

## Case Study

**Secondary syphilis: tips for differential diagnosis in primary care**

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**ABSTRACT:** Syphilis is an infectious disease with a great significant resurgence in the past few years. This neglected disease is sometimes not recognized by doctors, specially the secondary form and its multiple presentations in the skin. The objective of this article is to highlight the differential diagnosis and appoint diagnostic tips in order to not dismiss syphilis diagnose. These five cases reported herein of secondary syphilis were handled in primary care units during an interdisciplinary care called matrix support. The matrix support is a new educational strategy that combines specialist doctors in primary care with the purpose not only to attend the patient but also to upgrade the family doctor's formation. This matrix support in dermatology increases diagnostic accuracy, helps to distinguish syphilis and pharmacodermia, fungal infection, pityriasis rosea, urticarial rash, psoriasis and other rashes. Then, improving its recognition, also contribute to a better disease control.

**INTRODUCTION**

Syphilis is an infectious disease caused by *Treponema pallidum* with well-known natural history and defined diagnosis and effective therapeutic strategy.<sup>[1]</sup> Although all this knowledge about the disease, we could observe a significant resurgence as an epidemic and serious public health problem during the last decade.<sup>[2]</sup> The HIV coinfection is a significant factor but the reinfection and the lack of prevention are other two neglected factors.<sup>[3]</sup> Moreover, the lack of practical knowledge to recognize the disease, once it was so well controlled in the past is a great factor that is not so identified or recognized. In the Family Health Strategy implemented in the city of Rio de Janeiro, it was possible to improve the detection of this neglected disease with the help of a new educational tool: the matrix support for Family Health doctors with emphasis on residents in Family Health and Dermatology. This tool is the connection between dermatologist and family doctors, when the former helps the formation of the latest, by discussing each case with dermatologic complain in the primary care units. We report 5 cases of secondary syphilis that were handled in primary care during this matrix support in dermatology. The objective is to highlight signs and symptoms that can help to distinguish syphilis and its differential diagnosis in order not to lose the diagnose in the first attendance.

**CASE 1**

A female patient, 19 years old, went to primary care attendance to treat her acne. In her physical exam, she presents pustules, open and closed comedones in her face, which corresponds to an inflammatory acne. She was treated with trimethoprim-sulfamethoxazole, orally administered, 3 times a day. After 8 days, she started with a cutaneous rash with palmar-plantar involvement. The first diagnosis was drug reaction but she did not recover when stopped medication and anti histamine drugs. During dermatological exam, attention

was draw to the rash itself, with reddish papules with fine scales over the lesions, and its extension to palms and plants (Fig1). This case corresponded to a secondary syphilis that presented the Jarisch-Herxheimer reaction after antibiotic use. This reaction, an exacerbation of the lesions, is more common after benzathine penicillin but can occur after trimethoprim-sulfamethoxazole, as this case. During the matrix support, when doctors realized it was secondary syphilis, they asked for VDRL and it was positive (1:32). The patient recovered completely after benzathine penicillin and all the other rapid tests for sexually transmitted disease were negative. She was kept in follow up with serial VDRL. Her partner was also treated.

Fig 1- Multiple patches disseminated in all body, including plantar and palmar region.

**CASE 2**

A 22 years old female patient, phototype VI, presents annular lesions in the neck, mammary regions and trunk. She attributes the lesions to a fungal infection because it itches. In her

physical exam, hyperchromic circular patches with peripheric scale. With the clinical hypotheses of secondary syphilis, she did rapid test and VDRL test that were positives (VDRL: 1:64). The lesions disappeared completely after benzathine penicillin use and VDRL was reducing during follow up. The rapid tests to other sexually transmitted diseases were negative. The annular morphology of the lesions, with slightly scaling, occurring in a darker phototype patient were the tips for syphilis clinical diagnosis. Among the differential diagnosis we can cite pityriasis rosea. The partners were not identified by the patient.

Fig 2- Multiple hyperchromic patches with peripheral scales located at breast



### CASE 3

A 23-year-old female patient presented multiple facial reddish papules and a diffuse macule papular rash covering her body. Carefully examination allowed identifying peripheral scales over the lesions, also knowing in dermatological semiology as Biett collarete (Fig 3). Palmar and plantar involvements were also noticed. The diagnosis could be confused as a case of pharmacodermia or pityriasis rosea, among others. It is very important to emphasize that usually pityriasis rosea does not affect the face and characteristically its lesions present a central yellowish scaling, not peripheral. More than that, patient had palmar and plantar lesions that are also uncommon for pityriasis rosea and pharmacodermia. At least, she did not have herald patch located in the trunk – the first mark of pityriasis rosea. All those differences were actually tips for the secondary syphilis diagnosis. After a VDRL positive (1:256), she was treated with benzathine penicillin and she recovered completely. Patient was kept in follow up with serial VDRL tests. Her partners were followed up by family doctors.

Fig 3- Multiple reddish papules in the face and papular rash in the body covered with discrete scales more intense in the periphery

### CASE 4

A 34-year-old female patient with reddish plaques and well-delimited edges, resembling urticarial-like plaques but with a little scale. Her first probable diagnosis were psoriasis or pharmacodermia. When discussed during matrix support with dermatologist, syphilis hypothesis came out, the rapid test was requested and it was positive and VDRL was also positive (1:64) but the other sexually transmitted rapid tests were negative. The tips for secondary syphilis diagnosis were: acute course of patches with peripheral scales. It is important to note that psoriasis is a pertinent differential diagnosis, especially in its acute guttate form; and pharmacodermia due to the clinical presentation. Her partner was treated too.

Fig 4- Reddish plaques and well-delimited edges in the trunk



### CASE 5

A 21 years old male patient presented with an itchy rash in the trunk and upper members, for about 10 days. In his dermatological exam reddish macule and papular with scales were noticed. VDRL positive test (1:256) confirmed secondary syphilis diagnosis. He was treated with benzathine penicillin and recovered completely. The take away home message of this case is that itchy is not an exclusion criterion to syphilis. Also, palmar and plantar regions involvement, although typical, is not mandatory. The most important differential diagnosis for this case is drug reaction. Patient was

also kept in follow up and VDRL titles declined. The other rapid tests for sexually transmitted disease were negative. His partner was treated as well.

Fig 5- Reddish lesions with scales in the trunk and upper members



- 3) Brasil. Ministério da Saúde. Secretaria de Vigilância em Saúde. Departamento de Vigilância Epidemiológica. *Guia de vigilância epidemiológica*. 7. ed. Brasília, DF: 2009; 816 p.
- 4) Maatouk S, Moutran R. History of Syphilis: Between Poetry and Medicine. *The Journal of Sexual Medicine*. 2014; 11:307–310.
- 5) Baughn RE, Musher DM. Secondary Syphilitic Lesions. *Clinical Microbiology Reviews*. 2005; 18(1):205-216.
- 6) Pastuszczak M, Wojas-Pelc A. Current standards for diagnosis and treatment of syphilis: selection of some practical issues, based on the European (IUSTI) and U.S. (CDC) guidelines. *Postepy Dermatologii i Alergologii*. 2013; 10(4): 203–210.

## DISCUSSION

Syphilis remains a public health problem and its significant resurgence is a real concern for Health Systems in all over the world. In Brazil, the screening in pregnancy is a well established protocol, with serial VDRL tests. The follow up during nine months allows an effective approach for the partners and the reinfection's cases by monitoring VDRL. In the other hand, acquired syphilis is more difficult to do follow up due to multiple factors. Feelings as shame and guilt and the lack of knowledge contribute to dismiss the follow up correctly in all sexually transmitted diseases. Thus, the Family Health Strategy in Primary Health Care is a great tool to improve syphilis detection and follow up. Moreover, because of the proximity of the patients and their family and the facility of access their house, the partner can be also treated and the chain of transmission can be broken. Longitudinally and a closed doctor-patient relation are great marks of this Family Health Strategy. In our practice, we noticed that the practical training promoted by dermatologic matrix support helped to improve the recognition of the disease. In the secondary form, cutaneous-mucous picture is quite variable, requiring a better knowledge of dermatological symptomatology to recognize the disease correctly.

## CONCLUSION

The matrix support in dermatology increases diagnostic accuracy, helps to distinguish from the others differential diagnosis and improves the outcomes of primary care, in order to contribute to better disease control.

## REFERENCES

- 1) Avelleira JCR, Bottino G. Sífilis: diagnóstico, tratamento e controle. *Anais Brasileiros de Dermatologia*. 2006; 81(2):111-126.
- 2) Mattei PL, Beachkorsky TM, Gilson RT, Wisco OJ. Syphilis: A Reemerging Infection. *American Family Physician*. 2012; 86(5): 433-440.