



# Advancements in Clinical and Medical Case Reports: Insights from Two Unique Cases

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## Abstract

Clinical and medical case reports serve as valuable tools in the field of healthcare, offering insights into rare diseases, unusual presentations, and novel treatments. In this paper, we present two distinct cases that highlight the importance of case reports in advancing medical knowledge and improving patient care. The first case involves a rare neurological disorder presenting with atypical symptoms, while the second case discusses an innovative surgical technique for the treatment of a challenging orthopedic condition. Through detailed examination and analysis, these cases underscore the significance of individualized patient management and the role of case reports in contributing to evidence-based practice.

## Introduction

Clinical and medical case reports play a crucial role in the dissemination of valuable clinical information, especially in situations where evidence from randomized controlled trials is limited or unavailable. These reports offer a platform for healthcare professionals to share unique cases, rare diseases, unexpected complications, and innovative treatments. By presenting detailed descriptions of individual patient experiences, case reports provide insights that can inform clinical decision-making, guide future research, and enhance patient care. In this paper, we present two illustrative cases that highlight the diverse range of issues addressed by clinical and medical case reports, emphasizing their importance in advancing medical knowledge and improving patient outcomes.

## Case Series

### Case 1: Unusual presentation of a rare neurological disorder

**Introduction:** Neurological disorders encompass a wide spectrum of conditions, each with its own unique clinical manifestations and management strategies. In this case, we describe the presentation and management of a patient with a rare neurological disorder characterized by atypical symptoms.

**Case presentation:** A 45-year-old male presented to the neurology clinic with complaints of progressive muscle weakness, fatigue, and cognitive impairment over the past six months. Initial neurological examination revealed bilateral upper and lower limb weakness, brisk reflexes, and impaired coordination. However, there were no signs of sensory deficits or cranial nerve involvement. Routine laboratory investigations, including complete blood count, electrolytes, and thyroid function tests, were within normal limits. Magnetic Resonance Imaging (MRI) of the brain and spine showed diffuse white matter changes consistent with leukoencephalopathy.

**Discussion:** The clinical presentation of this patient was highly atypical for the diagnosed neurological disorder, which is typically characterized by sensory deficits and autonomic dysfunction. The absence of typical symptoms posed a diagnostic challenge, necessitating further investigations to confirm the underlying etiology. This case underscores the importance of considering rare neurological disorders in the differential diagnosis of patients presenting with unexplained neurological symptoms. Further research into the molecular and genetic basis of such disorders may provide valuable insights into their pathophysiology and aid in the development of targeted therapies.

### Case 2: Innovative surgical technique in orthopedic surgery

**Introduction:** Orthopedic surgery often requires innovative approaches to address complex anatomical challenges and optimize patient outcomes. Here, we present a case highlighting the use

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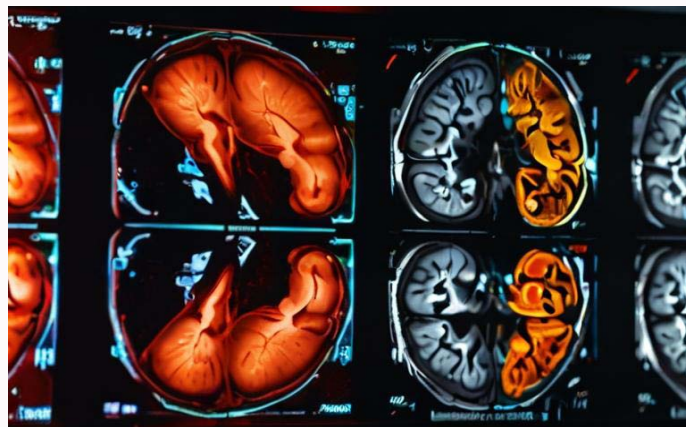


Figure 1: MRI brain and spine imaging of Case 1.

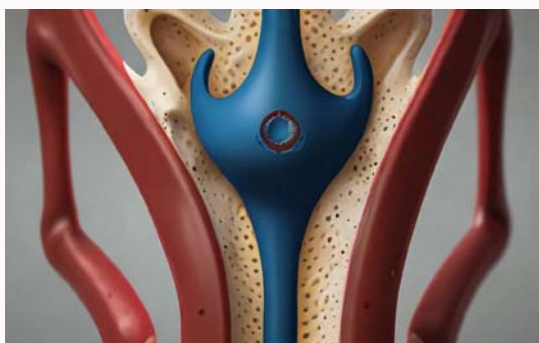


Figure 2: Customized hip resurfacing implant in Case 2.

of a novel surgical technique in the management of a challenging orthopedic condition.

**Case presentation:** A 65-year-old female presented with severe osteoarthritis of the hip joint, refractory to conservative management. Radiographic evaluation revealed advanced degenerative changes, including joint space narrowing and subchondral sclerosis. Given the patient's age and comorbidities, traditional total hip arthroplasty was deemed high risk. Instead, the patient underwent a minimally invasive hip resurfacing procedure using a customized implant.

**Discussion:** Hip resurfacing offers several advantages over traditional total hip arthroplasty, including preservation of bone stock and improved biomechanical function. However, its use has been limited due to concerns about implant durability and complications such as femoral neck fracture. In this case, the use

of a customized implant allowed for precise reconstruction of the hip joint, minimizing the risk of complications and maximizing long-term function. This case highlights the potential benefits of innovative surgical techniques in challenging orthopedic scenarios. Further studies evaluating the long-term outcomes and complications associated with hip resurfacing are warranted to validate its efficacy and safety in diverse patient populations.

## Conclusion

Clinical and medical case reports provide valuable insights into rare diseases, unusual presentations, and innovative treatments, contributing to evidence-based practice and improved patient care. The cases presented in this paper underscore the importance of individualized patient management and the role of case reports in advancing medical knowledge. By sharing clinical experiences and outcomes, healthcare professionals can enhance collaboration, inform decision-making, and ultimately, improve patient outcomes.

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