

Condylomata lata of the oral commissure: an unexpected presentation of secondary syphilis

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Abstract

We present the case of a 33 year-old male presenting with a white lesion within the left oral commissure. The lesion was initially regarded as either smoker's keratosis or verrucous hyperplasia and was biopsied to exclude a neoplasm. Histology revealed squamous epithelial hyperplasia, plasmacytic inflammation and neuritis. *Treponema* immunohistochemistry demonstrated the presence of spirochetes and subsequent serology confirmed the diagnosis as syphilis. The oral commissure is an unusual site for secondary syphilis (condylomata lata). The clinical resemblance of condylomata lata to other oral cavity lesions may lead to biopsy, as it did in this case. This presents a diagnostic challenge for pathologists since the features of syphilis are non-specific. Associated features that raise suspicion include: epithelial hyperplasia; granulomatous inflammation; endarteritis; and florid plasma cell inflammation with neuritis. Morphology should be corroborated with immunohistochemistry and serological testing. Prompt communication with clinical colleagues facilitates timely treatment and contact tracing.

Keywords condyloma latum; histopathology; sexually transmitted; *Treponema pallidum*

Case report

Presentation

A thirty-three year-old male presented to the genitourinary clinic with a 5-week history of a white patch in the corner of his mouth.

The patient's medical history included human immunodeficiency virus (HIV) and asthma. He smoked 15 tobacco cigarettes a day and had moderate alcohol intake.

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His medications included salbutamol and betametasone inhalers.

Examination

An irregular, solitary white plaque was identified in the left oral commissure. No lymphadenopathy was detected on general examination. An incisional biopsy was arranged.

Histology

Initial biopsy showed hyperplastic squamous epithelium with active chronic inflammation. Special stains for fungi were negative. The intensity of the inflammation prevented confident exclusion of verrucous hyperplasia and /or dysplasia; repeat biopsy was recommended.

Repeat biopsy featured a hyperplastic lesion with active chronic inflammation. The hyperplastic changes were not characteristic of verrucous neoplasia, despite abrupt peripheral transition. The base of the lesion base featured plasma cell rich inflammation surrounding blood vessels and nerves. Granulomata were not identified. Repeated special stains for fungi were negative (Figures 1–3).

Ancillary testing

Treponema immunohistochemistry revealed numerous spirochaetes. Syphilis was confirmed serologically. A diagnosis of condylomata lata (secondary syphilis) was reached (Figures 4 and 5).

Follow up

Prompt communication with the general practitioner was made, facilitating urgent genitourinary referral and initiation of contact tracing.

Discussion

Syphilis is a sexually transmitted infection caused by the spirochete bacterium *Treponema pallidum*. Cases of syphilis are rising and recent case reports indicate that oral manifestations, resulting from oral-genital transmission, may be the sole presentation of infection.¹ Oral syphilis may present as a primary or secondary lesion. It is feasible that a patient's dentist may have the first opportunity to raise the differential diagnosis, highlighting the need to raise awareness of the condition across allied health professions.

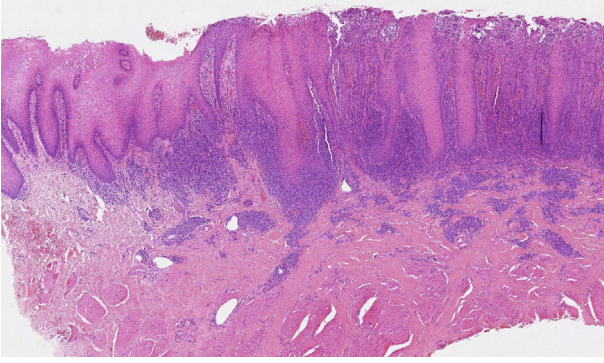


Figure 1 Haematoxylin & eosin stain x2 magnification. There is sharp lateral demarcation to the lesion. There is florid active chronic inflammation and epithelial hyperplasia.

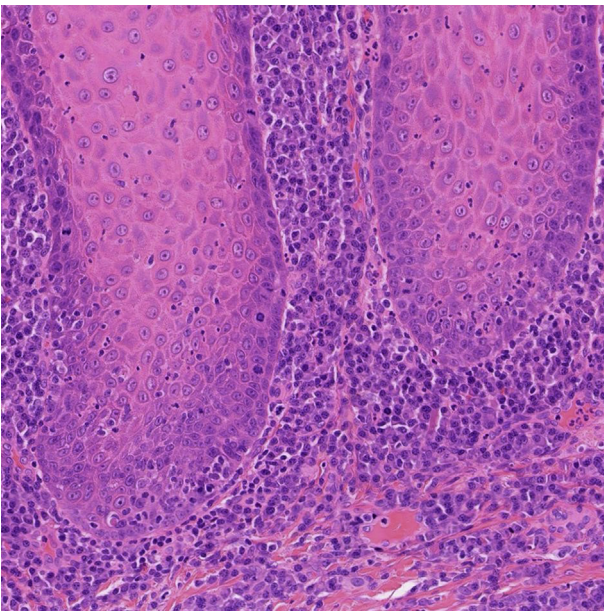


Figure 2 Haematoxylin & eosin stain, x20 magnification. The inflammatory infiltrate within the lamina propria and submucosa was predominantly composed of plasma cells.

Beyond the primary and secondary stages, syphilis can be divided into two further chronological phases (Table 1).

The oral cavity is the most common site of the otherwise unusual occurrence of extra-genital chancre. Importantly, the oral cavity contains small numbers of commensurate treponemes that are morphologically indistinguishable from *T. pallidum*, rendering darkfield microscopy unsuitable for diagnosing primary syphilis at this site.

In secondary syphilis, condylomata lata is a well-recognised cutaneous manifestation, which can rarely involve the oral cavity. There are two main forms: 1) flat moist papules or 2) elevated verrucous papules. Condylomata lata, may also present as leukoplakia or erythroleukoplakia, as described in our case, masquerading as a neoplasm and prompting biopsy.^{2–4}

Biopsies of oral condylomata lata are diagnostically challenging since the features of syphilis infection are non-specific. Condylomata lata may mimic human papilloma virus-driven

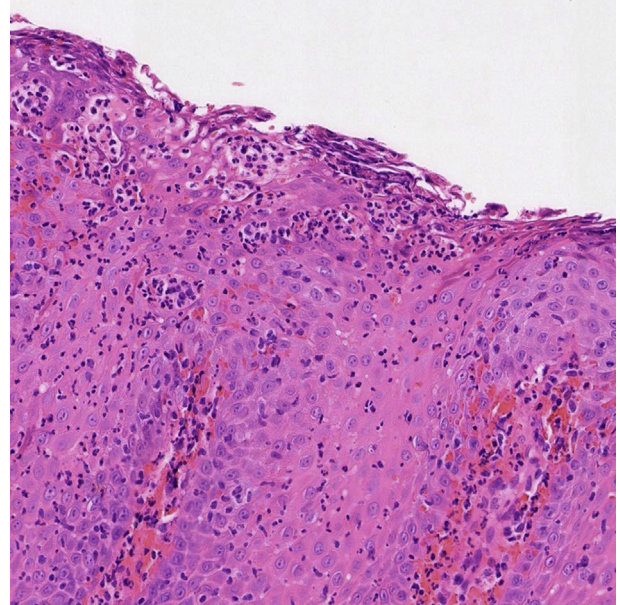


Figure 3 Haematoxylin & eosin stain, x20 magnification. The superficial lesion contained numerous neutrophils with intraepithelial microabscesses.

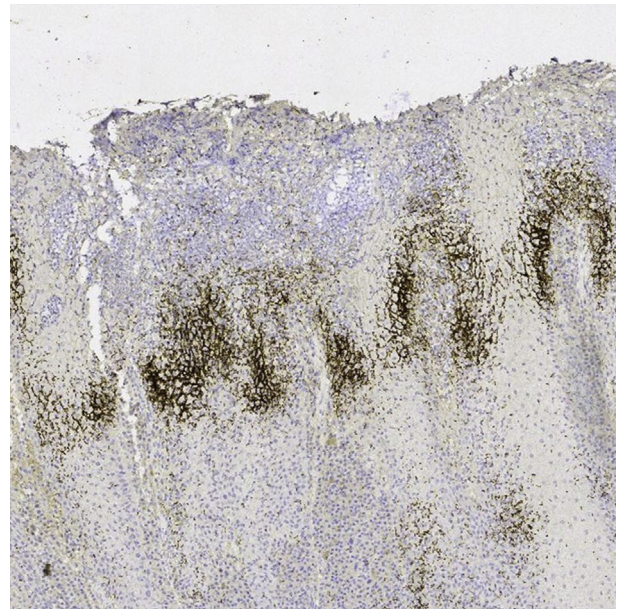


Figure 4 Treponema immunohistochemistry, x10 magnification. The spirochaetes are predominantly arranged in a basal distribution. This distribution could theoretically be obligatory, reflecting the organisms' need to obtain nutrients from the superficial dermal blood vessels in order to survive.

condylomata acuminata, or bowenoid papulosis. Florid reactive epithelial atypia may simulate dysplasia or even invasive malignancy. Plasma cell and granulomatous inflammatory infiltrates are ubiquitous in a small case series.¹ Endarteritis, plasma cell neuritis and epithelial hyperplasia were also commonly observed, as were spirochaetes (on special stains or immunohistochemistry) (Figure 6).

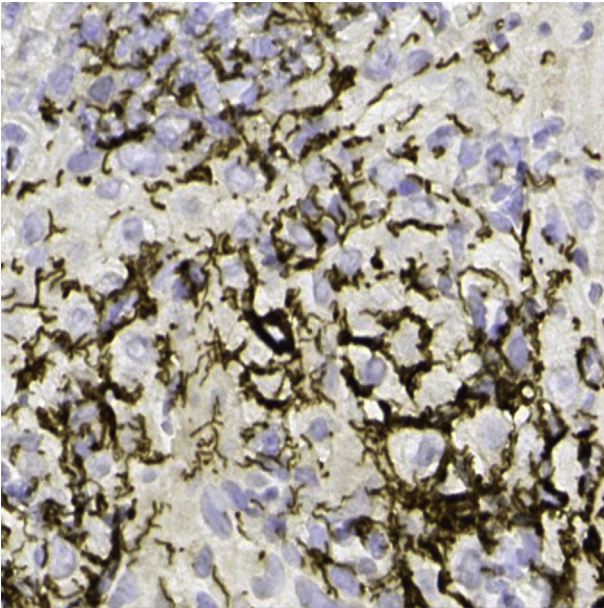


Figure 5 Treponema immunohistochemistry, x40 magnification. Spirochaetes with the characteristic corkscrew morphology can be appreciated.

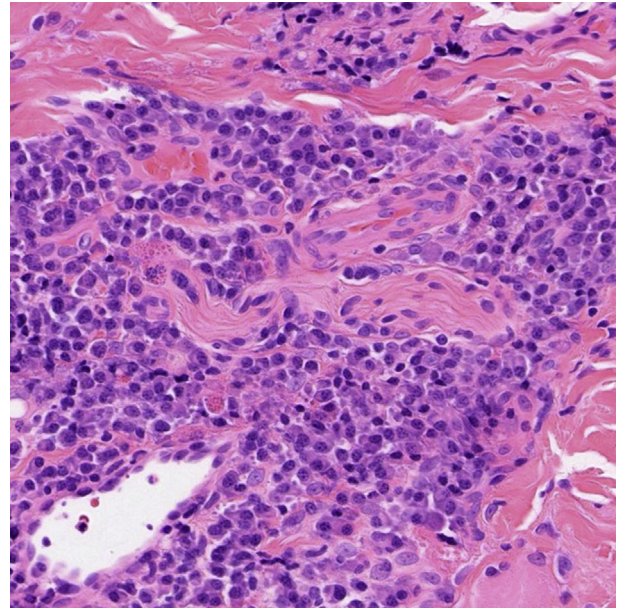


Figure 6 Haematoxylin & eosin stain, x20 magnification. Plasma cell neuritis and endarteritis within the papillary dermis as demonstrated in both the current case and previous case reports.

The four main stages of syphilis infection

Primary	A primary lesion develops 2–6 weeks after exposure. This typically takes the form of a solitary painless ulcer, or chancre. This lesion contains spirochetes and is infectious. This lesion regresses spontaneously within a few weeks.
Secondary	Secondary syphilis can present with a wide array of manifestations. Most commonly there is a maculopapular rash, which classically involves the palms and soles. condylomata lata (cutaneous manifestations) may develop. Systemic symptoms such as fever and arthritis may occur. Cutaneous lesions continue to be infectious.
Latent	Serological evidence of infection in the absence of symptoms. Infectiousness declines with duration.
Tertiary	May occur several years after exposure. 1) Tumour-like growths, which can cause physical deformity; 2) Neurosyphilis; 3) Cardiovascular inflammation, i.e. syphilitic aortitis. This is a non-infectious stage.

Table 1

Treponema immunohistochemical antibodies may have cross-reactivity for non-Treponema spirochaetes,⁵ presenting a potential pitfall in oral pathology where commensurate spirochaetes may be encountered. This necessitates correlation of Treponema immunohistochemistry with the histological features and clinical serology.

Urgent communication with the patient's general practitioner facilitated prompt treatment with appropriate antibiotics; syphilis remains highly transmissible in the second phase and can cause serious sequelae if left untreated. Furthermore, notification of syphilis allows initiation of contact tracing, identifying further at-risk individuals and preventing spread of infection.

Conclusion

Oral condylomata lata was the sole manifestation of secondary syphilis in this case and was clinically unexpected. Diagnosis facilitated correct treatment and initiation of contact tracing. Prior case reports have highlighted important but non-specific features which are all well demonstrated in this case. These features were corroborated with Treponema immunohistochemistry and positive syphilis serology. ◆

Practice points

- Consider syphilis in the presence of plasma-cell rich inflammation with neuritis, endarteritis and epithelial hyperplasia.
- Histology is non-specific and must be correlated with serological testing.
- Cross-reactivity of Treponema immunohistochemistry represents a diagnostic pitfall.
- Prompt communication with the patient's general practitioner ensures prompt treatment and contact tracing.

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Self-assessment multiple-choice questions

1 How is syphilis managed?

- a Oral or IV antibiotics (typically penicillin).
- b Abstinence for duration of treatment, plus two weeks.
- c Contact tracing; notification of sexual partner(s).
- d All of the above.

Answer: d

2 Condylomata lata is a cutaneous manifestation of which stage of syphilis?

- a Primary
- b Secondary
- c Latent
- d Tertiary

Answer: b

3 *Treponema pallidum* has what kind of shape?

- a Vibrio: a curved or comma-shaped rod.
- b Spirillum: a thick, flexible spiral, rigid spiral.
- c Spirochaete: a thin, flexible spiral.

Answer: c