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Case Report

An Unexpected Cause of Reversible Dementia in an Elderly Patient: A Giant Cell Arteritis Case Report

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Abstract

Giant Cell Arteritis (GCA) is the most common systemic vasculitis in individuals over the age of 50, typically presenting with cranial symptoms such as headache and visual disturbances. However, GCA can present atypically with neuropsychiatric symptoms, which can mimic dementia, making diagnosis challenging, particularly in elderly patients. Here, we present the case of a 101-year-old female with a history of temporal arteritis who developed behavioural changes, agitation, and visual hallucinations. Initially misdiagnosed as dementia and treated with antipsychotic medications, the patient's symptoms worsened. Upon hospital admission, laboratory investigations revealed elevated inflammatory markers (ESR 65 mm/h, CRP 53 mg/L), prompting a trial of corticosteroid therapy (prednisolone 60 mg daily). The patient showed marked improvement in neuropsychiatric symptoms, confirming the diagnosis of GCA. This case highlights the importance of considering reversible causes of dementia, such as GCA, in elderly patients with cognitive decline, especially when inflammatory markers are elevated and a history of vasculitis is present. Early diagnosis and treatment with corticosteroids can lead to significant clinical recovery and prevent irreversible complications.

Keywords: ***Giant Cell Arteritis, Neuropsychiatric Symptoms, Reversible Dementia, Elderly, Corticosteroids.***

Introduction

The differential diagnosis of dementia in elderly patients is a complex process that requires careful consideration of potentially reversible causes. While neurodegenerative diseases like Alzheimer's disease are common, reversible conditions that can mimic dementia must be ruled out. These conditions include metabolic disorders, infections, and inflammatory diseases like Giant Cell Arteritis (GCA) [1]. Failure to correctly identify these reversible causes can lead to delayed treatment, progression of symptoms, and a decrease in the patient's quality of life.

GCA is the most prevalent form of systemic vasculitis in individuals over the age of 50. It typically manifests with cranial symptoms, including headache, scalp tenderness, jaw claudication, and visual disturbances [2,3]. However, GCA can occasionally present with atypical neuropsychiatric symptoms such as cognitive decline, agitation, and hallucinations [3]. Pseudodementia, a condition in which cognitive impairment mimics dementia but is due to a reversible cause, must be considered in cases of unexplained cognitive decline [1]. Early recognition and treatment of GCA are crucial, as timely intervention can lead to significant recovery of cognitive function [3-5].

We present the case of a 101-year-old female with a history of temporal arteritis who developed behavioural changes and visual hallucinations. Initially misdiagnosed and treated for dementia, her condition improved significantly following corticosteroid treatment, underscoring the importance of considering GCA as a reversible cause of dementia in elderly patients.

Clinical Case

A 101-year-old female presented to the emergency department with a month-long history of behavioural changes, agitation, and visual hallucinations. She was being investigated for dementia at a private clinic and was started on risperidone during the previous month, with no improvement in her symptoms. The day before admission, risperidone was replaced with quetiapine (25 mg twice daily), which resulted in drowsiness and prompted hospital admission. The patient was previously autonomous in her daily activities, lived alone, and had a previous history of GCA, managed with 5 mg of prednisolone during flares. Additional medical history included essential hypertension and complete atrioventricular block, for which a pacemaker had been implanted several years earlier.

In the emergency department, the patient exhibited alternating periods of agitation requiring treatment with intramuscular haloperidol (5 mg) and prostration. Given inadequate symptom control, she was admitted for further investigation and treatment optimization.

During her hospital stay, blood tests excluded metabolic and infectious causes of dementia, such as vitamin B12 deficiency, syphilis, and thyroid dysfunction. However, elevated inflammatory markers were noted, including an erythrocyte sedimentation rate (ESR) of 65 mm/h and C-reactive protein (CRP) of 53 mg/L. Urine culture on the eighth day of admission revealed Providencia rettgeri, and the patient was treated with directed antimicrobials for five days. A computed tomography (CT) scan revealed microangiopathic leukoencephalopathy, a common finding in elderly patients. Despite no other apparent signs of GCA, the combination of neurological symptoms and elevated inflammatory markers prompted a trial of corticosteroids (prednisolone 60 mg daily for seven days with tapering thereafter). The patient's neuropsychiatric symptoms improved significantly, allowing for discharge with restored cognitive function and stable behaviour.

Discussion

This case demonstrates an atypical presentation of GCA manifesting primarily through neuropsychiatric symptoms, rather than the classical cranial signs. The patient's agitation, visual hallucinations, and cognitive decline were initially misdiagnosed as dementia, and her condition worsened despite treatment with antipsychotics. Upon hospital admission, laboratory investigations revealed elevated ESR and CRP levels, which are frequently associated with GCA [3]. Although the CT scan showed microangiopathic leukoencephalopathy an age-related vascular finding the absence of classical cranial symptoms delayed the diagnosis of GCA. The significant improvement following corticosteroid treatment confirmed the diagnosis of an inflammatory condition [4,5].

This case reinforces the concept of pseudodementia, where cognitive impairment is secondary to an underlying and potentially reversible condition like GCA [1,3]. The patient's neuropsychiatric symptoms were likely related to systemic inflammation, as GCA can affect both cranial and extracranial arteries, potentially leading to central nervous system involvement [3-5].

The rapid improvement in symptoms following corticosteroid therapy highlights the importance of considering reversible causes of dementia in elderly patients, especially in those with a history of inflammatory diseases. GCA suspect should be considered on the differential diagnosis list in patients with elevated inflammatory markers and neuropsychiatric manifestations, even in the absence of classical cranial symptoms [3,4].

Conclusions

This case presents an elderly patient with neuropsychiatric symptoms initially misdiagnosed as dementia, whose condition improved significantly following corticosteroid treatment for GCA. The elevated inflammatory markers and history of temporal arteritis were key factors in diagnosing GCA. This case emphasizes the need to consider reversible causes of dementia, particularly GCA, in elderly patients presenting with cognitive decline and atypical symptoms. Early recognition and corticosteroid treatment are essential to prevent irreversible complications and to improve patient outcomes in such atypical presentations of vasculitis.

Declarations

Ethics approval and consent to participate

Consent was obtained by patient of the case report.
Due to the nature of the case report, the Ethics Committee was not involved.

List of abbreviations

CRP: C-reactive protein

CT: Computed tomography

ESR: Erythrocyte sedimentation rate

GCA: Giant cell arteritis

Data Availability

All data is available upon request to the first author.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

Funding Statement

Does not apply.

Authors' contributions

AG, WM, LB, TM, DC and DR analysed and interpreted the patient data regarding case presentation and the literature of the case report. FC was largely involved in caring for the patient and acquiring patient data. AG and WM were major contributors in writing the manuscript. RNL was the major contributor in reviewing the medical accuracy and literature relevance of the manuscript. All authors read and approved the final manuscript."

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