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PITYRIASIS ROSEA VERSUS SECONDARY SYPHILIS: CLINICAL SIMILARITIES AND DIFFERENCES IN DERMATOLOGICAL PRACTICE

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ABSTRACT

Introduction: *Pityriasis rosea and secondary syphilis can appear clinically similar but have different causes. An accurate diagnosis, supported by clinical evaluation and testing, is key to differentiating and properly treating them.*
Objective: *To perform a comparative analysis between secondary syphilis and pityriasis rosea.*
Methodology: *Twenty-four articles were reviewed, of which sixteen relevant references were selected after applying inclusion criteria. The sources used were Cochrane, PubMed, and Google Scholar, with search terms in multiple languages. The final bibliography addressed key aspects of secondary syphilis and pityriasis rosea, including a comparative analysis between the two diseases.*
Results: *Despite clinical similarities, careful examination and serological testing allow differentiation of pityriasis rosea from secondary syphilis, preventing diagnostic errors and improving clinical management.*
Conclusions: *Pityriasis rosea and secondary syphilis may appear similar, but an accurate diagnosis requires careful clinical evaluation and serological testing. Identifying their differences is crucial for proper management.*
KEYWORDS: *Syphilis, Pityriasis, Dermatosis, Skin.*

INTRODUCTION

Pityriasis rosea and secondary syphilis are two dermatoses that, despite their different etiologies, can present with similar clinical manifestations, making their differential diagnosis challenging. Pityriasis rosea is a self-limited cutaneous eruption that mainly affects adolescents and young adults, characterized by the appearance of a herald patch followed by lesions arranged in a "Christmas tree" pattern on the trunk and proximal extremities. On the other hand, secondary syphilis, a stage of Treponema pallidum infection, presents with cutaneous lesions that include macules, papules, and condylomata lata, and may be accompanied by systemic symptoms such as fever and lymphadenopathy(1,2).

Both conditions can affect individuals of various ages and backgrounds, highlighting the importance of an accurate diagnosis. The identification of specific clinical features, such as lesion distribution, presence of systemic symptoms, and histopathological findings, is essential to differentiate between these entities. Additionally, serological tests and skin biopsies may be crucial in atypical cases or when the clinical diagnosis is uncertain. This article aims to review and compare the clinical, diagnostic, and therapeutic characteristics of pityriasis rosea and secondary syphilis, providing guidance for their differentiation in clinical practice(3,4).

METHODOLOGY

This review analyzed a total of 24 articles, including reviews, original studies, clinical cases, and clinical trials. Of these, 16 bibliographic references were selected, excluding those works whose information did not meet the relevance criteria necessary for inclusion in the study. The sources consulted were Cochrane, PubMed, and Google Scholar; search terms used in Spanish, Portuguese, and English included: secondary syphilis, dermatosis, pityriasis rosea, and skin disorders. The selected bibliography covers aspects related to secondary syphilis and pityriasis rosea, including their etiology, epidemiology, clinical presentation, evaluation, diagnosis, differential diagnosis, and treatment. Additionally, a detailed comparative analysis between both pathologies was performed.

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DEVELOPMENT

The clinical differentiation between pityriasis rosea and secondary syphilis can pose a diagnostic challenge, particularly in early stages or atypical presentations. Both conditions share certain morphological characteristics and lesion distribution patterns, which may lead to confusion without a thorough clinical evaluation and patient history.

Table 1 summarizes the main clinical similarities and differences between pityriasis rosea and secondary syphilis, and was constructed based on a narrative review of the medical literature. This review included original articles, clinical reviews, and practice guidelines indexed in PubMed, SciELO, and Medline databases(5-9).

Table 1. Clinical Comparison Between Pityriasis Rosea and Secondary Syphilis.

Feature	Pityriasis rosea	Secondary syphilis
Etiology	Likely viral origin (human herpesvirus types 6 and 7)	*Treponema pallidum* (bacterial infection)
Typical age of onset	Adolescents and young adults (10–35 years)	Sexually active young adults
Transmission mode	Not contagious	Sexual transmission or direct contact with lesions
Initial lesion	Herald patch (solitary, oval, with peripheral collarette scaling)	Primary chancre may not be present at this stage
Secondary eruption	Multiple oval lesions with peripheral scaling	Generalized macules and papules, often symmetric
Distribution	Trunk and proximal limbs, "Christmas tree" pattern	Trunk, palms, soles, face, mucous membranes
Pruritus	Mild or absent	Generally absent
Systemic symptoms	Low-grade fever, malaise, mild pharyngitis (in some cases)	Fever, generalized lymphadenopathy, malaise, patchy alopecia, condyloma lata
Duration	Self-limited (6–8 weeks)	Weeks to months if untreated
Diagnosis	Clinical; VDRL may be ordered to rule out syphilis	Serology: VDRL/RPR and FTA-Abs positive
Treatment	Symptomatic: antihistamines, low-potency topical corticosteroids	Benzathine penicillin (first-line treatment)

Source: Created by the author based on Chuh AAT et al.[5], French P.[6], Mikhaylov D & Nussbaum L.[7], Workowski KA et al.[8], and Hicks CB & Clement M.[9].

The following sections will individually address the clinical, etiological, and diagnostic characteristics of pityriasis rosea and secondary syphilis. Subsequently, a detailed comparative analysis will be presented to highlight the most relevant differences and similarities between the two conditions, aiming to facilitate their differential diagnosis in clinical practice.

Etiology

Pityriasis Rosea

It is associated with the reactivation of human herpesvirus types 6 and 7 (HHV-6 and HHV-7), although its exact etiology is not fully established. It is considered a self-limiting inflammatory disease with a probable viral origin(10,11).

Secondary Syphilis

It is caused by the hematogenous dissemination of *Treponema pallidum*, a spirochete transmitted through sexual contact. Secondary syphilis occurs weeks after the primary infection if left untreated(12,13).



Figure 1. The herald patch, also known as the mother plaque, is the first lesion that appears in pityriasis rosea, a common skin condition. Macule located on the posterior part of the thigh.

Source: The Authors.

Epidemiology

Pityriasis rosea

It primarily affects children, adolescents, and young adults between the ages of 10 and 35. There is a slight female predominance, and it is more frequently observed in spring and autumn(14).

Secondary Syphilis

It is more common among sexually active young adults, particularly in men who have sex with men. Its incidence has increased globally in recent decades(12,15).

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Clinical Presentation

Pityriasis Rosea

It begins with a "herald patch," followed by multiple oval macules and papules distributed on the trunk and proximal extremities in a "Christmas tree" pattern. Pruritus may be present(11).

Secondary Syphilis

It presents with a symmetric maculopapular skin rash, often involving the palms and soles, along with flat condylomas, mucous lesions, generalized lymphadenopathy, fever, malaise, and patchy alopecia(13).

Evaluation

Pityriasis Rosea

Diagnosis is usually clinical. In atypical cases, a complete dermatological examination is necessary, and a skin biopsy may be considered if diagnostic uncertainty exists(16).

Secondary Syphilis

A full physical examination is required, including inspection of mucous membranes, genitals, and anal region. Due to the high contagion risk, lesions should be managed with precautions(12).

Diagnosis

Pityriasis Rosea

It is clinical in most cases. There are no specific diagnostic tests. In doubtful cases, a biopsy or exclusion of other dermatoses may be used(10).

Secondary Syphilis

Confirmed through serological tests: VDRL or RPR (non-treponemal) and FTA-ABS or TPHA (treponemal). PCR or dark-field microscopy may also be used(12).

Differential Diagnosis

Pityriasis Rosea

Secondary syphilis, guttate psoriasis, tinea corporis, seborrheic dermatitis, drug eruptions(14).

Secondary Syphilis

Pityriasis rosea, viral exanthems, psoriasis, drug reactions, lichen planus, Behçet's disease(13).

Treatment

Pityriasis Rosea

It is a self-limiting condition that resolves within 6 to 8 weeks. Treatment is symptomatic: antihistamines, topical corticosteroids, or antivirals such as acyclovir in selected cases(10).

Secondary Syphilis

Intramuscular benzathine penicillin in a single dose is the treatment of choice. In allergic patients, doxycycline or ceftriaxone may be used. Serological follow-up is essential(8,12).

Figure 2. Common, generally benign and self-limited skin rash that causes pink or reddish patches on the skin, in a patient with suspected diagnosis of pityriasis rosea. Same patient as in Figure 1, after 1 week of progression.



Source: The Authors.

Comparative Analysis.

Pityriasis rosea and secondary syphilis are two dermatological conditions that, despite having different etiologies, may present significant clinical overlap. While pityriasis rosea is associated with the reactivation of herpesviruses (HHV-6 and HHV-7) and follows a self-limiting course, secondary syphilis results from the hematogenous spread of Treponema pallidum, a sexually transmitted infection that requires antibiotic treatment. Both diseases share clinical features such as widespread exanthems and lesions on the trunk, which can make differential diagnosis challenging, especially in clinical settings without clear patient history. However, a thorough evaluation of etiology, clinical presentation, and diagnostic methods reveals key differences that allow for accurate identification and appropriate treatment.

Similarities

Both conditions may present with symmetric exanthems involving the trunk and extremities, sometimes accompanied by pruritus. They commonly affect young adults, and their initial diagnosis is often based on clinical assessment. In atypical cases, skin biopsies or additional diagnostic tests may be required. Moreover, pityriasis rosea and secondary syphilis share similar differential diagnoses, including psoriasis, tinea corporis, and drug-induced eruptions.

Differences

The main difference lies in their etiology: pityriasis rosea is likely viral and self-limited, whereas secondary syphilis is infectious and requires antibiotic therapy. In terms of clinical presentation, pityriasis rosea begins with a herald patch followed by a "Christmas tree" pattern of lesions, while secondary syphilis shows more diverse mucocutaneous lesions, including involvement of palms, soles, flat condylomas, and patchy alopecia. Diagnostic evaluation for secondary syphilis relies on specific serologic tests, while pityriasis rosea is mainly diagnosed clinically. Furthermore, treatment for pityriasis is symptomatic, unlike syphilis, which demands bacterial eradication.

Findings

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The comparative analysis shows that despite clinical similarities that may lead to misdiagnosis, well-defined criteria enable differentiation when a thorough assessment is conducted. Systematic inclusion of serologic testing and careful attention to patient history are essential to avoid diagnostic errors, especially in cases with atypical cutaneous presentations. This study highlights the importance of including both conditions in the differential diagnosis of generalized exanthems and emphasizes the need for a structured clinical approach for accurate identification and management.

Discussion

The clinical differentiation between pityriasis rosea and secondary syphilis remains a relevant diagnostic challenge, particularly in the early stages or in cases with atypical presentations. Although these two dermatoses have distinct etiologies—viral reactivation in pityriasis rosea versus bacterial infection in secondary syphilis—their clinical manifestations can significantly overlap. Both conditions can present with widespread exanthematous eruptions, typically involving the trunk and extremities, and may be accompanied by nonspecific symptoms such as malaise or fever. These similarities necessitate a careful clinical evaluation, including a detailed patient history, to prevent misdiagnosis.

Despite these overlaps, important distinguishing features exist. The presence of a herald patch and the classic "Christmas tree" distribution favors pityriasis rosea, whereas involvement of the palms, soles, mucous membranes, and systemic symptoms such as generalized lymphadenopathy or condyloma lata suggest secondary syphilis. Furthermore, while pityriasis rosea is a self-limiting and non-contagious condition, secondary syphilis is sexually transmitted and requires prompt antibiotic treatment to prevent progression and transmission. Diagnostic confirmation through serologic testing is essential in suspected syphilis, whereas the diagnosis of pityriasis rosea remains largely clinical.

The table included in this review (Table 1) summarizes key clinical differences and similarities between the two diseases, as extracted from relevant literature. It emphasizes how the combination of lesion morphology, distribution, systemic involvement, and appropriate laboratory testing can guide clinicians toward an accurate diagnosis and effective management strategy.

CONCLUSIONS

In summary, although pityriasis rosea and secondary syphilis can present with overlapping clinical features, their correct differentiation is critical for patient management and public health. A thorough clinical examination, informed by a strong understanding of each disease's etiology, epidemiology, and diagnostic approach, is essential. The integration of serological testing for syphilis in cases of diagnostic uncertainty can prevent misdiagnosis and ensure timely treatment. Enhanced awareness and systematic assessment can support clinicians in accurately distinguishing between these two conditions, ultimately improving patient outcomes.

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Conflict of Interest Statement

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