A Case report of Arthroscopic Intervention for Posterior Elbow Impingement Due to Locking of Fat Pad in the Olecranon Fossa

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Learning Point of the Article:
Persistent Posterior impingement may require surgical intervention as a last resort.

Abstract

Introduction: Posterior impingement of the elbow is not a common finding. Further investigation is ideal if impingement persists in spite of non-operative treatment.

Case Presentation: A male patient aged 33 years presented to us in the outpatient department with 18 months history of impingement. Magnetic resonance confirmed soft-tissue as cause for impingement. Elbow arthroscopy revealed a rent in the olecranon fossa showing the fat pad locked into it. Debridement with arthroscopic shaver made the patient symptom free.

Conclusion: Further investigation and minimal invasive elbow arthroscopy is recommended for persistent posterior elbow impingement.

Keywords: Elbow arthroscopy, olecranon fossa, fat pad, impingement.

Introduction

Posterior impingement of the elbow is a rare disorder and is not often seen in the general population in India. At times patient presents with pain and limited extension of the elbow. Usually, these patients are treated conservatively.

It is typically seen in young population and athletes with overuse of the elbow due to specific sports activities, such as overhead throwing, discussed by Moskal et al. [1, 2].

Patients present with pain in the posterior aspect of the elbow, inability to completely extend the elbow, and on careful examination of elbow one can find mechanical block with some joint effusion, locking, or crepitus. The common causes of posterior impingement include loose bodies, olecranon osteophytes, olecranon stress fracture, and a thickened synovial fold.

We present a case of posterior elbow impingement due to hypertrophied posterior fat pad with a breach in the olecranon fossa, secondary to repetitive microtrauma.

Case Presentation

A 33-year-old male presented to our institute with pain in the left elbow on extending the elbow. He had limited extension of 10–15 degrees. Patient had developed painful elbow on throwing the cricket ball from the periphery of the ground. This pain started to increase on repeated throws. He had conservative treatment for the same. Over the span of 18 months, he developed loss of terminal extension.

On clinical examination, he had tenderness in the posterior aspect of elbow along with crepitus and extension lag of 15 degrees and painful passive and active terminal extension. He did not have any instability of the medial and lateral ulnar collateral ligament.

Roentgenogram showed no radiological abnormality. Magnetic resonance imaging MRI revealed posterior fat pad hypertrophy with impingement between olecranon and olecranon fossa (Fig. 1) which was the primary cause of pain and extension lag. After
Patients who present with posterior elbow pain can be ascertained to numerous conditions such as olecranon stress fractures, loose bodies and thickened synovial fold. However, posterior fat pad impingement of elbow is uncommon as it is missed in the X-rays.

The fat pad was shaved off using 3.5 mm shaver and no impingement of soft-tissue was evident. An incidental finding of small foramen was found in the olecranon fossa (Fig. 3). It was found that the rent in the olecranon fossa got the fat pad locked into it, causing impingement on elbow extension.

Portals were closed and postoperatively dressings were changed and active complete elbow mobilization was started on post-operative day 1 and 2, respectively. Patient was advised against heavy usage of elbow such as lifting heavy objects for 3 weeks. Patient was on regular follow-up and was symptom free. He got back to contact sports in 1 month duration. His last visit was 1 year following surgery; he was comfortable with full range of movements.

Discussion

Patients who present with posterior elbow pain can be ascertained to numerous conditions such as olecranon stress fractures, loose bodies and thickened synovial fold. However, posterior fat pad impingement of elbow is uncommon as it is missed in the X-rays.

The posterior fat pad is extrasynovial and invested by capsular leaflets. The superficial leaflet covering the fat pad is only a very thin membranous continuation of the fibrous capsule and it firmly interlaces with the periosteum around the margins of the olecranon fossa [3].

Arthroscopic treatment of posterior impingement of the elbow consistently can improve comfort and function. Arthroscopic treatment is particularly valuable because of increased intra-articular visualization of the anterior and posterior compartments and diminished soft-tissue trauma. Arthroscopic visualization also can help the surgeon assess small pathologic changes in joint congruity seen in subtle forms of ligamentous instability, which are often symptomatic in high-demand athletes.

A limited decompression can be performed without disruption of the extensor mechanism or collateral ligaments and preserves the normal bony stability of the joint [4].

Treatment for posterior impingement starts with conservative measures such as physiotherapy and nonsteroidal anti-inflammatory drugs combined with rest, ice, compression, and elevation. Steroid injections can sometimes provide some degree of pain relief, especially if the impingement is due to soft-tissue swelling; however, conservative therapy may fail to adequately provide long-term symptomatic relief. In such cases, arthroscopic intervention with resection of the hypertrophied fat pad is the definitive treatment of choice following MRI.

Conclusion

Persistent posterior elbow impingement due to locking of fat pad into olecranon rent requires surgical intervention to address it. Elbow arthroscopy being minimal invasive is been recommended.

Clinical Message

Surgical intervention is indicated for posterior impingement of the elbow joint due to locking of fat pad in the rent of the olecranon fossa.
## References

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### Consent

The authors confirm that informed consent was obtained from the patient for publication of this case report.

### Conflict of Interest

Nil

### Source of Support

Nil

### How to Cite this Article

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