Peno-gingival and Oro-vaginal-vulvar Lichen Planus: Report of Three New Cases
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Abstract
Atrophic-erosive oral lichen planus is a common mucocutaneous disease of unknown etiology. Generally, oral cavity involvement is the sole manifestation of mucosal lichen planus, while lichen planus with concomitant oral and genital involvement is a rather uncommon condition that needs multidisciplinary dental and medical intervention for accurate diagnosis. Misdiagnosis may cause long-term therapy and seriously affect the patient’s lifestyle. We report the clinical features of two patients with peno-gingival lichen planus and a patient with oro-vaginal-vulvar lichen planus. Dentists should suspect genital lichen planus in case of oral lichen planus. It is important to point out that patients with oral lichen planus need to undergo further medical examination in order to inspect genital tissue involvement. Malignant transformation of oral lichen planus even in asymptomatic oral and genital lesions is probable. Therefore, dentists and medical professionals should be aware of this condition.

Keywords: Lichen planus, Complications, Genitalia, Oro-vaginal-vulvar lichen planus, Oral cavity.

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Introduction
Lichen planus is a common mucocutaneous disease which may involve oral mucosa, skin, genitalia, stomach, perianal region, ocular and otic surfaces and the esophagus (infrequently)(1). Generally, oral cavity involvement is the sole manifestation of mucosal lichen planus, while a few patients with oral lichen planus have concomitant genital mucosa lesions. Etiopathogenesis of lichen planus seems complicated and involvement of environmental factors, lifestyle and genetic have also been proposed(2). “Vulvo-vaginal-gingival” Syndrome is characterized by erosive or desquamative vaginitis, vulvitis and gingivitis. A case of “peno-gingival syndrome” was reported by Criber et al. as a male equivalent of vulvo-vaginal-gingival syndrome(3).

Oro-genital lichen planus is symptomatic and causes soreness, itch and burning. Several diseases should be differentiated from oro-genital lichen planus such as Steven Johnson Syndrome, mucous membrane pemphigoid, pemphigus, linear IgA bullous disease, sclerous and atrophicus lichen (LSEA)(1). Efficient treatment of oro-genital lichen planus involves the stomatologists, the dermatologists and the gynecologists. Because of the alternate and cyclic course of this condition, treatment is frequently chronic and needs easy methods of application in order to reduce soreness, dysphagia, painful sexual intercourse and discomfort (4).

The aim of this article was to report two cases of peno-gingival lichen planus and a patient with oro-vaginal-vulvar lichen planus in order to
emphasis the importance of further medical examination in patients with lichen planus.

**Case Reports**

**Case 1**

A 44-year-old woman was referred to the dental medicine department of the dental school by her dentist due to pain and burning sensation in the right and left sides of her mouth. The patient had first felt pain and burning in these regions about 2 months ago and had been treated elsewhere with chlorhexidine mouthwash which did not cause any improvement. The oral cavity examination revealed erosions and white striations on the left and right buccal mucosa with a white keratotic plaque lesion on the palate and a diffuse desquamative gingivitis (Fig. 1).

![Fig. 1 Clinical appearance of lichen planus in buccal mucosa.](image)

Dental plaque and tartar were not observed. Further, the patient complained of periodic genital burning and itch. A gynecologist examination was requested and an incisional biopsy was performed in both genitalia and oral cavity. Microscopically, genital and oral tissues revealed a zonal chronic inflammatory cell infiltration. The epithelial basal layer was partially destroyed by lymphocytes and other inflammatory cells, which widely penetrated into the epithelium. Hyperkeratosis and mild achantosis were also observed. According to histopathologic findings, a final diagnosis of orovaginal-vulvar lichen planus was established. Treatment was 2 daily applications of prednisolone 5 mg for two weeks. Also, clobetasol propionate 0.025% cream four times daily was administered for genital lesions. In order to prevent oral and genital candidiasis, Miconazole gel was administered. The patient was informed with precise instructions about drugs applications on the oral mucosa and genitalia. Five weeks later, the patient did not complain of any discomfort in oral or genital regions. She is attending our clinic for regular gynecological and oral follow-up examination.

**Case 2**

A 21-year-old man visited the dental school due to a complaint of erosive lesions involving the gingival mucosa for 7 months. The patient was undergoing 6-month treatment with scaling and root planning for gingivitis and was referred to the dental clinic because of no remission. The patient had depression due to psychological stress and has been treated with anti-depression drugs. Intraoral examination of the patient revealed a desquamative gingivitis (Fig. 2).

![Fig. 2 Clinical appearance of desquamative gingivitis (desquamation and erythema of the gingiva).](image)

The patient complained of burning sensation in the genital mucosa and dyspareunia. Gynecological consultation was requested and biopsy was performed in both genitalia and oral cavity.
Gingival biopsy revealed an intense lymphocytic inflammatory infiltration (Fig. 3) with epithelial atrophy, hyperkeratosis and hydropic degeneration of the basal layer.

![Fig. 3 Microscopic view of lichen planus (H.E. stain, 200× magnification).](image)

Microscopically, vulvar biopsy revealed that the epithelial basal layer was partially destroyed by inflammatory cells. Final diagnosis was peno-gingival lichen planus. Treatment was application of Clobetasol propionate 0.05% mixed in equal amount of alpha tocopherol oil. In order to keep drugs close to gingival lesions, an individual gingival tray was made. Miconazole gel was prescribed to prevent oral and genital candidiasis. Discomfort in both genital and oral mucosa was relieved by this treatment. He is attending our clinic and undergoing regular check-ups.

**Case 3**

A 51-year-old man was referred to the Department of Dermatology of the Medical School due to a complaint of burning sensation in oral cavity and gingival bleeding. The patient complained of excruciating pain following ingestion of aubergines, tomatoes and tangerine. Examination of the oral cavity revealed hyperemic and atrophic oral lesions on the left and right buccal mucosa with a desquamative gingivitis (Fig. 4).

The patient was undergoing a number of scaling and root planning treatments for gingivitis with no improvement in symptoms and signs. He also complained of burning sensation and itch in the penile mucosa. Examination of the genital mucosa revealed an erosive lesion on the glands penis. As in the previous cases, an incisional biopsy was performed in both oral cavity and genitalia. Microscopically, inflammatory cells widely infiltrated the epithelium and partially destroyed the epithelial basal layer. Concerning oral tissue, a severe inflammatory cells infiltration, sub epithelial separation and achantosis were observed. Final diagnosis was erosive lichen planus with concomitant involvement of the oral and penile mucosa. The therapeutic protocol for the patient was the same as the first case. He has been undergoing regular oral and genital follow-up examination in our clinic.

![Fig. 4 Clinical aspect of buccal mucosa with erosive lesion](image)

**Discussion**

The goal of this article was to report three cases of lichen planus involving genital and oral tissues. Oral lichen planus affects 1 to 2% of patients over the age of 15, with clinical spectra including
atrophic, plaque-like, papules, reticular pattern, erosive and bulbous form(5).

Genital lesions may present as white papules, erythema, erosions and white patches. Lichen planus is the most common cause of desquamative vulvitis(6). In opposite, erosive lichen planus with concomitant involvement of genital and oral mucosa is a rare condition according to literature (1, 6, 7).

Gynecologists do not regularly examine the oral cavity, while dentists do not investigate about possible genital symptoms. Additionally, patients seldom correlate oral lesions with co-incident skin or genital lesions and avoid talking about these with the doctor(7). Therefore, long-term therapy and observing the results from oral and genital discomforts and complications are required. According to these data, an integrated approach between general medicine and dentistry become prominent(8).

In Belfiore et al. study, oral involvement was observed in 57% of patients with vaginal lichen planus(1). Petruzzi et al. has reported that Peno-gingival lichen planus should be suspected when atrophic erosive gingival lichen planus exists(9). In this report, desquamative gingiva was observed in all patients. According to clinical manifestations, pemphigoid, pemphigus and lichen planus are usually undifferentiated. Biopsy is necessary to differentiate these diseases and therefore reduce diagnostic complications(5). The histology of oro-genital lichen planus is characterized by dense sub epithelial infiltrate of lymphocytes, hyperkeratosis and degenerative changes of basal keratinocytes(5).

The oro-genital lichen planus is differentiated by continuous debilitating pain which is sometimes difficult to treat. Exacerbation of this disease correlates to periods of psychological anxiety and stress(4). For this reason; peno-gingival lichen planus might be exacerbated in case 2.

Oro-genital lichen planus has a lengthy and complicated management procedure and at present there is not a unique therapeutic approach for this condition. To date, corticosteroids are considered the mainstay of oro-genital lichen planus therapy to debilitate symptoms, eliminate mucosal ulceration, erythema and diminish the risk of oral cancer(5). Improving oral hygiene and providing confidence to the patient are the most important tasks to be adopted by dentists(8).

Some patients should be controlled prophylactically with topical antimycotics to prevent secondary candidal infection, which may along with any immunosuppressive therapy(5). In this context, Miconazole was also prescribed to control candidal infection. Management of oral lesions is a complex procedure because medications are easily removed by salivary flow and tongue(10). Therefore, gingival trays were applied for our patients to increase therapeutic efficacy of drugs.

The existence of the lesions either in the oral cavity or in the genitalia may seriously affect lifestyle; therefore, it is necessary for the patient to receive adequate treatment(4).

There is ongoing concern about malignant transformation of lichen planus and it remains a subject of controversial discussions in different studies (5, 7, 8). Therefore, patients with lichen planus should undergo regular gynecological and oral follow-up examination.

Conclusion

In conclusion, oro-genital lichen planus is a rather uncommon condition that needs multidisciplinary dental and medical intervention for
appropriate management and follow-up. This could be a relevant therapeutic strategy for improving patient’s quality of life and potentially avoiding oral cancers. It is important to point out that patients with oral lichen planus need to undergo further medical examination in order to inspect genital tissue involvement.

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