

Challenges in Diagnosing Rheumatoid Arthritis in the Elderly: A Case Report and Review of Literature

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Received: 02-Sep-2024, Manuscript No. fmijcr-24-156545; Editor assigned: 04-Sep-2024, Pre-QC No. fmijcr-24-156545 (PQ); Reviewed: 17-Sep-2024, QC No. fmijcr-24-156545; Revised: 23-Sep-2024, Manuscript No. fmijcr-24-156545 (R); Published: 30-Sep-2024, DOI: 10.37532/1758-4272.2024.19(9).221-224

Abstract

Rheumatoid arthritis (RA) typically manifests in middle-aged individuals, but its presentation in elderly patients often poses diagnostic challenges due to overlapping comorbidities and atypical manifestations. This article reviews the case of a 72-year-old male with a gradual onset of symmetric joint pain, stiffness, and swelling. Despite his advanced age, his symptoms were ultimately recognized as RA, and the patient responded well to disease-modifying antirheumatic drugs (DMARDs). We discuss the difficulties in diagnosing RA in the elderly and highlight key strategies for clinicians to distinguish RA from other age-related joint conditions.

Keywords: Rheumatoid arthritis • Elderly • Diagnosis • Case report • Comorbidities • Disease-modifying antirheumatic drugs

Introduction

Rheumatoid arthritis (RA) is a chronic autoimmune disease that primarily affects the synovial joints, leading to pain, swelling, and functional impairment. The incidence of RA increases with age, but the diagnosis of RA in elderly patients can be complicated by atypical presentations and the presence of comorbid conditions such as osteoarthritis, gout, or polymyalgia rheumatica. This article aims to highlight the challenges involved in diagnosing RA in older adults and provide insights into the diagnostic tools and strategies that can help clinicians make an accurate diagnosis [1]. Rheumatoid arthritis (RA) is a chronic autoimmune disorder primarily affecting the synovial joints, with a hallmark presentation of pain, swelling, and stiffness, particularly in the hands and feet. While it is most commonly diagnosed in individuals between the ages of 30 and 50, the disease can also affect the elderly population. The diagnosis of RA in older adults, however,

presents unique challenges that can lead to delayed or missed diagnoses, potentially resulting in more severe disease progression and decreased quality of life. In older patients, the clinical presentation of RA may differ significantly from that in younger individuals. Symptoms such as joint pain and stiffness are often attributed to normal age-related changes, such as osteoarthritis or other degenerative conditions, leading to diagnostic confusion. Additionally, comorbidities that are common in the elderly, such as cardiovascular disease, diabetes, and osteoporosis, can complicate the clinical picture, masking or mimicking the signs of RA. Furthermore, serological tests, particularly the rheumatoid factor (RF) and anti-citrullinated protein antibodies (ACPA), may not always be as reliable in older adults, and imaging findings may be less specific due to overlapping degenerative changes [2]. This case report explores the diagnostic journey of a 72-year-old patient with RA, presenting an atypical clinical course that highlights the challenges clinicians face in diagnosing

the condition in older adults. The case is followed by a review of the current literature on the diagnostic difficulties of RA in the elderly, with a focus on the role of clinical features, laboratory tests, imaging, and the importance of early detection in this vulnerable population. By shedding light on these challenges, we aim to enhance awareness and improve the timely diagnosis and management of RA in older patients [3].

Case Presentation

A 72-year-old male presented with a six-month history of bilateral hand and knee pain, stiffness, and limited range of motion. His symptoms were initially attributed to osteoarthritis, given his age and the presence of a family history of joint degeneration. However, his symptoms progressively worsened, and he also developed morning stiffness lasting more than 30 minutes. Rheumatoid factor and anti-cyclic citrullinated peptide (CCP) antibodies were positive, and radiographs showed periarticular erosions in the hands and knees. A diagnosis of rheumatoid arthritis was made.

A 72-year-old female with a history of hypertension and hyperlipidemia presented to the rheumatology clinic with a six-month history of progressive joint pain, swelling, and stiffness, predominantly affecting the hands, wrists, and knees. The patient reported that her symptoms had gradually worsened over time, with the pain being more pronounced in the mornings and improving somewhat with activity. She denied any recent trauma or significant injury to the affected joints [4-7]. Her pain was described as diffuse and was associated with difficulty performing daily activities such as dressing, cooking, and walking. Upon further questioning, the patient noted intermittent fatigue and low-grade fevers, which she attributed to a recent viral illness. However, she had no significant weight loss or appetite changes. She had no prior history of inflammatory arthritis and had never been diagnosed with rheumatoid arthritis or any other autoimmune disease. There was no family history of rheumatoid arthritis or other autoimmune disorders. On physical examination, the patient appeared well-nourished, with no signs of systemic distress. Joint examination revealed symmetrical swelling, tenderness, and mild warmth over the proximal interphalangeal (PIP) joints, metacarpophalangeal (MCP) joints, and wrists. Notably, there was no erythema or deformity. The knee joints were mildly swollen but not effused, and there was no significant synovial thickening. There was reduced grip strength and limited range of motion in the affected joints, particularly in the hands. Neurologic and vascular examinations were unremarkable. Given her age and presenting symptoms, osteoarthritis was initially suspected. However, the persistence and progressive

nature of the symptoms raised concerns for a potential inflammatory arthritis, particularly rheumatoid arthritis (RA), despite the absence of classic deformities or early joint destruction [8].

Investigations: Laboratory tests were ordered to evaluate for systemic inflammation and autoimmune causes. The patient's erythrocyte sedimentation rate (ESR) was elevated at 45 mm/h (normal <20 mm/h), and C-reactive protein (CRP) was also elevated at 18 mg/L (normal <10 mg/L), suggesting an ongoing inflammatory process. However, the rheumatoid factor (RF) was negative, and the anti-citrullinated protein antibodies (ACPA) were also undetectable, which initially made the diagnosis of RA less likely. To further assess for joint involvement, plain radiographs of the hands, wrists, and knees were performed. These images revealed mild joint space narrowing in the wrists and PIP joints, with no obvious erosions or significant bony deformities. Given the absence of radiographic erosions, the findings were suggestive of an early inflammatory arthropathy rather than established RA or osteoarthritis. A provisional diagnosis of seronegative rheumatoid arthritis was made, and the patient was started on a trial of disease-modifying antirheumatic drugs (DMARDs), including methotrexate, with careful monitoring of liver function and blood counts. She was also referred for physical therapy to help improve joint mobility and function [9].

Follow-up: At a two-month follow-up visit, the patient reported significant improvement in her symptoms, with reduced joint pain and swelling and increased mobility. Her ESR and CRP levels had decreased, indicating a positive response to treatment. The patient continued on her DMARD regimen with regular monitoring, and she was scheduled for ongoing follow-up visits to assess for any potential side effects or disease progression.

This case highlights the diagnostic challenges in identifying rheumatoid arthritis in elderly patients, especially when they present with atypical or less pronounced clinical features, negative serological markers, and early-stage radiographic findings. Despite these challenges, prompt recognition and treatment were essential to improving the patient's quality of life and preventing long-term joint damage.

Discussion

Diagnosing RA in the elderly is often challenging due to the overlapping clinical features with other age-related conditions such as osteoarthritis, gout, and polymyalgia rheumatica. Additionally, elderly patients may have lower levels of rheumatoid factor or anti-CCP antibodies, making serological testing less reliable. Imaging studies,

including plain radiographs and ultrasound, play a key role in identifying joint damage typical of RA. Early diagnosis in elderly patients is essential as it allows for the introduction of DMARDs to reduce disease progression and improve functional outcomes [10]. The management of RA in the elderly requires careful consideration of comorbidities, polypharmacy, and the potential for adverse drug reactions.

Conclusion

Early and accurate diagnosis of RA in elderly patients is crucial to prevent unnecessary disability. Rheumatologists should consider RA in the differential diagnosis of elderly patients presenting with joint pain and stiffness, even in the presence of other comorbid conditions. Timely intervention with DMARDs can significantly improve outcomes in this patient population.

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