

Atypical Presentation of Paediatric Monteggia Fractures: Diagnostic Challenges and Considerations

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Orcid id:0000-0002-3337-6069, Researcher Id:LNQ-6115-2024

Received: September 17, 2024; **Published:** October 25, 2024

Abstract

Monteggia fractures in paediatric patients typically involve an ulnar fracture accompanied by radial head dislocation. While the classical presentation is well-documented, atypical presentations can complicate diagnosis. This communication discusses various atypical presentations of Monteggia fractures, emphasizing the importance of recognizing these patterns to ensure timely and appropriate management, thereby preventing potential complications [1,2].

Keywords: *Monteggia Fractures; Paediatric Patients*

Introduction

Monteggia fractures represent a distinct category of paediatric orthopedic injuries, traditionally defined by a fracture of the proximal ulna combined with a radial head dislocation. Although the classical presentation is generally straightforward with clear radiographic evidence, atypical presentations can pose diagnostic challenges [1]. This communication explores the variety of atypical presentations of paediatric Monteggia fractures and the clinical challenges they present.

Varieties of atypical presentations

Isolated ulnar fracture with subtle radial head dislocation

In some instances, the dislocation of the radial head is so subtle that it may be overlooked on initial radiographs, particularly if the ulna fracture is the primary focus. This presentation is challenging because the radial head might appear slightly displaced or even normal, leading to a missed diagnosis [3,4].

Greenstick fractures

Due to the pliability of pediatric bones, greenstick fractures are more common, where the ulnar fracture may be incomplete, and the associated radial head dislocation may be less apparent. This type of presentation can obscure the classic signs of a Monteggia fracture, complicating diagnosis [2,3].

Anterior dislocation without fracture

Although rare, there are cases where the radial head dislocates anteriorly without an accompanying ulnar fracture. This atypical presentation can be easily missed if clinicians do not maintain a high index of suspicion, especially in the absence of a clear fracture line on radiographs [1,4].

Delayed presentation with chronic radial head dislocation

Some patients present late with chronic radial head dislocation and remodeling of the surrounding bones. This delayed presentation complicates the clinical picture as the dislocation may be more difficult to reduce, and secondary complications, such as joint stiffness or pain, may develop [5].

Posterior or lateral dislocation

While anterior dislocation of the radial head is more common, atypical cases may involve posterior or lateral dislocations. These presentations can further obscure the diagnosis, particularly when the dislocation is not apparent on standard anteroposterior or lateral X-rays [4,5].

Discussion

Atypical Monteggia fractures present significant diagnostic challenges due to their variable presentations. The subtle nature of some radial head dislocations, combined with the common occurrence of incomplete fractures in children, can lead to delayed or missed diagnoses [3]. Delayed diagnosis increases the risk of chronic instability, limited range of motion, or long-term deformity of the elbow. Clinicians must maintain a high index of suspicion when evaluating pediatric patients with forearm injuries, especially when clinical symptoms are not fully explained by initial imaging [4].

Advanced imaging techniques, such as computed tomography (CT) or magnetic resonance imaging (MRI), may be necessary to accurately assess the injury and confirm the presence of radial head dislocation [1,5]. A thorough clinical examination, including the assessment of pain, range of motion, and neurovascular status, is essential in guiding the diagnostic process.

Conclusion

Atypical presentations of pediatric Monteggia fractures can complicate diagnosis and treatment. Early recognition and accurate diagnosis are crucial to preventing long-term complications. Clinicians should be aware of the variability in presentation and consider advanced imaging or specialist referral when the clinical picture is unclear. A vigilant and proactive approach can ensure effective management of these fractures, improving patient outcomes [5].

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Volume 15 Issue 11 November 2024

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