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*Case report*

# ARTHROSCOPIC REMOVAL OF A LOOSE BODY FOLLOWING RADIAL HEAD FRACTURE

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**Abstract**

Radial head fractures are common elbow injuries that may be associated with intra-articular loose bodies. Fractures of the radial head constitute approximately 3% of all fractures and 33% of elbow fractures. We present a case of a 40-year-old female patient who complained of persistent pain and mechanical locking symptoms following conservative treatment of a radial head fracture. A computed tomography (CT) scan revealed an intra-articular loose body in the anterior compartment of the elbow, which was successfully removed arthroscopically. This case highlights the efficacy of elbow arthroscopy in addressing intra-articular pathology and restoring function in patients with mechanical symptoms.

**Keywords:** elbow arthroscopy, intra-articular loose body, radial head fracture, minimally invasive surgery

## Introduction

Radial head fractures are common elbow injuries that may be associated with intra-articular loose bodies. Fractures of the radial head constitute approximately 3% of all fractures and 33% of elbow fractures[1,2]. Females and middle-aged patients are more prone to these types of injuries[3]. Intra-articular loose bodies, particularly following trauma, can cause mechanical symptoms such as joint locking, pain, and decreased range of motion (ROM)[4]. The vast majority of cases are successfully managed conservatively whereas in the case of intra-articular loose bodies surgery is the most common approach[5]. Arthroscopic removal has emerged as a minimally invasive approach to address these complications. We present a case of arthroscopically removed loose body in the elbow after a radial head fracture.

## Case report

A 40-year-old female presented to the emergency department after a fall on her outstretched right hand. A plain X-ray of the right elbow revealed a Mason type II radial head fracture without significant displacement (Figure 1).

**Fig. 1.** Plain X-ray of the right elbow. (A) Anteroposterior view of the right elbow with Mason type II fracture of the radial head. (B) Lateral view of the right elbow - shell-like bone fragment

Despite the identification of a loose body on the lateral view, a decision was made to undertake conservative management, consisting of cast immobilization for three weeks followed by an intensive physiotherapy. During rehabilitation. the patient experienced persistent pain and mechanical locking symptoms, limiting her range of motion and daily activities. She was unable to complete her physical therapy regimen and subsequently returned to the outpatient clinic with complaints. The patient's active ROM was measured and the flexion was limited by 10-15 degrees. On palpation, there was tenderness and pain over the anterior and lateral aspect of the elbow. Positive crepitus with passive ROM was also present. The CT scan revealed a shell-like bone fragment at the level of the joint, which was an indication for surgical intervention (Figure 2 A,B,C,D).

**Fig. 2A.**

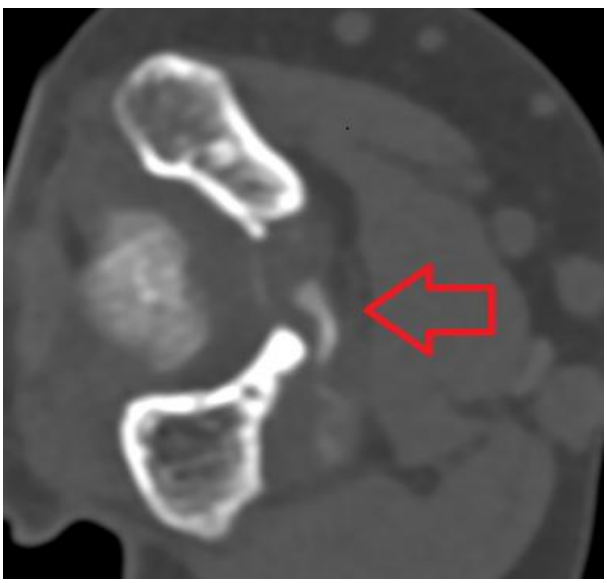

**Fig. 2B.**

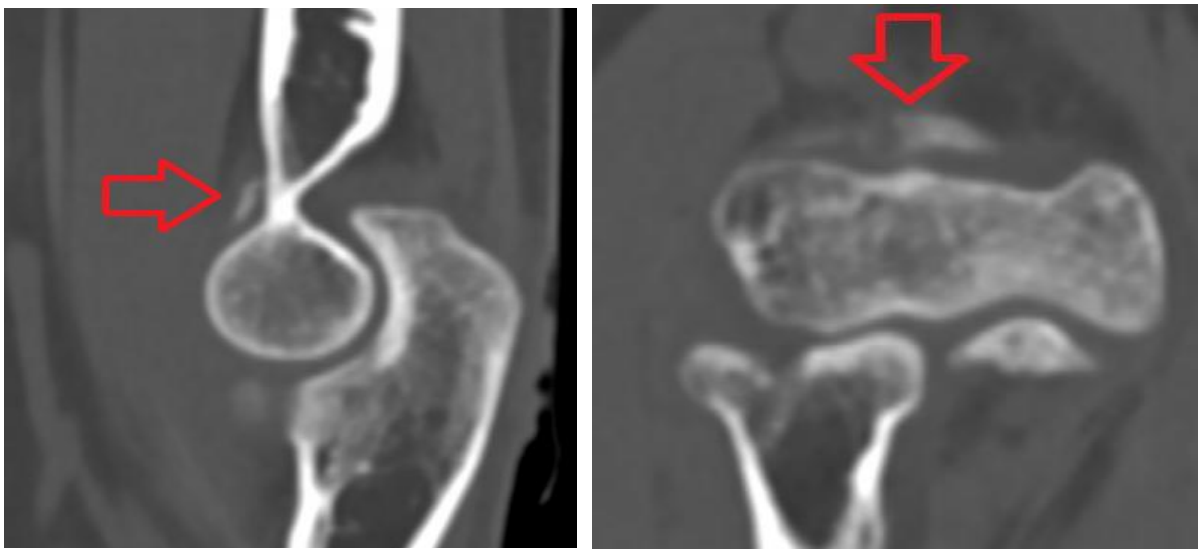

**Fig. 2C.** **Fig. 2D.**

**Fig. 2.** CT scan of the right elbow. (A) 3D. (B) Axial view. (C) Lateral view. (D) Coronal view

The patient was placed in a prone position on the operating table. Standard surgical skin preparation and draping were performed to maintain a sterile field. A pneumatic tourniquet was applied and inflated as required. The joint was fully distended through the lateral soft spot before portal placement. Standard anterolateral and anteromedial portals were created using a no. 11 blade, and a 30-degree arthroscope was inserted through the anterolateral portal for visualization. Diagnostic arthroscopy was performed, systematically inspecting the joint for cartilage damage, synovitis, and ligamentous integrity, with identification of any loose bodies or pathological synovium. A 7-mm osteochondral loose body was identified and successfully removed (Figure 3). The tourniquet was deflated and hemostasis was confirmed.

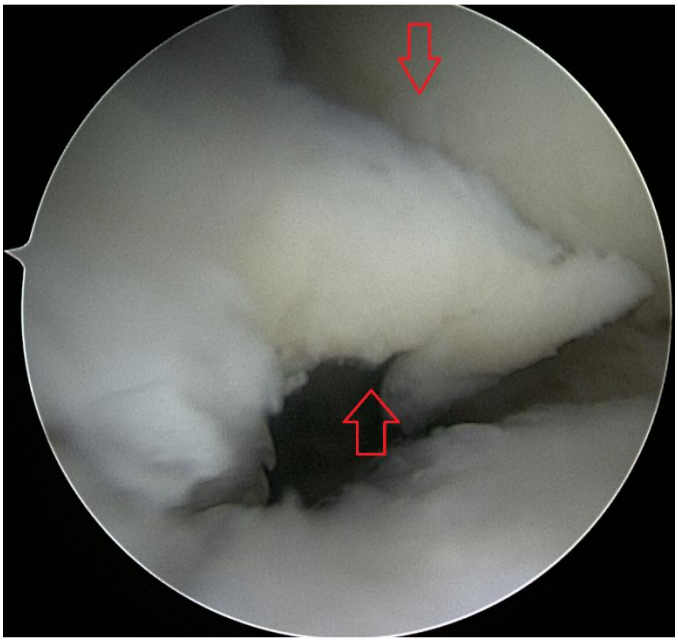

**Fig. 3.** Successfully removed A 7-mm osteochondral loose body

Postoperatively, she underwent a structured rehabilitation program, leading to significant improvement in pain and range of motion at six weeks.

**Discussion**

Radial head fractures are often managed conservatively; however, persistent symptoms warrant further evaluation. Intra-articular loose bodies commonly develop after trauma and can significantly impact joint function[6]. Loose bodies, commonly composed of cartilage or bone fragments can arise from chondral damage, fracture, or synovial chondromatosis. These intra-articular fragments may cause pain, swelling, and mechanical symptoms such as catching or locking. While some may remain asymptomatic, symptomatic loose bodies often necessitate surgical removal to prevent further joint deterioration[7].

CT imaging is particularly useful in detecting loose bodies that are not well-visualized on standard radiographs. Arthroscopy provides a minimally invasive alternative to open surgery, allowing for direct visualization and removal of loose bodies with minimal soft tissue disruption. Studies have shown that arthroscopic management results in favorable outcomes, particularly in patients with mechanical symptoms refractory to conservative treatment[7].

In our patient, the persistence of symptoms despite adequate rehabilitation prompted advanced imaging, leading to the identification of the intraarticular loose body that was followed by its arthroscopic removal. Postoperatively, she demonstrated marked improvement in elbow function, highlighting the benefit of arthroscopy in such cases.

**Conclusion**

This case highlights the importance of considering intra-articular loose bodies in patients with persistent symptoms following radial head fractures. Prompt imaging and timely arthroscopic intervention prevents joint complications and can lead to favorable clinical outcomes and improved patient satisfaction.

*Conflict of interest statement. None declared.*

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