

## Digital Necrosis in Rheumatoid Arthritis

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### Abstract

We report the case of a patient with a 30-year history of rheumatoid arthritis, in whom the onset of necrotizing vasculitis represented a major turning point in the disease course. The appearance of necrotic skin lesions affecting the fifth right toe prompted consideration of several differential diagnoses. A diagnosis of necrotizing vasculitis secondary to rheumatoid arthritis was ultimately established based on skin biopsy findings, after other causes were ruled out through a negative etiological workup. Management initially involved amputation of the fifth right toe due to the severe and necrotic nature of the vascular involvement, followed by monthly cyclophosphamide infusions, which remain the reference treatment for severe forms of rheumatoid vasculitis. Clinical evolution was favorable after a six-month follow-up.

**Keywords:** Rheumatoid arthritis; Necrotizing vasculitis; Cyclophosphamide.

## Introduction

Rheumatoid vasculitis (RV) is a rare but serious extra-articular manifestation of rheumatoid arthritis (RA) [1], affecting approximately 1–5% of patients, mainly those with long-standing, severe, and seropositive disease [2]. Although its prevalence appears to be decreasing due to biologic therapies and improved disease control, it remains associated with significant morbidity and mortality [3]. It results from a necrotizing vasculitis involving small- and medium-sized vessels and may lead to cutaneous, neurological, or systemic manifestations [4].

## Case Report

We report the case of a 57-year-old woman followed for long-standing seropositive, deforming and destructive rheumatoid arthritis (ACR/EULAR 2010 criteria), refractory to conventional disease-modifying antirheumatic drugs and anti-TNF therapy (adalimumab). She was receiving anti-CD20 therapy, and her rheumatoid arthritis was moderately active (DAS28crp=3.22). She presented with petechial purpura of the lower limbs associated with necrosis of the right fifth toe (Figure 1) and stocking-type paresthesia. Computed tomography angiography of the lower limbs showed no abnormalities. Skin biopsy revealed necrotizing vasculitis. The etiological work-up, including infectious screening, serum protein electrophoresis and cryoglobulinemia, was unremarkable, and thoraco-abdomino-pelvic CT scan showed no abnormalities. These findings allowed exclusion of infectious and paraneoplastic causes, leading to the diagnosis of necrotizing vasculitis secondary to rheumatoid arthritis. Management consisted of corticosteroid therapy at a dose of 1 mg/kg/day combined with monthly cyclophosphamide infusions at a dose of 700 mg/m<sup>2</sup> for six months. Amputation of the right fifth toe was performed. The clinical course was marked by progressive healing of the cutaneous lesions.



**Figure 1:** Digital Necrosis of the Right Fifth Toe in Our Patient

## Discussion

Rheumatoid vasculitis is a rare but severe extra-articular manifestation of long-standing, severe, seropositive rheumatoid arthritis [1]. It is characterized by necrotizing vasculitis involving small- and medium-sized vessels. The most common clinical manifestations include cutaneous vasculitis and mononeuritis multiplex. Diagnosis relies on a combination of clinical, biological and, most importantly, histological findings. Skin biopsy typically shows destruction of the vascular wall with inflammatory infiltrates and fibrinoid necrosis [2]. Differential diagnoses include infectious vasculitis, drug-induced vasculitis and other au-

to immune diseases. Treatment depends on disease severity. Cyclophosphamide remains the reference immunosuppressive therapy in severe forms [3]. Biologic therapies, particularly anti-TNF agents and anti-CD20 therapy, represent effective alternatives in refractory cases [4].

## **Conclusion**

Rheumatoid vasculitis remains a rare but severe complication of long-standing rheumatoid arthritis. Early recognition and prompt immunosuppressive therapy are essential to prevent irreversible damage. This case highlights the importance of considering vasculitis in patients presenting with necrotic lesions and advanced disease.

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