

Not your average oral cavity lesion: an interesting case report of oral syphilis

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Introduction

- Syphilis describes a constellation of symptoms caused by colonization with *Treponema pallidum*, most commonly transmitted through sexual contact.¹
- The incidence of syphilis has slowly increased every year since 2000, reaching 11.9 per 100,000 in 2019
- Manifestations of syphilis are staged as primary, secondary, or tertiary syphilis
- Primary syphilis manifests as a chancre at the inoculation site, associated with regional lymphadenopathy.¹
- In the head and neck, the chancre of primary syphilis is seen on the lips, tongue or tonsil, with rare presentation in the nose or larynx.³
- Secondary syphilis occurs 2-12 weeks following untreated primary syphilis, occurring in ~ 25% of patients.⁴
- Secondary syphilis is associated with symmetric, generalized rash involving the entire trunk and extremities, plus palms and soles.⁵
- Oral lesions of secondary syphilis include elevated plaques with ulceration or coalescent mucous patches rising to serpiginous “snail-track” ulcers
- Tertiary syphilis include an asymptomatic latent phase, cardiovascular, neurosyphilis or gummatous lesions of the liver, bones, and spleen.¹
- Otolaryngologic manifestations of tertiary syphilis include gummas of the hard and soft palate.

Case History

An otherwise healthy 27-year-old male with 1 pack- year smoking history, was referred to our clinic for evaluation of left oral ulcer and neck mass. The patient reported progressively enlarging left sided neck mass, painful ulcerated left lower lip lesion, associated with mild dysphagia, sore throat, intermittent tachycardia and chest pain for the past 4-5 months. Clinical exam showed ~3cm left hard fixed level IIA lymph node, bilateral scattered cervical lymphadenopathy and a 2.5cm ulcerated lesion over the buccal aspect of the left lateral lower lip (Figure 1). Computed Tomography of soft tissue neck with contrast was performed and showed mild hypertrophy of Waldeyer’s ring and bilateral scattered chain lymphadenopathy, largest node present at ljugulo-digastric eft level IIA, 2.8cmx2.1cmx4.0cm. In-office incisional biopsies were performed, and histopathologic review was consistent with the diagnosis of syphilis. Further spirochete immunostaining confirmed the diagnosis. The patient wasn’t surprised by this diagnosis, admitted to similar ulcerative painful lesions near his rectum for several months, and had multiple sexual partners with unprotected intercourse. The patient was treated with 1 dose of 2.5 million units of penicillin G benzathine, intramuscular. Follow up at 1 week showed significant improvement of symptoms with resolution of oral lesion (Figure 2). The patient tolerated therapy without adverse effects and with swift resolution of symptoms.



Figure 1. Pre-treatment left lateral lip oral lesion. This figure shows the oral lesion at initial presentation over the buccal aspect of the left lateral lower lip measuring about 2.5 cm

Discussion

Typically, when a patient presents with an oral lesion and lymph node enlargement for several months, syphilis is not on the top of the differential. The differential diagnosis for lymph node enlargement with associated painful oral ulceration may include neoplastic, autoimmune, or infectious processes. In our case, concern for a neoplastic process was high due to length and overall symptomatology.

Clinical suspicion for syphilis relies on history, with emphasis on sexual history, and physical examination, leading to laboratory testing. Laboratory testing for syphilis includes using a nontreponemal serological test (e.g. venereal disease research laboratory or rapid plasma reagent), followed by a treponemal test (e.g. *T pallidum* particle agglutination assay, fluorescent treponemal antibody absorption, or *T pallidum* hemagglutination assay). Treponemes may also be directly visualized from biopsies of primary and secondary lesions via Warthin-Starry or immunohistochemical staining.⁴

Most cases of primary and secondary syphilis are managed with a single intramuscular injection of 2.5 million units of benzathine penicillin G. Tertiary syphilis requires a longer treatment.⁴ In cases of penicillin allergy, oral doxycycline 100 mg twice daily for 14 days has been shown to have similar outcomes to penicillin.⁴

With the presentation of oral syphilitic lesions, otolaryngologists play an important role in early identification of syphilis. Here we presented a case of secondary syphilis masquerading as suspected oral cavity cancer, highlighting the importance of maintaining a high index of suspicion for syphilis when presented with atypical oral lesions.



Figure 2. Post-treatment left lateral lip oral lesion. This figure shows the site of the previous oral lesion that has resolved after treatment with appropriate antibiotic therapy.

Conclusion

- Syphilis is a constellation of symptoms with multiple stages
- Transmitted through sexual contact or vertical transmission
- Staged into primary, secondary or tertiary
- The progression of syphilis depends on the length of time of infectivity
- Syphilis has multiple manifestations in the head and neck
- Primary syphilis of the head and neck are chancres on lips, tongue or tonsils
- Secondary syphilis of the head and neck are oral mucosal patches throughout oral cavity
- Tertiary syphilis of the head and neck consist of neurosyphilis, cranial nerve deficits, gummas of the hard and soft palate
- Diagnosis of syphilis depends largely on social and sexual history
- Non-treponemal tests for screening include venereal disease research laboratory (VDRL) or RPR
- Treponemal tests are the confirmatory tests which include T.pallidum particle agglutination assay, fluorescent treponemal antibody absorption
- Can also biopsy lesion with direct visualization or treponemes on Warthin-Starry stain
- Treatment includes 2.4 million units of benzathine penicillin G intramuscularly

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