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Secondary Syphilis - A Resurging Trend: A Case Report

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Abstract: *Syphilis is a sexually transmitted infection caused by a spirochete called Treponema Pallidum manifested in various stages and it is associated with a significant potential for serious complications, if it is not treated in an appropriate time. Secondary syphilis can present in numerous forms and manifestations vary in individuals. This report describes the diagnosis of secondary syphilis based on clinical oral and laboratory findings.*

Keywords: *Secondary syphilis; mucous patch; Condylomata lata*

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I. Introduction

Syphilis is caused by infection with a spirochete, *Treponema pallidum.* In adults this is usually sexually transmitted, with the entry of this organism through abrasions in skin or mucous membranes. Transmission by unprotected sexual intercourse, kissing or blood transfusion and percutaneous injury has been reported. It was considered as a major health problem in the early 20th century. Later it became relatively uncommon due to public awareness and eventual discovery of penicillin. However, after the advent of Acquired Immunodeficiency Syndrome (AIDS) in 1985, there is an epidemic resurgence of syphilis[1].

While more than 90% of the syphilis cases are reported in men, the number of women affected by the disease has been slowly decreasing[2]. It basically classified as Acquired syphilis and congenital syphilis. Acquired syphilis is characterized by various stages *viz*. primary, secondary, late latent and tertiary syphilis. Investigations mainly on serological test include non- specific like VDRL and RPR test and specific tests like EIA, TPHA, FTA-ABS tests. Penicillin remains the drug of choice for all stages of infection in the disease management. We herewith report a case of secondary syphilis which presented to us with oral manifestations and was diagnosed based on oral clinical findings, confirmed by laboratory investigations and treated subsequently.

II. Case Report

A 36 year old male reported to the Department of Oral Medicine Radiology, Tamilnadu Government Dental College and Hospital Chennai, with a complaint of swelling in upper lip for the past 1 month. The past medical history, past dental history and family history were not contributory. Patient denied any sexual promiscuity in his personal history.

On general examination, maculopapular rashes in the palms and soles, and white papules were present in the penile region(Figure 5 a&b).

On local extra oral examination, on inspection, a single maculopapular lesion was seen on right side of the upper lip approximately 0.5×1 cm in size, oval in shape with raised margins, smooth surface, extending antero-superiorly up to the vermillion border, posteriorly into the upper labial mucosa, medially up to 2mm away from the corner mouth and laterally up to the angle of the mouth. Colour was pinkish white in the centre with raised greyish border(Figure 1).

On the left side, a single plaque type of lesion present in the upper lip of size about 2 cm × 1 cm. oval in shape extending antero-superiorly up to vermillion border, posteriorly into the upper labial mucosa, medially up to 2mm away from the corner mouth and laterally up to opposite to 22 region. Margins were raised, surface was irregular, and colour was greyish with crustation over the lesions(Figure 2.).

On local intraoral examination, a macular greyish lesion was present on the midline of the hard palate, circular in shape 0.5 mm in diameter. On palpation, the lesions were non-scrapable, non-tender, soft in consistency, compressible and not reducible, with raised edges, indurated base and without any bleeding on provocation(Figure 3.).

Based on the history and clinical findings the case was provisionally diagnosed as secondary syphilis. The patient was referred to Dept. of Sexually Transmitted Diseases, Rajiv Gandhi Govt. General Hospital, Chennai for the further investigations to confirm the diagnosis. Investigation report showed that he tested negative for HIV Antibody. VDRL test was Positive in 1: 64 dilution and the Treponema Pallidum Hemagglutination Assay (TPHA) was also Positive.

III. Discussion

Syphilis is a sexually transmitted infection that spreads by direct contact during vaginal, anal, or oral sex. Syphilis can also be spread congenitally from mother to baby via the placenta. Syphilis consists of four stages: primary secondary, latent, and tertiary. It is caused by the spirochete (spiral-shaped bacterium, *Treponema pallidum*.

The primary stage of syphilis is manifested as a painless, round chancre measuring 1.0×1.5 cm, on average, found on the glans penis or the cervix. These lesions can also be found on the labia, shaft of the penis, anus, fingers, or tongue depending on where the spirochete entered the body. The lesion is typically painless, which is why it can go undetected, especially in the female population. If the diagnosis is missed, it can have serious consequences for the patient. The chancre most commonly involves the genitalia, with 12-14% occurring extragenitally[3]. It appears 2 to 3 weeks after exposure. A raised border and induration because of dermal involvement and moist base are the hallmark signs of the chancre. Oral lesions are seen commonly in the lip, buccal mucosa, tongue, and tonsils. The oral lesions are painless, clean-based ulceration or rarely as a vascular proliferation resembling a pyogenic granuloma. About a fourth of the untreated patients with primary syphilis fail to clear the infection and proceed to the secondary stage.

Manifestations of secondary Syphilis usually develop 30 to 90 days after the appearance chancre. The clinical manifestations of secondary syphilis consist of non-specific symptoms (fever, headache, malaise and weight loss), but also typical findings including maculo-papular skin rash, lymphadenopathy, Condyloma lata and mucosal ulcers. Systemic manifestations such as uveitis, retinitis, alopecia, arthritis, osteitis, meningitis, cranial neuropathies, glomerulonephritis, and hepatitis may also be seen. Though the most common skin rash is the maculopapular eruption, in some patients, the cutaneous involvement can be quite varied, leading to difficulties with clinical recognition.

Oral lesions of secondary syphilis are classified as: 1. Macular lesions seen as, flat to slightly raised, firm, red lesions , 2. Papular lesions: red, raised, firm round nodules with a grey centre that may ulcerate, usually located on the buccal mucosa or commissures, 3. Mucous patches: slightly raised and covered by a grayish, white pseudo membrane, surrounded by erythema. Lesions appear mainly on the soft palate and pillars, tongue, and vestibular mucosa, 4. Shallow ulcers: oval erosions or shallow ulcers of about one cm in diameter, covered by grey mucoid exudates with an erythematous border[4]. In our case, maculopapular lesion and plaque type of lesion were seen bilaterally in the upper lip and mucous patch was seen in the junction of hard and soft palate. Maculopapular lesions were also seen in the nasal mucosa on either side. Condylomata lata were seen in genital region.

The differential diagnosis of secondary syphilis includes, Pseudomembranous candidiasis, HSV infection, Bechet's syndrome, Reiter's syndrome, Agranulocytosis, Infectious mononucleosis, oral hairy leukoplakia, lichen planus, and other conditions considered by others such as lupus erythematous, erythema multiforme, leukoplakia, erythroleukoplakia, squamous cell carcinoma and nonspecific erosions[4]. Genital lesions are differentially diagnosed as HSV, VZV, Circinate Balanitis Condyloma lata Genital warts. Diagnosis of oral secondary syphilis lesions, called the great imitator represents an important clinical challenge[4].

The infected person is considered to be in the latent stage of syphilis when the symptoms of the primary and secondary syphilis have disappeared. In the latent stage of syphilis, laboratory testing is the only way to confirm diagnosis, as there are no cutaneous manifestations. The latent stage is divided into two phases: early latent and late latent. Early latent syphilis is defined as sero-positive on laboratory testing, with no symptoms, and is less than 1 year since contracting the infection. The patient will be considered to have late latent syphilis if the patient contracted the syphilis greater than 1 year ago or if the duration is unknown[5].

Tertiary syphilis can happen many years after the initial infection and may lead to death. Tertiary syphilis can affect any organ but most commonly presents with skin, bone, liver, heart, and brain lesion. The cutaneous manifestation of the tertiary phase of syphilis is the formation of *gumma*. Gummas are rubbery, painless tumors that typically show up in areas of trauma secondary to the inflammation because of a deep granulomatous reaction. Gumma developing on organs can affect the function of the organ. The gummas eventually cause tissue destruction with central necrosis and an oozing kidney-shaped ulcer. The discharge from these ulcers is characteristically thick and stringy[5].

Investigations of syphilis include at least one treponemal antigen test and one non-treponemal antigen test. The most widely used and recommended non-treponemal antigen tests (also referred to as cardiolipin antigen or non-specific ones) are Venereal Disease Research Laboratory (VDRL) and Rapid PlasmaReagin

(RPR). Non-treponemal antigen test results should be given quantitatively (i.e. titres, for example, 1: 16 and 1: 32). It should be emphasized that the titres of non-treponemal antigen tests correlate with the disease activity. Non-treponemal test antibody titres should be also used to assess treatment response[6]. In our case, VDRL and TPHA were done and found to be positive.

Treponemal tests (otherwise referred to as specific ones) are the second type of diagnostic tests necessary for the diagnosis of syphilis. Besides 'classic' ones, which are widely used, such as *Treponema pallidum* haemagglutination test (TPHA), Fluorescent Treponemal Antibody Absorption test (FTA-ABS), *Treponema pallidum* Particle Agglutination test (TPPA), there are some new tests – i.e. immunoassays (Enzyme Immunoassays – EIAs). Most of EIAs detect total anti-treponemal antibodies (IgG and IgM). The sensitivity and specificity of these assays range between 64% and 95%[6].

The 2006 CDC STD Treatment Guidelines recommend the use of 2.4million units (MU) of BPG for the treatment of all persons with early syphilis. Doxycycline (100 mg orally twice daily for 14 days) remains the preferred alternate therapy in patients who are allergic to Penicillin. Azithromycin may have a role as an alternative regimen in instances of penicillin allergy when doxycycline administration is not feasible . Our case was treated with Oral Doxycycline twice a day for 14 days[7].

IV. Conclusion

Syphilis is one of the oldest recognized sexually transmitted infections and despite the availability of inexpensive and effective therapy the incidence is increasing in many part of the world since the year 2000. As this is a systemic disease having multiple oral manifestations, a committed dental clinician or oral physician has a greater responsibility for early prompt diagnosis and to prevent the consequences and mortality rate of the disease. Syphilis is a treatable disease with a significant potential for serious complications if not treated. A missed diagnosis can have serious implications for the patient. The dental surgeon or oral physician should be conscious that oral lesions could be the only evident clinical manifestation this common but complex disease. Clinicians should be aware of the various manifestations of the disease and the need to suspect it in the presence of oral lesions. It would be pertinent to mention that dental and medical practitioners should consider secondary syphilis in the differential diagnosis of white, ulcerative, popular, and nodular oral lesions, particularly in HIV-infected patients.

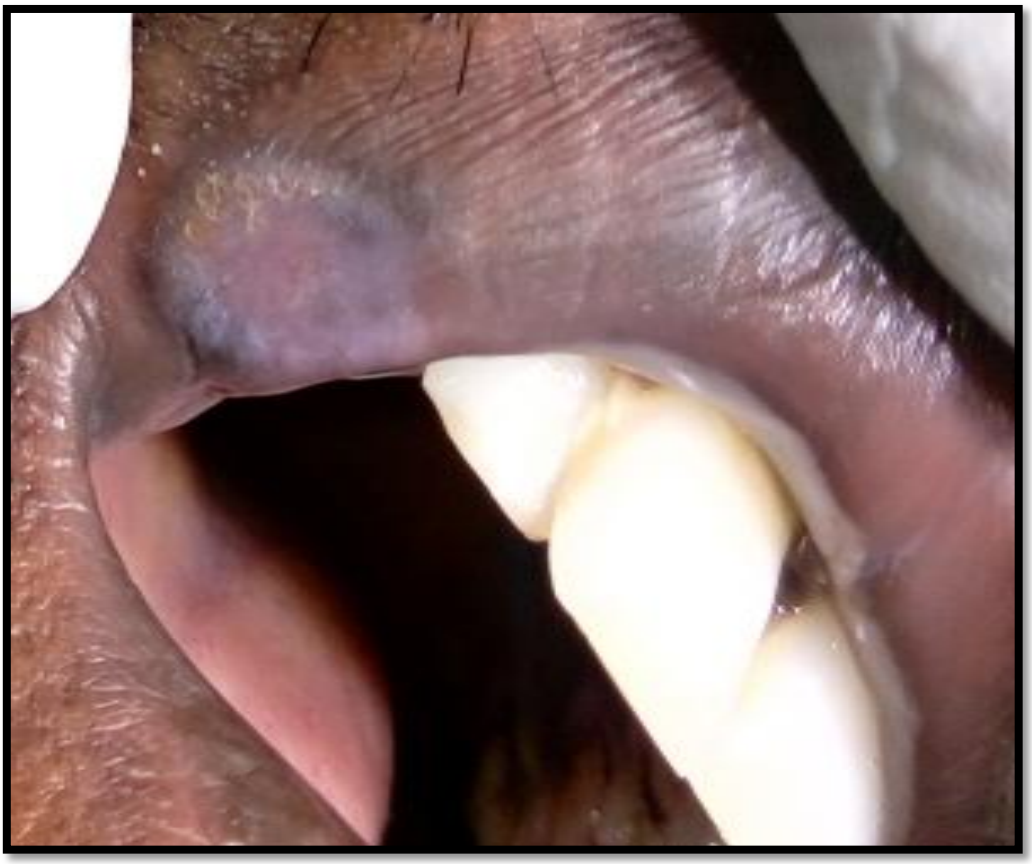

Figure 1. Macular type lesion present in right upper lip

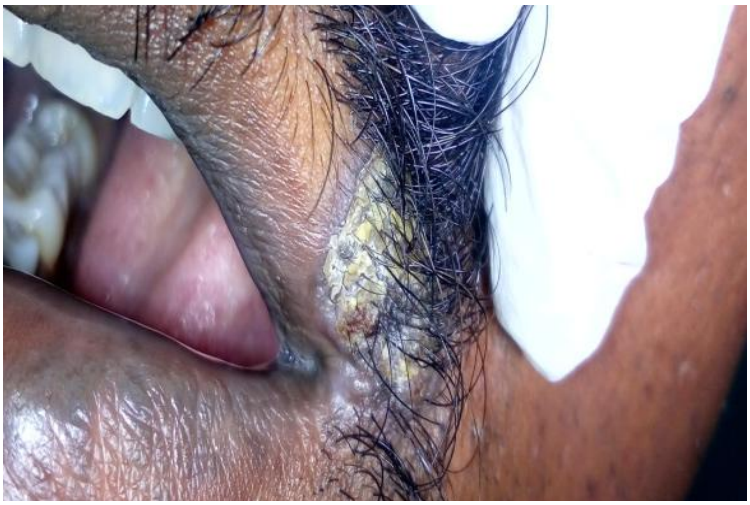

Figure 2. A plaque type lesion present in left upper lip

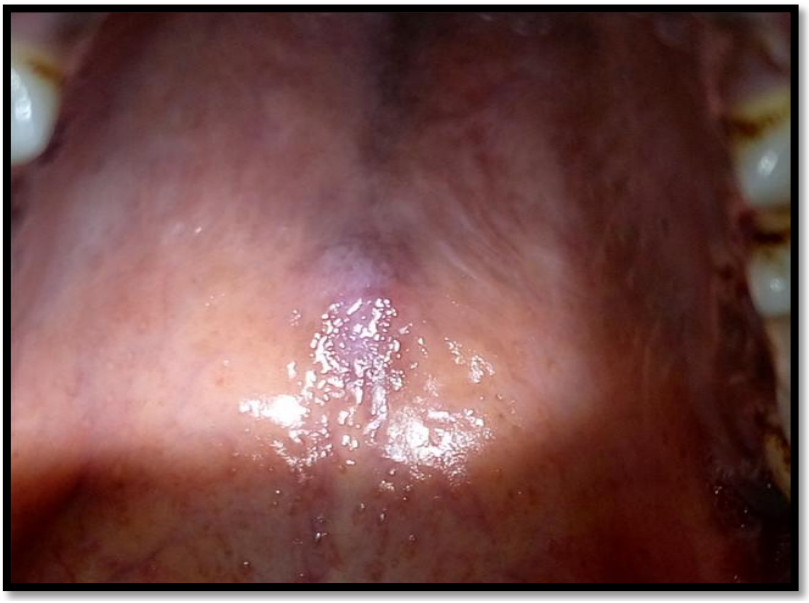

Figure 3. Mucous patch seen in the junction of hard and soft palate

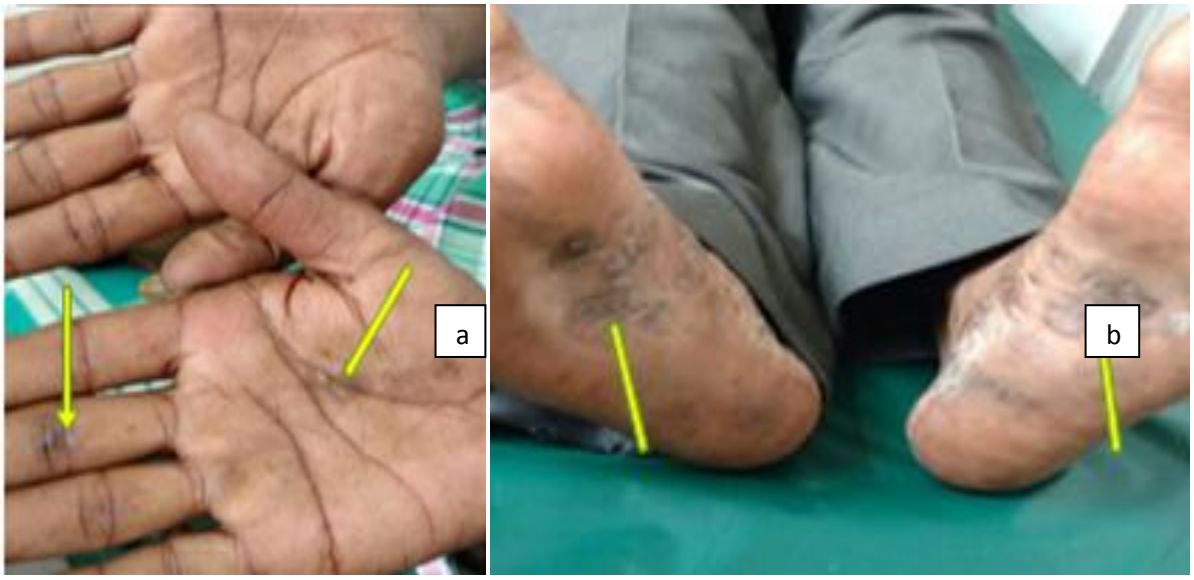

Figure 4a&b. Maculo-papular rashes seen in palms and soles

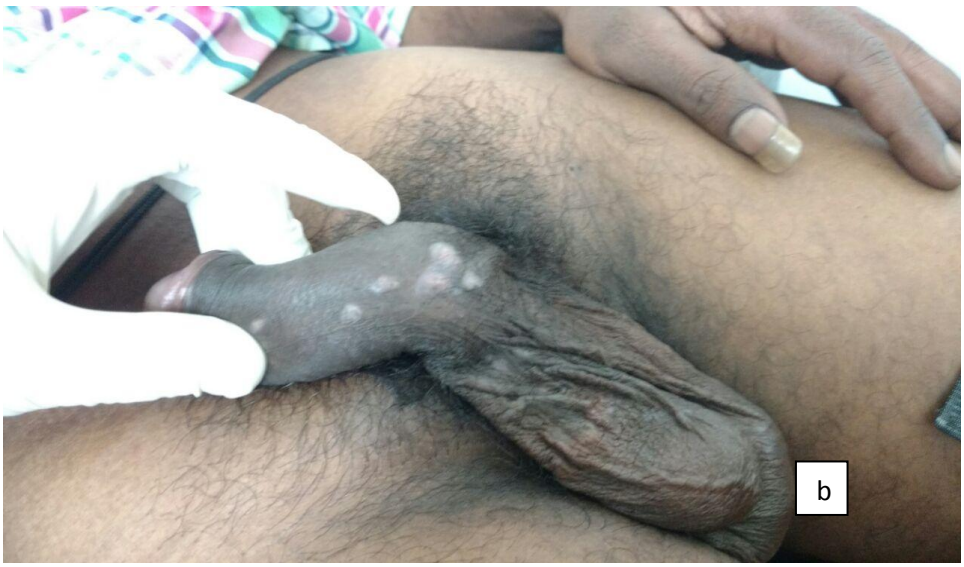

Figure 5a&b Condylomata lata seen in genital region

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