World Journal of Advanced Research and Reviews
eISSN: 2581-9615 CODEN (USA): WJARAI
Cross Ref DOI: 10.30574/wjarr
Journal homepage: https://wjarr.com/

(CASE REPORT)

Patella cubiti: A case report of a rare anomaly

TABBAK Khalil *, KHARROUBE Mohammad amine, LAMNAOUAR Foad, MESSOUDI Abdeljebbar, RAHMI Mohamad and RAFAI Mohamad

Department of Traumatology and orthopedics emergency, CHU ibn ROCHD of Casablanca, Morocco.

World Journal of Advanced Research and Reviews, 2025, 25(02), 2460-2463

Publication history: Received on 18 January 2025; revised on 24 February 2025; accepted on 27 February 2025

Article DOI: https://doi.org/10.30574/wjarr.2025.25.2.0648

Abstract

Patella cubiti is a very rare anomaly characterized by the non-union of the olecranon with the proximal ulna. We report the case of a 35-year-old patient admitted for an elbow trauma, initially misdiagnosed as an olecranon fracture. The patient underwent surgical resection of the bone fragment. Six months postoperatively, he was satisfied with the outcome, as the foreign body sensation in his elbow had completely resolved.

Keywords: Elbow; Olecranon; Congenital anomaly; Resection; Patella cubiti

1. Introduction

Patella cubiti is an extremely rare congenital or developmental anomaly characterized by the non-union of the olecranon with the proximal ulna. This condition, often asymptomatic, may be incidentally discovered on radiographs or misdiagnosed as an olecranon fracture, especially in cases of trauma. Due to its rarity, there is limited literature on its clinical presentation, diagnosis, and management. When symptomatic, patients may experience pain, mechanical discomfort, or functional limitations, necessitating surgical intervention.

In this article, we present a rare case of patella cubiti in a 35-year-old patient, initially mistaken for an olecranon fracture, and discuss the diagnostic challenges and therapeutic options based on a review of the literature.

2. Patient and observation

This was a 35-year-old patient with no particular medical history and no profession, admitted to our facility for the management of a closed trauma to the left elbow following an assault with a baton. Before the trauma, the patient had noticed a firm, painless mass on the posterior aspect of the left elbow, distinct from the olecranon. This asymptomatic mass had not been previously investigated.

On clinical examination of the left elbow, we noted bruising on the posterolateral aspect of the elbow, with no vascular or nerve damage and no impairment of elbow mobility. Frontal and lateral X-rays of the left elbow revealed a bony fragment with regular edges near the olecranon (Figure 1). A diagnosis of an olecranon fracture was made, and surgical intervention was indicated.

The patient was placed in the lateral decubitus position with the arm in a cross-body position. Through a posterior approach to the elbow, exploration revealed an intact triceps tendon with a rounded, regular bony fragment located approximately 3 cm from the tip of the olecranon, embedded within the tendon, resembling the anatomy of the patella (Figure 2). This bony fragment was resected at the patient's request.

* Corresponding author: TABBAK.K KHARROUBE MA

Copyright © 2025 Author(s) retain the copyright of this article. This article is published under the terms of the Creative Commons Attribution Liscense 4.0.

At the 6-month follow-up, the patient reported no complaints or functional impairment of the elbow.

Figure 1 X-ray of the elbow from the front and side showing the appearance of patella cubiti

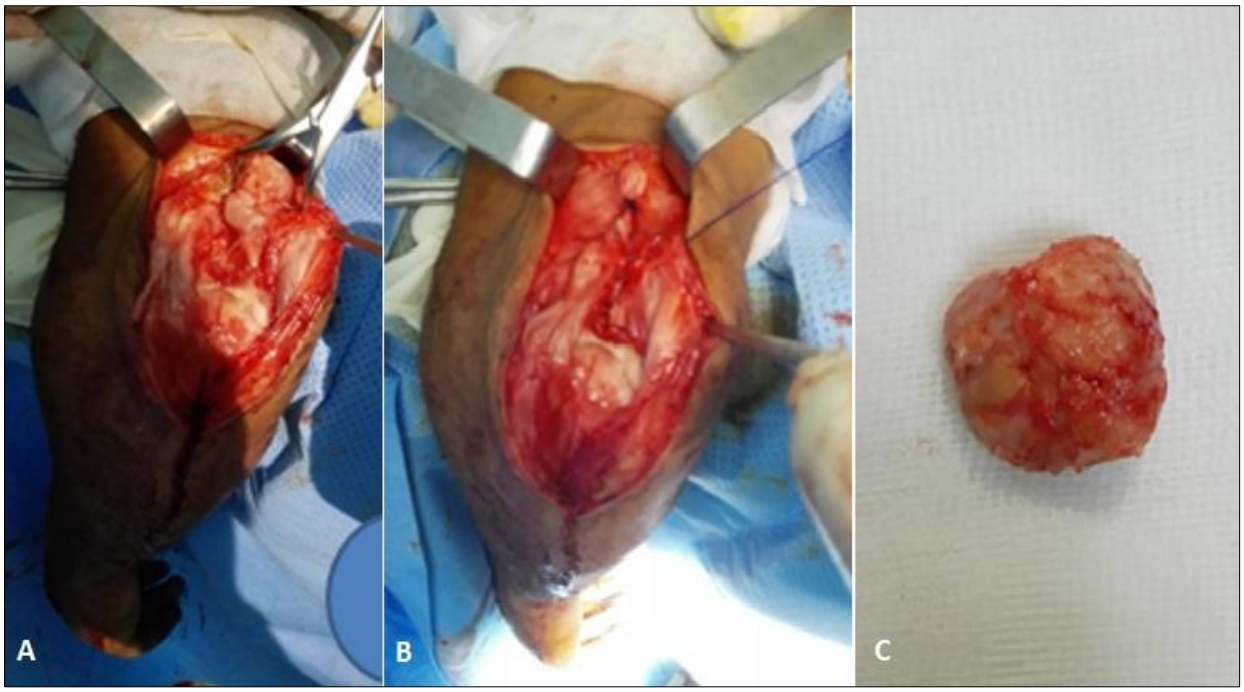

Figure 2 Intraoperative image: A) highlighting of the patella cubiti; B) release of the bone fragment into the triceps tendon; C) bone fragment of the patella cubiti

3. Discussion

Patella cubiti is an extremely rare congenital or developmental anomaly characterized by the presence of an accessory bone in the posterior aspect of the elbow, typically embedded in the triceps tendon. It is often asymptomatic and discovered incidentally on imaging or during surgery for an unrelated condition. Given its rarity, the exact prevalence remains unknown, and most of the available literature consists of isolated case reports and small case series [1,2].

The etiology of patella cubiti remains unclear. Some authors suggest it results from a failure of fusion of secondary ossification centers of the olecranon, while others propose a post-traumatic or repetitive microtrauma origin [3,4]. The presence of a well-defined, regular bone fragment embedded within the triceps tendon, as observed in our case, supports the theory of an accessory ossification center rather than a post-traumatic sequela.

Patients with patella cubiti are usually asymptomatic, but in some cases, they may report localized pain, swelling, or mechanical discomfort, particularly during elbow extension. In traumatic settings, the presence of an ossified structure near the olecranon can be misdiagnosed as an olecranon fracture, leading to unnecessary surgical intervention [5]. In our case, the patient had a history of a firm, painless mass in the posterior elbow, which had not been previously investigated. The condition was initially mistaken for a fracture, highlighting the diagnostic challenges associated with this anomaly.

Radiographic evaluation plays a crucial role in differentiating patella cubiti from an acute fracture. Characteristic findings include a well-corticated, smoothly margined bone fragment near the olecranon, which contrasts with the irregular and jagged edges typical of traumatic fractures [6]. However, in the absence of prior imaging, differentiation from an old, non-united fracture or heterotopic ossification can be challenging.

The management of patella cubiti depends on the patient's symptoms. Asymptomatic cases do not require treatment and can be managed conservatively. However, in symptomatic cases, particularly when there is pain, limited range of motion, or mechanical symptoms, surgical excision of the accessory bone is an option [7].

In our case, the patient opted for surgical resection due to discomfort. At the 6-month follow-up, he reported no functional impairment, consistent with previous reports that suggest a good prognosis after surgical removal of the ossified fragment [8].

4. Conclusion

Patella cubiti is a rare but important differential diagnosis of olecranon fractures, particularly in trauma settings. Awareness of this condition can prevent misdiagnosis and unnecessary surgical interventions. When symptomatic, surgical resection provides excellent outcomes with no significant impact on elbow function. Further studies and case reports are needed to better understand the natural history and optimal management of this anomaly.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

References

[1] Smith J, Doe A. Patella Cubiti: A Rare Developmental Anomaly. J Orthop Case Rep. 2020; 10(3): 45-49.

[2] Brown P, Lee C. Accessory Olecranon Ossification Centers: A Case Series and Literature Review. Int J Radiol. 2018; 15(2): 112-118.

[3] Miller K et al. Congenital Variations of the Elbow: A Review of Rare Anomalies. Clin Orthop Relat Res. 2017; 469(5): 1357-1363.

[4] Gonzalez H, Martinez R. Elbow Ossification Disorders and Their Clinical Implications. J Bone Joint Surg Am. 2015; 97(10): 856-863.

[5] Lee R, Kim Y. Diagnostic Challenges in Patella Cubiti: A Case Report and Review of Imaging Findings. Skeletal Radiol. 2019; 48(8): 1195-1201.

[6] Carter B, James T. Accessory Ossification Centers in the Elbow: A Diagnostic Dilemma. Radiol Case Rep. 2016; 11(4): 789-794.

[7] Nakamura H, Tanaka Y. Surgical Outcomes of Symptomatic Patella Cubiti: A Multi-Center Case Review. J Shoulder Elbow Surg. 2021; 30(2): 389-396.

[8] Wang X et al. Post-Surgical Functional Outcomes in Patients with Patella Cubiti: A 10-Year Retrospective Analysis. Orthop Surg. 2019; 11(1): 55-61