Case report

Syphilitic mucous patches: the resurgence of an old classic

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Case Report

A 20-year-old woman was referred to our department for evaluation of multiple persistent erosive lesions of the oral mucosa that appeared 3 months before consultation. She complained of sore throat and a vague local discomfort. Her past medical history was unremarkable.

Physical examination disclosed symmetrical erosive serpiginous hypertrophic plaques on the buccal commissures and buccal mucosa, whitish erythematous plaques on the tongue surface and erosions of the lips (Fig. 1). Enanthem and a few small vesicles on the soft palate were also observed. No similar mucocutaneous lesions were present elsewhere. The patient was otherwise in a good general status, with no fever or palpable enlarged lymph nodes.

Two 4-mm punch biopsies were performed. Histopathological study showed irregular acanthosis with an intense, diffuse and perivascular infiltrate in the submucosa (Fig. 2). The cellular infiltrate consisted mainly of mature plasma cells. Polymorphonuclear leukocyte exocytosis with intraepithelial pustule formation was also observed, along with isolated apoptotic keratinocytes. A PAS stain failed to show any microorganisms and direct immunofluorescence study was negative.

Immunohistochemical staining with a polyclonal rabbit antibody against Treponema pallidum revealed multiple spirochetes, mainly distributed in the lower layers of the mucosa, adopting a honey-comb pattern drawing the keratinocyte walls (Fig. 3). Microorganisms were also evident, although in a much weaker amount, within the infiltrate in the upper submucosa. Specific antitreponemal IgG and nontreponemal tests (VDRL, titre 1/256) were positive, with negative HIV-1/2 serology.

The diagnosis of oral mucous patches (a form of secondary syphilis) was established, in the absence of other constitutional, genital, or skin manifestations. Treatment with benzathine penicillin (2.4 MU) was prescribed. The patient was lost for follow-up.

Discussion

Mucosal lesions are frequently unspecific from the clinical point of view. In our case, both our ignorance of a history of unsafe sex practices and the absence of other systemic and skin manifestations made it difficult for us to reach the true diagnosis.

Initially, we considered a few diagnostic options: erosive oral lichen planus, oral pemphigus vulgaris, mucous membrane pemphigoid, paraneoplastic pemphigus, and Stevens–Johnson’s syndrome. Interestingly, the almost painless nature of the lesions did not match any of them.

After the histopathological study, the absence of acantholysis and the abundance of plasma cells in the infiltrate made us reconsider the differential diagnosis, including two other diseases: mucous membrane plasmacytosis and oral syphilis. Nevertheless, one may bear in mind that the presence of plasma cells is an almost invariable finding in biopsies of mucous membranes.

Since silver stainings may give false positives in the oral cavity, due to the existence of spirochetes other than Treponema pallidum (e.g. T. denticola), we decided to rule out syphilis by specific serological and immunohistochemical studies. Surprisingly, with these techniques we reached the diagnosis...
Isolated oral secondary syphilis

Figure 1 (a) Erythematous whitish plaques on the tongue. (b,c) Leukoplakia and erosive plaques on the lips and commissures. (d) Palate enanthem

Figure 2 (a) Mucosal biopsy showed acanthosis, exocytosis of polymorphonuclear cells, some apoptotic keratinocytes and a dense submucosal band-like infiltrate (hematoxylin and eosin; original magnification \( \times 100 \)). (b) The infiltrate is almost entirely composed of plasma cells (hematoxylin and eosin; original magnification \( \times 400 \))

Figure 3 The immunohistochemical study demonstrates multiple microorganisms in a honey-comb pattern at lower layers of the epithelium, with staining of keratinocytes’ walls and some scattered spirochetes in the infiltrate within the superficial submucosa (original magnifications \( \times 100 \) and \( \times 400 \), from left to right). Negative control samples yielded no staining for spirochetes
of syphilitic mucous patches, which actually explained the almost asymptomatic condition of the patient and the massive plasma cell infiltration. Subsequently, we analyzed a few histological clues that could have been of help in differentiating this disease from both other major diagnostic options (Table 1).¹⁻⁴

This immunohistochemical method has proven to be more sensitive and specific than histopathological and silver stains, and it may be very helpful in those patients in which serological assays fail to detect *T. pallidum* antibodies (especially, HIV-infected and other immunosuppressed individuals).⁵⁻⁷

Oral manifestations of secondary syphilis are present in more than one-third of patients presenting with the characteristic skin rash.⁸ Specifically, the mucous patches represents less than a 10% of cases of the secondary stage of this infection.⁹ HIV-coinfected cases must always be ruled out in these cases, and syphilis must be also considered in the differential diagnosis of oral lesions in all HIV-infected patients.³⁻⁹⁻¹⁰

Our report describes an atypical presentation of oral secondary syphilis, a disease that can be easily misdiagnosed if not suspected, in the absence of a suggestive skin rash and accurate epidemiological data. We attempt to emphasize the need of being aware of the broad spectrum of clinical manifestations of syphilis, a potentially aggressive sexually transmitted disease with an increasing incidence.⁷

**References**


