ISSN 2307-8960 (online)

World Journal of *Clinical Cases*

Thrice Monthly Volume 13 Number 18 June 26, 2025

Published by Baishideng Publishing Group Inc

World Journal of Clinical Cases

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Thrice Monthly Volume 13 Number 18 June 26, 2025

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ABOUT COVER

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RESPONSIBLE EDITORS FOR THIS ISSUE

NAME OF JOURNAL
World Journal of Clinical Cases

ISSN
ISSN 2307-8960 (online)

LAUNCH DATE
April 16, 2013

FREQUENCY
Thrice Monthly

EDITORS-IN-CHIEF
Bao-Gan Peng, Salim Surani

EDITORIAL BOARD MEMBERS
https://www.wjgnet.com/2307-8960/editorialboard.htm

PUBLICATION DATE
June 26, 2025

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World Journal of Clinical Cases

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World J Clin Cases 2025 June 26; 13(18): 102194

DOI: 10.12998/wjcc.v13.i18.102194

ISSN 2307-8960 (online)

CASE REPORT

Misdiagnosis of psoriatic arthritis in a patient with paronychia confirmed by dermatological examination: A case report

Angelo Nigro

Specialty type: Medicine, research and experimental

Provenance and peer review: Unsolicited article; Externally peer reviewed.

Peer-review model: Single blind

Peer-review report's classification

Scientific Quality: Grade D

Novelty: Grade C

Creativity or Innovation: Grade C

Scientific Significance: Grade C

P-Reviewer: Zhou C

Received: October 11, 2024

Revised: December 11, 2024

Accepted: February 18, 2025

Published online: June 26, 2025

Processing time: 138 Days and 21.7 Hours

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Abstract

BACKGROUND

This case highlights the importance of a multidisciplinary approach in differentiating localized infections from systemic inflammatory diseases like psoriatic arthritis. Nail psoriasis can mimic conditions like paronychia, complicating diagnosis. We wrote this report to emphasize the need for clinical vigilance when interpreting imaging findings, especially in patients with a family history of psoriasis. Misdiagnosis can lead to unnecessary systemic treatments, underscoring the significance of dermatological input in achieving accurate diagnoses.

CASE SUMMARY

A 56-year-old woman presented with redness and swelling of multiple fingertips. Her family history of psoriasis raised suspicion of psoriatic arthritis. Two rheumatologists diagnosed psoriatic arthritis based on ultrasound findings of enthesitis with a positive Doppler signal and recommended methotrexate. However, she was reluctant to initiate therapy due to potential side effects. At our Rheumatology Center, paronychia was suspected, and laboratory tests excluded systemic inflammatory arthritis. Dermatological examination confirmed paronychia, and treatment with fluconazole and ceftriaxone was initiated to address suspected mixed bacterial and fungal infections. Imaging studies, including hand and wrist X-rays, showed no erosions or other signs of psoriatic arthritis. The patient responded well to antimicrobial therapy, with resolution of symptoms. This case highlights the need for thorough clinical evaluation, careful interpretation of imaging findings, and collaboration between rheumatologists and dermatologists to avoid misdiagnosis and inappropriate treatment.

CONCLUSION

This case underscores the need for thorough clinical evaluation and caution in interpreting nonspecific imaging findings, especially in patients with a family history of psoriasis. While familial predisposition may raise suspicion for psoriatic arthritis, it is essential to integrate laboratory data, imaging studies, and clinical

presentation, including response to targeted antimicrobial therapy. A multidisciplinary approach, involving both rheumatologists and dermatologists, is crucial to preventing misdiagnosis, ensuring appropriate treatment, and avoiding the potential harms of unwarranted therapies.

Key Words: Psoriatic arthritis; Paronychia; Misdiagnosis; Multidisciplinary approach; Case report

Core Tip: This case report emphasizes the importance of a multidisciplinary approach in distinguishing localized conditions, such as paronychia, from systemic inflammatory diseases like psoriatic arthritis. Misdiagnosis based on imaging findings, such as enthesitis with positive Doppler signal, can lead to unnecessary systemic treatments with potential adverse effects. A comprehensive clinical evaluation, including dermatological expertise, revealed paronychia as the underlying condition in a patient initially misdiagnosed with psoriatic arthritis. Timely antimicrobial therapy resolved the symptoms, highlighting the critical role of integrating clinical, imaging, and laboratory findings to avoid diagnostic errors and optimize patient outcomes.

Citation: Nigro A. Misdiagnosis of psoriatic arthritis in a patient with paronychia confirmed by dermatological examination: A case report. *World J Clin Cases* 2025; 13(18): 102194
URL: https://www.wjgnet.com/2307-8960/full/v13/i18/102194.htm
DOI: https://dx.doi.org/10.12998/wjcc.v13.i18.102194

INTRODUCTION

Accurate diagnosis is essential for appropriate treatment, especially when systemic diseases like psoriatic arthritis are suspected[1]. Psoriasis can involve the nails and, in some cases, present features that resemble paronychia. Recent literature suggests that nail psoriasis may mimic inflammatory conditions of the nail bed[2]. Moreover, paronychia can occur as an isolated condition or as a manifestation of underlying systemic diseases, adverse drug reactions, or chemical irritation[3]. We present the case of a 56-year-old woman with a family history of psoriasis, who was initially misdiagnosed with psoriatic arthritis. This case emphasizes the complexity of the differential diagnosis when familial predisposition to psoriasis is present.

CASE PRESENTATION

Chief complaints

The patient, a 56-year-old woman, presented with redness and swelling of multiple fingertips involving several digits (Figure 1).

History of present illness

The symptoms had been present for weeks, prompting consultations with two rheumatologists. Based on her family history of psoriasis and ultrasound findings suggestive of enthesitis with positive Doppler signals, she was diagnosed with psoriatic arthritis and prescribed methotrexate, which she declined due to concerns about side effects.

History of past illness

Her medical history was unremarkable, with no prior systemic inflammatory diseases, significant infections, or chronic illnesses.

Personal and family history

Her father had a history of psoriasis, raising suspicion for psoriatic arthritis.

Physical examination

Examination revealed erythema and swelling localized to the fingertips, with no other psoriatic skin lesions or arthritic signs beyond the digital involvement.

Laboratory examinations

Blood tests, including inflammatory markers, were normal, excluding systemic inflammatory arthritis. HLA-B27 testing was not performed.

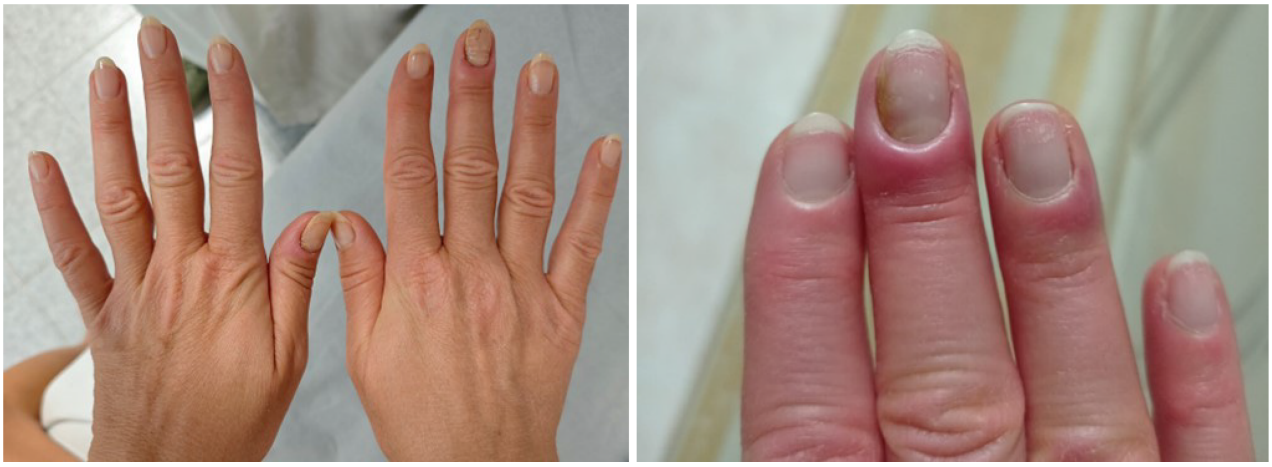

Figure 1 The photos show redness, nail alterations and swelling in the periungual region, particularly of the left hand's first finger and the right hand's third and fourth fingers.

Imaging examinations

Hand and wrist X-rays showed no erosions or features typical of psoriatic arthritis. However, an ultrasound examination reported enthesitis with positive Doppler signals (Figure 2), a finding commonly associated with psoriatic arthritis but also seen in other conditions[3,4].

FINAL DIAGNOSIS

The final diagnosis is paronychia, confirmed by dermatological examination.

TREATMENT

The patient was treated with fluconazole and ceftriaxone to address suspected bacterial and fungal pathogens.

OUTCOME AND FOLLOW-UP

The patient showed significant improvement, with resolution of symptoms after antimicrobial therapy.

DISCUSSION

This case highlights the importance of a cautious and comprehensive diagnostic approach. While a family history of psoriasis increases the index of suspicion for psoriatic arthritis, it is crucial to consider other diagnostic elements such as the CASPAR criteria for psoriatic arthritis, laboratory findings, and the presence or absence of characteristic skin or nail psoriatic lesions. The absence of radiographic changes, systemic inflammatory markers, and progression of joint involvement helped rule out psoriatic arthritis.

Paronychia can be due to bacterial, fungal, or mixed infections and may also result from underlying conditions such as diabetes, adverse drug reactions, or psoriasis. In cases of multifinger involvement, as seen here, one should carefully consider systemic factors. Despite the family history of psoriasis, our patient's presentation and laboratory findings did not support psoriatic arthritis. Instead, the clinical and therapeutic response strongly pointed towards an infectious etiology.

The empirical use of fluconazole alongside ceftriaxone was guided by dermatological consultation. Some cases of persistent paronychia may involve fungal colonization, especially when multiple digits are affected and the response to standard antibacterial treatment is uncertain. While fluconazole is typically reserved for confirmed fungal infections, it was chosen here to address the possibility of a fungal component. This approach led to rapid improvement, reinforcing the diagnosis of an infectious rather than inflammatory arthritic process.

Ultimately, a multidisciplinary approach involving rheumatologists and dermatologists is key to distinguishing between psoriatic arthritis and mimickers like paronychia[5] By carefully evaluating clinical, laboratory, and imaging findings, and considering underlying conditions that could lead to multifocal paronychia, clinicians can avoid misdiagnosis and unnecessary exposure to immunosuppressive therapy.

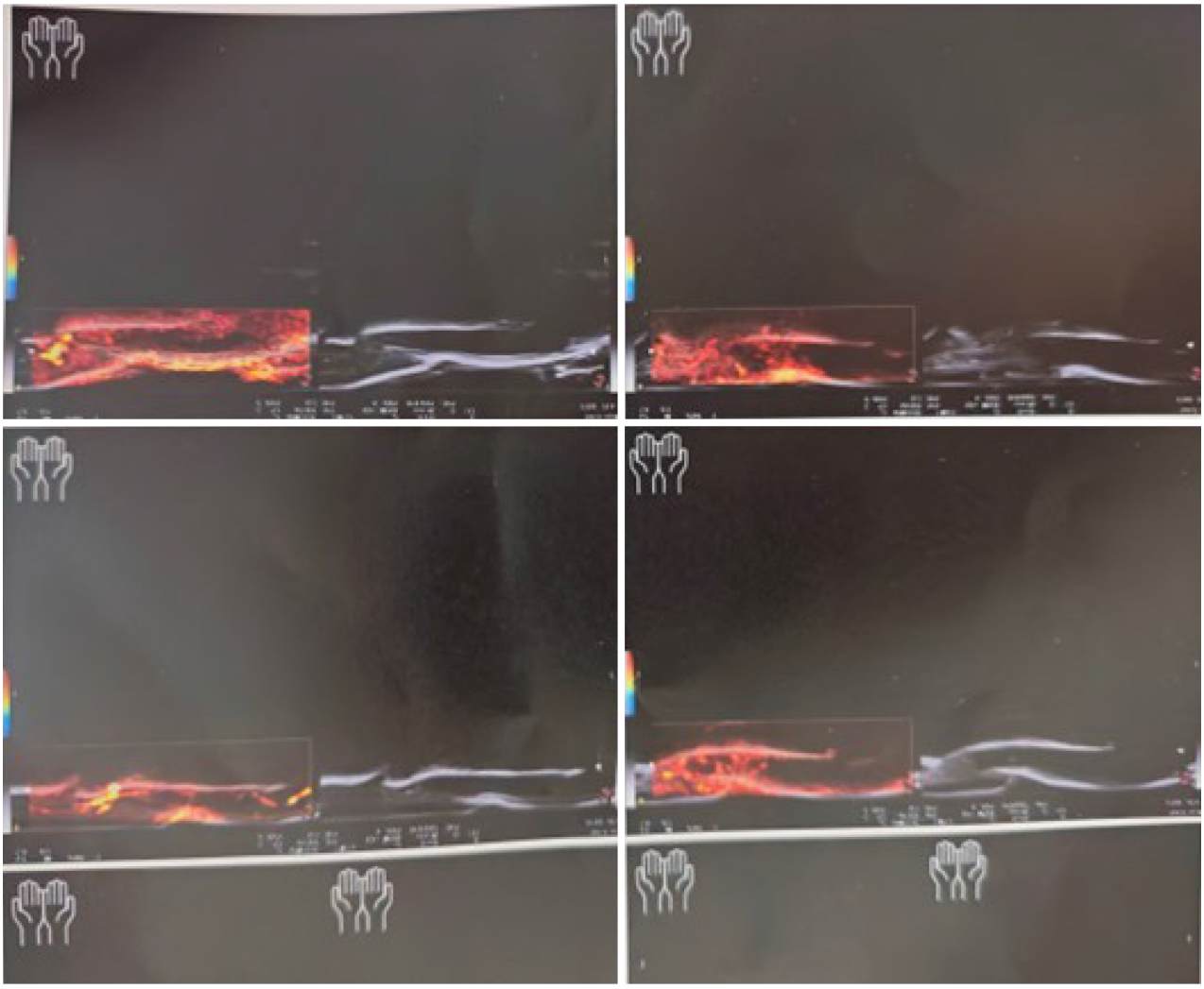

Figure 2 Ultrasound image with positive Doppler signal at the nail entheses of the left hand's third and fourth fingers.

CONCLUSION

This case underscores the need for thorough clinical evaluation and caution in interpreting nonspecific imaging findings, especially in patients with a family history of psoriasis. While familial predisposition may raise suspicion for psoriatic arthritis, it is essential to integrate laboratory data, imaging studies, and clinical presentation, including response to targeted antimicrobial therapy. A multidisciplinary approach, involving both rheumatologists and dermatologists, is crucial to preventing misdiagnosis, ensuring appropriate treatment, and avoiding the potential harms of unwarranted therapies.

FOOTNOTES

Author contributions: Nigro A is the sole author of this manuscript. He was responsible for the conception, design, analysis, and interpretation of the data. He also drafted and critically revised the manuscript, ensuring the accuracy and integrity of all aspects of the work.

Informed consent statement: Written informed consent was obtained from the patient (or their legal guardian, if applicable) for the publication of this case report, including all accompanying images and clinical information. Every effort was made to ensure the patient's anonymity and confidentiality.

Conflict-of-interest statement: The author, Angelo Nigro, declares no conflicts of interest related to the publication of this manuscript. No financial, personal, or professional relationships that could be perceived to influence the content of this work exist.

CARE Checklist (2016) statement: The authors have read the CARE Checklist (2016), and the manuscript was prepared and revised according to the CARE Checklist (2016).

Country of origin: Italy

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S-Editor: Lin C
L-Editor: A
P-Editor: Zhang L

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