern that may have diverse triggers from medicaments to neoplasia. LP thus induced may not exactly parallel the course of the underlying tumor in all cases<sup>7</sup> although there are reports of regression of oral LP lesions following resection of the primary tumor (thymoma).<sup>8</sup> Two out of 172 patients of thymoma had cutaneous lesions of LP as reported by Gibson and Muller.<sup>9</sup> Thymectomy had no effect on the symptoms of LP; as seen in case 2, where there was no perceivable improvement in LP following chemotherapy, although, in case 1, the patient had remission following chemoradiation.

Though there are multiple reports of oral LP in association with malignancy, to the best of our knowledge, the association of cutaneous LP with carcinoma cervix or carcinoma of the pyriform

fossa has not been documented so far. Although the association of LP and neoplasia is uncommon, clinicians should be aware of this association, especially in patients with LP refractory to treatment. LP may be considered in the list of paraneoplastic markers, especially if the lesions precede or occur concurrently with the malignancy.

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