

## Urticiform Lesions as a Manifestation of Secondary Syphilis: Case Report

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### 1. Abstract

In recent years, syphilis has grown again with alarming numbers, not only in Brazil, but worldwide. In October 2016, the Ministry of Health recognized that the situation was getting out of hand and declared an epidemic.

Most cases are in the Southeast region (56%), the most urbanized and developed in the country. The disease that previously affected the poorest population, today affects all social classes [1].

Syphilis is caused by a bacterium, *Treponema pallidum*, and the group of people affected by it is mainly young adults, however, it is also present in the elderly and in pre-adolescents [1].

The authors report a case of manifestation of urticarial lesions in secondary syphilis.

### 2. Introduction

Syphilis is a disease that may have no symptoms or manifest in 3 stages. Its primary form usually presents as a single lesion, where the treponema is inoculated, painless, small, ulcerated and poorly secreting base, known as hard chancre.

After 10-90 days is the incubation period, the wound heals, even without treatment and follows the period known as secondary syphilis, when the hematogenous dissemination of *Treponema pallidum* occurs.

Mucous plaques: extensive lesions that usually affect the oral mucosa, usually painless and very infectious. Classically, secondary syphilis is manifested by a bilateral and symmetrical papular eruption, affecting extensive areas of the body and usually reaching the palmar and plantar regions.

Clear alopecia, which is characterized by small areas of hair loss, without scaling and without atrophy, located predominantly in the parietal regions, is also a manifestation of secondary syphilis.

The tertiary manifestation is later, after many years of the primary infection, the patients, in this phase, manifest lesions that involve several systems, such as skin and mucous membranes, cardiovascular system and nervous system. The characteristic of tertiary lesions is the formation of destructive granulomas [2].

### 3. Case Report

We report a case of a 39-year-old patient who sought medical care complaining of red, itchy spots spread throughout the body. The patient had been treated with an intravenous steroid and a first-generation antihistamine; and as the lesions did not improve, he was referred to the dermatology service.

Dermatological examination showed erythematous papules and plaques, not very pruritic, spread over the body, but sparing the palmoplantar region and face. The patient reported that the lesions lasted longer than 24 hours. The diagnostic hypothesis of vasculitic urticaria was raised and, then, serology for syphilis, HIV and blood count were collected. After 2 days, the patient reported that the pruritus had ceased, but the lesions continued. The HIV test was negative, but the serology for syphilis, the VDRL, was titrated at 1:350; confirming the diagnosis of secondary syphilis.

The patient was treated with Penicillin Benzathine 2,400,000 IU and after 15 days the lesions had completely disappeared (Figure 1).



Figure 1:

#### 4. Discussion

Primary syphilis is characterized by the appearance of a single lesion, where the treponema is inoculated, painless, small, ulcerated and poorly secreting base, known as hard chancre, which often goes unnoticed by the patient and heals even without treatment. Spontaneous regression usually occurs between 3 and 6 weeks [3].

After that, a latency period occurs, in which the disease can progress to the secondary phase or remain without lesions.

After the latency period, which can last from six to eight weeks, the disease can start again, being called secondary syphilis. The involvement will affect the skin and internal organs corresponding to the distribution of *T. pallidum* throughout the body.

On the skin, syphilitic lesions occur in bursts and symmetrically. They may present in the form of erythematous macules (syphilitic roseola) of short duration.

New outbreaks occur with erythematous-coppery papular lesions, rounded, with a flat surface, covered by discrete scales that are more intense on the periphery (Biett's collarette). The involvement of the palms and soles is very characteristic.

On the face, papules tend to cluster around the nose and mouth, simulating seborrheic dermatitis. In blacks, facial lesions form annular configurations and circinations (elegant syphilides). In the inguinocrural region, papules subjected to friction and moisture can become vegetative and macerated, being rich in treponemes and highly contagious.

In the oral mucosa, whitish vegetating lesions on an eroded base constitute the mucous plaques, also contagious. In some patients, diffuse alopecia is established, accentuated in the temporoparietal and occipital regions (clearing alopecia).

There may also be loss of eyelashes and the final portion of the eyebrows. More rarely, at this stage, pustular, follicular and lichenoid lesions are described. Secondary schooling is accompanied by generalized polyadenomegaly.

The general symptoms are discrete and uncharacteristic: malaise, asthenia, anorexia, low-grade fever, headache, meningism, arthralgias, myalgias, periostitis, pharyngitis, hoarseness, hepatosplenomegaly, nephrotic syndrome, glomerulonephritis, auditory neuro-

clit, iridocyclitis [3].

Tertiary syphilis can appear up to 30 years after the initial illness, which is rare, because syphilis is often treated by schedule with other antibiotics used during the individual's lifetime. The patient may present with inflammation and tissue destruction, cardiovascular manifestations, neurosyphilis and gums in several organs.

Neurosyphilis arises when the bacterium invades the nervous system, reaching the brain, meninges and spinal cord. This complication usually arises after many years of living with the bacteria without proper treatment.

The transmission of syphilis is mostly (95%) through sexual intercourse, with direct contact with the lesions (hard chancre). It can also be the vertical route, at any time during pregnancy, when the bacterium passes from the mother to the fetus through the placenta, leading to congenital syphilis and which can cause fetal malformations.

Another route of transmission is by sharing sharp objects between infected people. The risk of contagion ranges from 10-60% [2].

Treponemal tests are used to diagnose the disease, and will always be positive. The most used is FTA-Abs (Fluorescent Treponemal Antibody Absorption), but there is also TPHA (Treponema Pallidum Hemagglutination), EQL (Electrochemiluminescence), ELISA (EnzymeLinkedImmunsorbentAssay) and rapid (Electrochemiluminescence), the ELISA (Enzyme-Linked Immunosorbent Assay) and the rapid tests (immuno-chromatographic) [3].

Non-treponemal tests are performed in titrations and are also used to monitor the course of treatment. The most used is the VDRL (Venereal Disease Research Laboratory), and its measurement for follow-up should be done only 3 months after the start of treatment, time when it begins to decrease, and it indicates an adequate immune response to treatment when it shows a fall in the titer in two dilutions in up to six months for recent syphilis and two dilutions in up to 12 months for late syphilis. Other non-treponemal tests are: the RPR (Rapid Plasma Reagin) and the TRUST (ToluidinRedUnheatedSerum Test) [3].

It is recommended to start the investigation with a quick test and if the result is reactive, the VDRL should be done, if the result is

positive, it could also be an active infection or only a serological scar, and the scar shows the non-treponemic test at low levels. degrees. The VDRL is given as positive when it has a titer equal to or greater than 1/16, but lower titers such as 1/4 or 1/2 may indicate an active infection that needs treatment or a scar, therefore, it is necessary to follow the baseline value of the non-treponemic test to assess whether there has been a reinfection.

The recommended treatment is benzathine penicillin G; The dose used for primary, secondary and recent latent syphilis (less than one year of evolution) is penicillin G benzathine 2.4 million IU, intramuscular, single dose (1.2 million IU in each buttock), or the alternative treatment, doxycycline 100mg, orally, twice a day, for 15 days (except pregnant women), or ceftriaxone 1 g, intravenously or intramuscularly, once a day, for 8-10 days (in pregnant or non-pregnant women) [3]. with more than one year of evolution) or in tertiary syphilis, penicillin G benzathine 2.4 million IU, intramuscularly, weekly, for 3 weeks, with a total dose of 7.2 million IU, or the alternative treatment, doxycycline 100 mg, via oral, Twice a day, for 30 days (except pregnant women), or ceftriaxone 1 g, intravenously or intramuscularly, once a day, for 8-10 days (in pregnant or non-pregnant women) [3]. And finally, in neurosyphilis, treatment is done with crystalline penicillin 18-24 million IU, intravenously, million IU every 4 hours or by continuous infusion, for 14 days, or ceftriaxone 2 g, intravenously or intramuscularly, once a day, for 10-14 days [2].

## 5. Conclusion

Urticarial lesions are not common in secondary syphilis, however, as named by Sir William Osler as the “great mimic”, for presenting different clinical forms, we emphasize the importance of serology for syphilis in patients with a history of risk exposure. In addition to the need for a complete anamnesis in cases of urticaria, since, in this patient, the fact that the lesions were not very pruritic and lasted more than 24 hours, alerted the physician to an investigation of a specific cause for the urticarial lesions.

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