

Oral Manifestation Of Syphilis - A Short Review

1. R.Jayasri Krupaa,. Dr.RyhanathGulshan.F, Dr.N.Aravindha Babu, Dr.K.M.K.Masthan

Department of Oral Pathology and Microbiology

SreeBalaji Dental College and Hospital

Bharath Institute of Higher Education and Research

gulshanfareed@gmail.com

ABSTRACT

Syphilis is an infectious disease which is associated with specific oral lesions. Oral manifestations of syphilis are most likely to be observed in secondary disease but all stages of the disease can also give rise to oral lesions. The congenital disease gives rise to dental anomalies as well as bone, skin, and neurological anomalies of the face.

Key words: *Syphilis, dental anomalies, congenital syphilis.*

INTRODUCTION

Infective syphilis is caused by the anaerobic filamentous spirochete, *Treponemapallidum*. Humans become the only known vectors^{1,2}. The transmission occurs via oral-genital, oral-anal, or other sexual contact, transfusion with contaminated blood, direct contact with contaminated material, and intra-uterine transmission^{1,2,3}. In HIV patients, syphilis follows a malignant and protracted course which is associated with serious neurological complications and frequent relapses after conventional therapy⁴.

PRIMARY SYPHILIS

Chancre which is the initial lesion which appears one to two weeks after exposure to the *Treponema*. This is the primary stage that occurs at the site of inoculation. The incubation period can last for up to 40 days. The lesion is usually erosive or ulcerated, singular, painless, with base infiltration and hardened high margins, frequently occurring in ano-genital and oral regions. After the appearance of the chancre, regional lymphadenopathy occurs. Spontaneous healing of the chancre occurs within three to six weeks, and scars are not commonly seen^{1,2}. Primary syphilis of the mouth manifests as a solitary ulcer involving the lip or, more rarely, the tongue. The upper lip is more commonly affected than the lower in males, while the opposite is seen in females. The rarely affected sites includes pharynx or tonsils. The ulceration appears as deep with a red, purple, or brown base and an irregular raised border which is usually accompanied by cervical lymphadenopathy⁵. Differential diagnosis for intraoral syphilis includes herpetic or fungal infections, tuberculosis, histoplasmosis, squamous cell carcinoma, or trauma (15,19).

SECONDARY SYPHILIS

The features of this type of syphilis reflects the hematogenous spread of *T. pallidum*, which is similar to its other mucocutaneous features. The oral manifestations of secondary syphilis can be more extensive and/or variable than those of the primary disease. Oral lesions arise in 30% of patients with

secondary syphilis, although very rarely oral ulceration may be the only manifestation of infection. There two principal oral features of secondary syphilis are mucous patches and maculopapular lesions, although nodular lesions may rarely arise.

MACULOPAPULAR LESIONS

- Macular syphilides: These type of lesions tend to arise on the hard palate and manifest as flat-to-slightly raised, firm, red lesions ⁶.
- Papularsyphilides: They commonly manifest as red, raised, firm round nodules with a grey center that may ulcerate. The papules usually arise on the buccal mucosa or commissures and these are usually rare ⁷.
- Mucous patches: The mucous patches usually manifest as oval-to-crescentic erosions or shallow ulcers measuring 1 cm diameter, covered by a grey mucoid exudate and with an erythematous border ⁶. These are seen bilaterally on the mobile surfaces of the mouth,⁸ although the pharynx, gingivae, tonsils, and rarely hard palate can be affected ⁹. The mucous patches may appear as split papules at the commissures while on the distal and lateral aspects of the tongue, they tend to ulcerate or manifest as irregular fissures. The mucous patches may coalesce to give rise to, or arise de novo as, serpiginous lesions, sometimes termed snail track ulcers ⁹.

ULCERONODULAR DISEASE (LUES MALIGNA)

Ulceronodular disease is an explosive generalized form of secondary syphilis which is characterized by fever, headache, and myalgia. This is often followed by a papulopustular eruption which rapidly transforms into necrotic, sharply demarcated ulcers with hemorrhagic brown crusts, organized in rupioid layers commonly on the face and scalp. The mucosa is involved in about one third of affected patients. Luesmaligna gives rise to crateriform or shallow ulcers on the gingivae, palate or buccal mucosa, with multiple erosions on the hard and soft palates, tongue and lower lip ^{10,11,12}.

Tertiary Syphilis

Tertiary syphilis occurs after one year of evolution in patients who have not still received treatment in either primary or secondary stages . The characteristic destructive lesion of this phase is the gumma formation. It represents the chronic hypersensitivity reaction to the presence of spirochete ².The clinical manifestations can appear after a variable latency and more frequently occur in cutaneous, cardiovascular, and nervous forms ¹³.

GUMMA FORMATION

Gummas most commonly tends to arise on the hard palate and tongue, although very rarely they may occur on the soft palate, lower alveolus, and parotid gland ^{14,15,16,17}. A gumma manifests initially as one or more painless swelling ¹⁸, when multiple they tend to coalesce, giving rise to serpiginous lesions. The swellings eventually develop into areas of ulceration, with areas of breakdown and healing. There may be eventual bone destruction, palatal perforation, and oro-nasal fistula formation. The areas of ulceration eventually heal, although the resultant scarring can cause fissuring.

CONGENITAL SYPHILIS

Treponemapallidum crosses the placenta only after the 16th week of intrauterine life. The orofacial manifestations of congenital syphilis can be split into early and late. Early features include diffuse maculopapular rash, periostitis (frontal bossing of Parrot), and rhinitis whereas the late features,

manifests at least 24 months after birth which comprises of Hutchinsonian triad (interstitial keratitis of the cornea, sensorineural hearing loss, and dental anomalies) The dental anomalies only affects the teeth in which calcification occurs during the first year of life, hence typically the permanent incisors and first molars. The maxillary incisors are more commonly affected than the mandibular ones. The incisors have a screwdriver shape with convergence of the lateral margins towards the incisal edge. The first molar may be bud-shaped and reduced to the size of the adjacent second molar. Enamel hypoplasia may occur in few cases. Yellow discoloration of the skin about the lips can arise soon after birth; the area then becomes increasingly rigid with crack formation and eventual (Parrot's) radial scars—rhagades—of the lips. Various other orofacial features include atrophic glossitis and a high, narrow palatal vault. Facial neuropathies may rarely occur as can palatal gumma in adulthood¹⁹.

DIAGNOSIS AND TREATMENT

The diagnosis is commonly made by serologic testing. The most commonly used screening tests are the Rapid Plasma Reagin (RPR) and the Venereal Disease Research Laboratory (VDRL). These are non-specific, non-treponemal tests that use reagin, cardiolipin-lecithin-cholesterol antigens to test for antibodies against *T. pallidum*. The most common specific serologic tests for syphilis are the fluorescent treponemal antibody absorption test and the microhemagglutination test. These detect antibodies that are produced against treponemal antigens²⁰. The treatment of choice for primary or secondary syphilis is to two-week doses of benzathinepenicillin G, 2.4 million units intramuscularly, applied one week apart, and for tertiary syphilis three to four doses. Ceftriaxone or tetracycline are given to patients who are allergic to penicillin^{1,2}.

CONCLUSION

Syphilis is a disease with varied clinical and oral manifestations. All organs and systems may be compromised in its clinical stages. Oral evaluation is a must in all patients under this condition and care should be taken in all clinical stages of the disease.

REFERENCES

1. MONHIAN N., MURR AH., MANDPE AH., BAEHNER FL. Pathology forum. Quiz case 1. Secondary syphilis. Arch. Otolaryngology-Head Neck Surg., 2001, 127, 2179.
2. SIEGAL MA. Syphilis and gonorrhea. Infect. Dis. Dent., 1996, 40, 369-83.
3. BRIGHTMAN VJ. Sexually transmitted and bloodborne infections. In: _____ . Burkett's oral medicine: diagnosis and treatment. 9.ed. Philadelphia: JB Lippincott, 1994: 629-53.
4. ENGELKENS HJH., VAN DER SLUIS JJ., STOLZ E. Syphilis in the AIDS. Int. J. Dermatol., 1991, 30, 254-6.
5. Alam F, Argiriadou AS, Hodgson TA, Kumar N, Porter SR. Primary syphilis remains a cause of oral ulceration. Br Dent J. 2000;189:352-4.
6. Laskaris G. Oral manifestations of infectious diseases. Dent Clin North Am, 1996;40:395-423.
7. Kurien J, Kuriakose S. Doomed angels—a case report. J Indian Soc Pedod Prev Dent. 1997;15:10-12.
8. Thomas P, Schuck A, Meurer M, Kind P. Angina specifica and mucous plaques of the mouth cavity in lues II. Hautarzt. 1994;45:639-41.
9. Ban M, Ohtani M, Seishima M. A case of secondary syphilis with mucous patches on the hard palate. J Dermatol. 1995;22:52-54.
10. Ficarra G, Zaragoza AM, Stendardi L, Parri F, Cockerell CJ. Early oral presentation of lues maligna in a patient with HIV infection. A case report. Oral Surg Oral Med Oral Pathol. 1993;75:728-32.

11. Rodriguez-Diaz E, Moran-Estefania M., Lopez-Avila A., Piris JB, Fernandez-Blasco G, Garcia JI, et al. Clinical expression of secondary syphilis in a patient with HIV infection. *J Dermatol.* 1994;21:111-6.
12. Sands M, Markus A. Lues maligna, or ulceronodular syphilis, in a man infected with human immunodeficiency virus: case report and review. *Clin Infect Dis.* 1995;20:387-90.
13. AARESTRUP FM., VIEIRA BJ. Oral manifestation of tertiary syphilis: case report. *Braz.Dent. J.*, 1999, 10, 117-21.
14. Huebsch RF Gumma of the hard palate, with perforation; report of a case. *J Oral Surg.* 1955;8:690-3.
15. Kirwald H, Montag A. Stage 3 syphilis of the mouth cavity. *Laryngorhinootologie.* 1999;78:254-8.
16. Ramstad T, Traaholt L. Destruction of the soft palate and nose by tertiary 'benign' syphilis. A case report. *J Oral Rehabil.* 1980;7:111-5.
17. Taylor RG, Hipple W. Gumma of palate with negative standard tests for syphilis. *Oral Surg Oral Med Oral Pathol.* 1961;14:788-92.
18. Laskaris G. Oral manifestations of infectious diseases. *Dent Clin North Am*, 1996;40:395-423.
19. Housego T, Wood RE, Grotepass F, Nortje CJ. Repair of a palatal defect associated with late congenital syphilis using a tongue flap. *J Oral Maxillofac Surg.* 1998;46:70-3.
20. HOOK EW., MARRA CM. Acquired syphilis in adults. *N. Engl. J. Med.*, 1992, 326, 1060-9.