

# Simultaneous Bilateral Anterior Shoulder Dislocation Following Epileptic Seizure in a Middle-Aged Male: A Rare Case Report and Review of Literature

Balakrishnan Karun<sup>1</sup>, Vejaya Kumar<sup>1,2</sup>, Moodu Jayanth<sup>1</sup>, Bharathidasan Rajamanickam<sup>2</sup>, Saravanan Kasirajan<sup>1</sup>

## Learning Point of the Article:

Bilateral anterior shoulder dislocation (BASD) is a rare clinical entity. Prompt diagnosis with radiography, timely closed reduction, and tailored rehabilitation can yield excellent outcomes in seizure-related BASD.

## Abstract

**Introduction:** Bilateral anterior shoulder dislocation (BASD) is an exceptionally rare clinical entity, especially when associated with epileptic seizures. Seizure-related shoulder dislocations are predominantly posterior due to the forceful contraction of internal rotator muscles; anterior dislocations following seizures are unusual and typically result from secondary trauma during a convulsive collapse.

**Case Report:** This case report describes a 32-year-old male with a known history of epilepsy who presented with simultaneous BASDs immediately after a generalized tonic-clonic seizure. Clinical examination revealed the classic signs of anterior dislocation, including loss of normal shoulder contour, squared-off appearance (Epaulet sign), and humeral heads palpable anteriorly in the deltopectoral grooves. Radiographs confirmed bilateral subcoracoid anterior dislocations without associated fractures. The patient was successfully treated with closed reduction under intravenous sedation using the Kocher's maneuver, followed by immobilization and structured rehabilitation. At 1 year of final follow-up, functional outcomes were excellent, with full pain-free range of shoulder motion and no instability episodes.

**Conclusion:** For uncomplicated BASD cases, closed reduction with prompt immobilization and physiotherapy remains the mainstay of management. Control of the underlying seizure disorder is crucial to prevent recurrence. This report adds to the limited literature on this rare presentation, emphasizing diagnostic challenges, management strategies, and outcomes associated with BASD in the context of epilepsy.

**Keywords:** Bilateral anterior, shoulder dislocation, bilateral anterior shoulder dislocation, seizure, closed reduction.

## Introduction

Shoulder dislocation is the most frequently encountered large-joint dislocation, accounting for nearly 45–50% of all dislocations. The vast majority is unilateral and anterior [1, 2]. Bilateral involvement raises concern for an unusual injury mechanism, and when it occurs, is more commonly posterior, often induced by violent involuntary muscle contractions during seizures or convulsions. Bilateral anterior shoulder dislocations

(BASD), by contrast, are distinctly uncommon and usually associated with significant trauma, sports injuries, or occasionally seizures.

Patients presenting after seizures may not recall the trauma or fall, rendering the diagnosis difficult. Delay in recognition can result in chronic dislocation, functional impairment, and higher complexity in management. We present a rare case of simultaneous BASD in a middle-aged male following an epileptic

## Author's Photo Gallery



Dr. Balakrishnan Karun



Dr. Vejaya Kumar



Dr. Moodu Jayanth



Dr. Bharathidasan Rajamanickam



Dr. Saravanan Kasirajan

Access this article online

Website:  
[www.jocr.co.in](http://www.jocr.co.in)

DOI:  
<https://doi.org/10.13107/jocr.2025.v15.i10.6220>

<sup>1</sup>Department of Orthopaedics, Vinayaka Mission's Medical College and Hospital, Vinayaka Mission's Research Foundation (Deemed to be University), Karaikal, Puducherry, India,

<sup>2</sup>Department of Trauma and Surgical Specialties, Mahathi Multispecialty Hospital, Karaikal, Puducherry, India.

### Address of Correspondence:

Dr. Vejaya Kumar,  
Department of Orthopaedics, Vinayaka Mission's Medical College and Hospital, Vinayaka Mission's Research Foundation (Deemed to be University), Karaikal, India.  
E-mail: [drvejaya87@gmail.com](mailto:drvejaya87@gmail.com)

Submitted: 18/07/2025; Review: 04/08/2025; Accepted: September 2025; Published: October 2025

DOI: <https://doi.org/10.13107/jocr.2025.v15.i10.6220>

© The Author(s). 2025 Open Access. This article is distributed under the terms of the Creative Commons Attribution 4.0 International License (<https://creativecommons.org/licenses/by-nc/4.0/>), which permits unrestricted use, distribution, and non-commercial reproduction in any medium, provided you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made. The Creative Commons Public Domain Dedication waiver (<http://creativecommons.org/publicdomain/zero/1.0/>) applies to the data made available in this article, unless otherwise stated.



**Figure 1:** Clinical presentation showing the patient lying supine with both upper limbs held in abduction and external rotation after a seizure episode, illustrating the classic attitude in Bilateral Anterior shoulder dislocation.

seizure, treated successfully with closed reduction and immobilization.

### Case Report

A 32-year-old male was brought to the emergency department with complaints of pain and inability to move both shoulders after an episode of generalized tonic-clonic seizure at home. The patient was a known epileptic on irregular antiepileptic therapy. There was no preceding trauma, electrocution, or substance use.

On examination, both shoulders demonstrated loss of normal contour with a characteristic squared-off appearance (Epaulets sign) (Fig. 1). The arms were held in mild abduction and external rotation with a visible sulcus along the lateral shoulder. Palpation revealed anterior prominence of both humeral heads in the deltopectoral groove (Fig. 2). Active and passive movements were not possible and associated with excruciating pain. Distal neurovascular examination of the upper limbs was normal. No external injuries were noted on the chest or upper limbs.

Radiographs (antero-posterior views of both shoulders) confirmed bilateral anterior dislocations of the glenohumeral joints without associated fracture (Fig. 3). The Light bulb sign was absent. Baseline blood investigations were normal and done to rule out hypoglycemia and dyselectrolytemia.

### Management

After routine pre-anesthetic evaluation, the patient underwent closed reduction under intravenous sedation. The Kocher's maneuver was applied sequentially to both shoulders with successful reduction confirmed clinically and radiographically (Fig. 4). Immediate post-reduction X-rays showed concentric and congruent glenohumeral articulations. Both shoulders were immobilized in slings with internal rotation for 3 weeks. Early pendulum and passive range-of-motion exercises were started after immobilization, followed by gradual active physical rehabilitation. Epilepsy was evaluated by a neurologist and treated appropriately.

Outcome: At 1 year of final follow-up, the patient was pain-free with a near full range of movements bilaterally and no instability episodes. Constant shoulder scoring showed 92 on the right and 90 on the left. He was counseled on strict compliance with antiepileptic therapy to prevent recurrence.

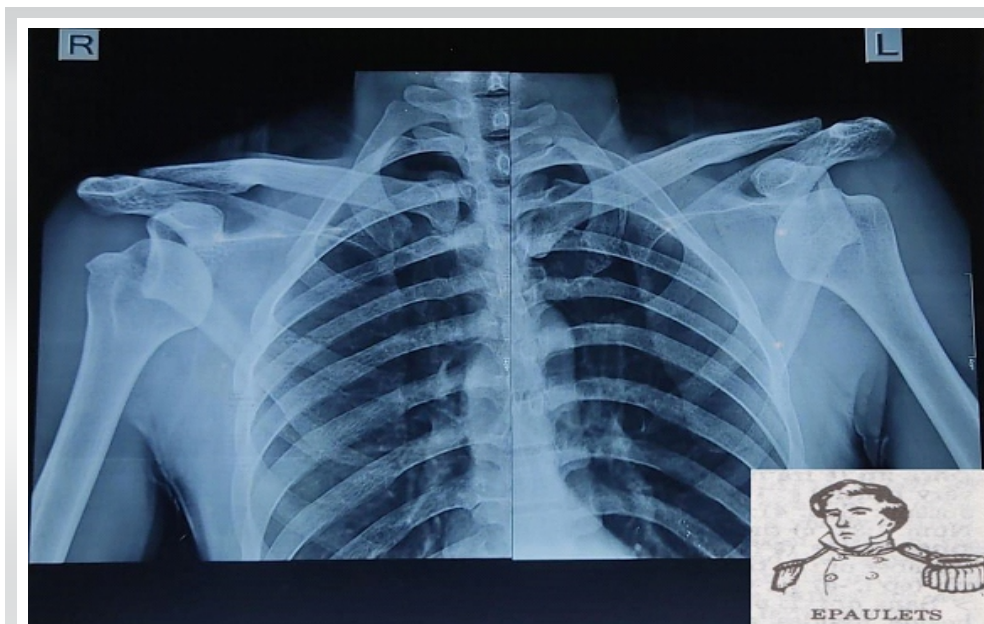
### Mechanism of Injury

The proposed mechanism differs from posterior dislocations. In seizure-related anterior dislocation, the injury is more likely attributed to the secondary trauma of falling during convulsion, with the shoulders forced into extension, abduction, and external rotation. This position levers the humeral head anteriorly against a relatively unstable glenoid rim, resulting in anterior displacement. The synchronous impact on both



**Figure 2:** Close-up of the right shoulder, showing loss of normal deltoid contour. The examiner's finger points to the empty glenoid cavity, highlighting the clinical sign of shoulder dislocation.





**Figure 3:** Pre-reduction anteroposterior radiograph showing bilateral anterior dislocation of the humeral heads (right and left) projected anterior to the glenoid fossae with squaring of both shoulders (Epaulets Sign). There is no associated fracture.

shoulders explains the bilateral involvement.

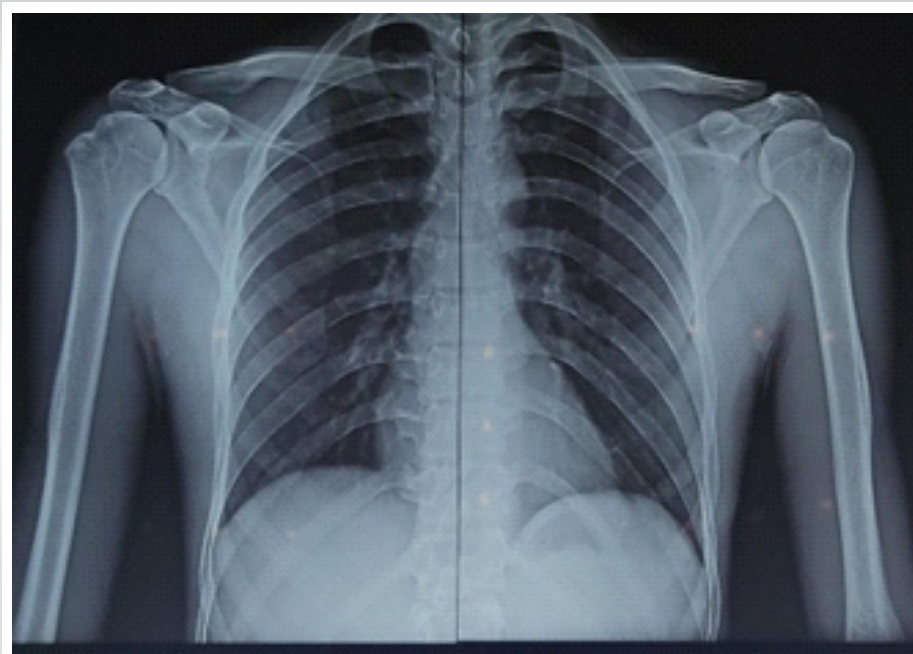
### Discussion and Review of Literature

BASD is an exceptionally rare clinical entity compared to unilateral anterior dislocations (Tables 1 and 2), which account for the majority of shoulder dislocations [1, 2]. While most bilateral shoulder dislocations reported in literature are posterior and typically occur due to seizure-induced violent internal rotator muscle contractions, BASD following epileptic seizures is uncommon and is more often associated with direct trauma or fall during convulsions [1, 2, 3, 4]. The diagnosis can be challenging as patients may present post-ictally with altered sensorium, and deformities might be overlooked due to the symmetric appearance and the rarity of the condition [1, 4, 5, 6, 7, 8, 9]. Classic clinical signs, including loss of the normal deltoid contour (Epaulet sign), arms held in abduction and external rotation, and palpable humeral heads anteriorly, aid clinical suspicion; confirmation is by anteroposterior radiographs [1, 2, 10]. Since Cooper and Myenter reported the first cases in 1839 and 1902, posterior shoulder dislocations have been the most common type of bilateral shoulder dislocations [11,12]. This can happen

during epileptic convulsions when a violent muscle contraction dislocates the humeral head posteriorly [13]. BASD is a rare occurrence [1, 2]. Trauma, nocturnal hypoglycemia, electrocution, diving, and bench pressing are some of the other reported causes of these bilateral injuries [14, 15]. A 19-year-old man with a similar history was described in 2020 by Talebi et al. [16]. The patient improved by conservative management without the need for surgery. In their analysis, Diallo et al., found that 43% of BASDs were associated with complications, frequently on both sides [4].

Our case adds to the limited literature on BASD secondary to epileptic seizures by documenting a

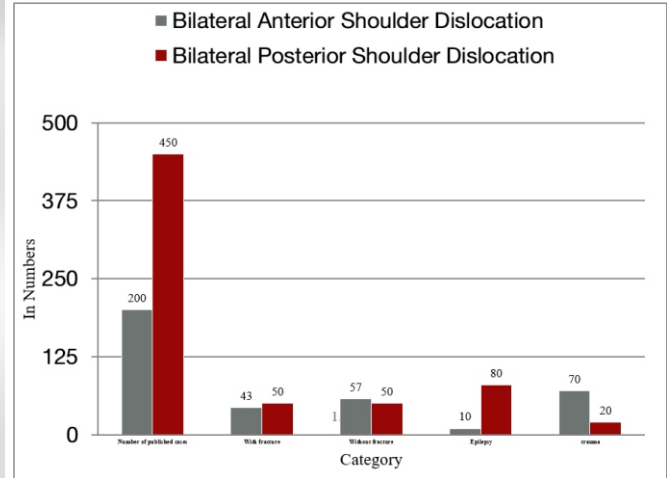
successful closed reduction and early physiotherapy without surgical intervention, achieving near full functional recovery at 3 months [1, 2, 9]. Unlike some reports that recommend magnetic resonance imaging (MRI) to assess soft tissue injury or associated rotator cuff tears, we did not perform MRI as the patient had no clinical signs suggestive of rotator cuff pathology or neurovascular deficits, and immediate radiographs



**Figure 4:** Post-reduction anteroposterior radiograph demonstrating concentric alignment of both humeral heads within the glenoid fossae confirming successful reduction of the bilateral anterior shoulder dislocation.

**Table 1: Comparison of bilateral anterior and posterior shoulder dislocations**

VARIABLES	Bilateral anterior dislocation	Bilateral posterior dislocation
Approximate number of published cases	180–200 [1,2]	2–3× more than BASD[3]
With associated fracture	~43% [1,4,2]	~50%[3]
Without fracture	~57%[1,4,2]	~50%[3]
Due to epilepsy/seizure	10–15%[1,2,3]	>80%[5,3,6]
Due to trauma	>60–70%[1,4,7,2]	<20%[3]
Most common associated injury	Greater tuberosity fracture[1]	Proximal humerus fracture[3]

**Table 2: Comparison of Bilateral Anterior and Posterior Shoulder dislocations: Case numbers and Etiologies**

confirmed stable concentric reduction [1, 2, 7, 9]. Since there was no recurrence of an instability episode, MRI was deferred. This approach aligns with conservative management principles for uncomplicated BASD cases where radiographs suffice for decision-making, and MRI is reserved for suspected complications or recurrent cases [1, 2, 5, 8].

Comparison with published data highlights that the majority of BASD cases entail associated fractures, especially of the greater tuberosity, and may require surgical stabilization [4, 5, 6, 7]. Our patient being an exception with pure dislocation and no fracture, reinforcing that closed reduction remains standard for such uncomplicated presentations [1, 2, 9]. Moreover, this case reiterates that seizure-related BASD likely results from secondary trauma at the time of convulsive collapse, with the characteristic forced position of abduction and external rotation precipitating anterior displacement, contrasting the classic mechanism of internal rotation-induced posterior dislocation typically seen in seizures [3, 4, 5, 6].

Overall, early diagnosis using clinical vigilance and timely radiographs coupled with appropriate closed reduction and tailored rehabilitation can yield excellent outcomes in seizure-related BASD [1, 2, 4, 5, 6, 7, 8, 9]. Controlling the underlying epileptic disorder is vital for preventing recurrence, a focus echoed in recent literature [1, 2, 4].

### Diagnostic challenges

Patients may present with confusion post-seizure; subtle shoulder deformities might be missed. High suspicion is needed when bilateral painful restriction of movement follows a convulsive episode. Radiographs in two planes are essential to differentiate between anterior and posterior dislocations.

Advanced imaging (computed tomography/MRI) is considered if associated fractures or soft tissue injuries are suspected.

### Treatment and prognosis

Closed reduction under adequate analgesia is the standard of care in acute, uncomplicated cases. Immobilization for 2–3 weeks, followed by structured physiotherapy, ensures shoulder stability and mobility. Surgical stabilization may be necessary in cases with associated fractures, rotator cuff injuries, or recurrent dislocations.

Our patient achieved excellent functional recovery with non-operative management, consistent with similar reported cases. Recurrence risk is minimized by controlling the underlying seizure disorder.

### Conclusion

BASDs are an exceptional sequela of epileptic seizures. High clinical vigilance is required, particularly when a middle-aged male presents with painful restriction of both shoulders following convulsions. Prompt diagnosis with radiography and timely closed reduction can yield excellent functional recovery. Education on seizure control and treatment compliance is critical in mitigating the recurrence.

## Clinical Message

BASD is an exceptionally rare clinical entity compared to unilateral anterior dislocations. The diagnosis can be challenging as patients may present post-ictally with altered sensorium, and deformities might be overlooked due to the symmetric appearance and the rarity of the condition. Early diagnosis using clinical vigilance and timely radiographs, coupled with appropriate closed reduction and tailored rehabilitation, can yield excellent outcomes in seizure-related BASD. Controlling the underlying epileptic disorder is vital for preventing recurrences.

**Declaration of patient consent:** The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given the consent for his/ her images and other clinical information to be reported in the journal. The patient understands that his/ her names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

**Conflict of interest:** Nil    **Source of support:** None

## References

1. Meena S, Saini P, Singh V, Kumar R, Trikha V. Bilateral anterior shoulder dislocation. *J Nat Sci Biol Med* 2013;4:499-501.
2. Akar B. Bilateral anterior shoulder dislocation: A case report. *Ulus Travma Acil Cerrahi Derg* 2024;30:761-3.
3. Siu YC, Lui TH. Bilateral anterior shoulder dislocation. *Arch Trauma Res* 2014;3:e18178.
4. Diallo M, Soulama M, Kaboré DS, Dakouré PW, Liverneaux P. Bilateral anterior shoulder dislocations: A review of two cases and the relevant literature. *Clin Case Rep* 2020;8:3379-88.
5. Kulkarni M, Shetty S, Vijayan S, Rao SK. Bilateral anterior glenohumeral dislocation: Two rare scenarios and pathomechanics. *Indian J Orthop Surg* 2020;6:259-62.
6. Dlimi F, Rhanim A, Lahlou A, Kharmaz M, Ouadghiri M, El Bardouni A, et al. Bilateral anterior dislocation of the shoulders at the start of a backstroke competition. *J Orthop Traumatol* 2012;13:47-9.
7. Ballesteros R, Benavente P, Bonsfills N, Chacón M, García-Lázaro FJ. Bilateral anterior dislocation of the shoulder: Review of seventy cases and proposal of a new etiological-mechanical classification. *J Emerg Med* 2013;44:269-79.
8. Cresswell TR, Smith RB. Bilateral anterior shoulder dislocations in bench pressing: An unusual cause. *Br J Sports Med* 1998;32:71-2.
9. Dunlop CC. Bilateral anterior shoulder dislocation--a case report and review of the literature. *Acta Orthop Belg* 2002;68:168-70.
10. Singh S, Kumar S. Bilateral anterior shoulder dislocation: A case report. *Eur J Emerg Med* 2005;12:33-5.
11. Cooper A. A Treatise on Dislocations and Fractures of the Joints. Philadelphia PA: Blanchard and Lea; 1851.
12. Mynter H. XIV. Subacromial dislocation from muscular spasm. *Ann Surg* 1902;36:117-9.
13. Thomas T, Noel E, Bouvier M. Pitfall of stiff shoulder: Inveterated posterior dislocation. *Clin Rheumatol* 1995;14:467-70.
14. Abdelaziz G. Acute bilateral anterior shoulder dislocation after an epileptic seizure: A case report. *EC Ortho-Paedics* 2020;11:59-61.
15. Choulapalle R, Chokkarapu R, Kolluri RK, Anne SR, Perumal SR, Avadhanam PK, et al. A case of neglected bilateral anterior shoulder dislocation: A rare entity with unusual mechanism of injury. *Case Rep Orthop* 2015;2015:461910.
16. Talebi S, Teimoury A, Ghadiri A. Bilateral anterior shoulder dislocation after an episode of grand-mal seizure: A case report and literature review. *J Orthop Spine Trauma* 2021;7:64-6.

**Conflict of Interest:** Nil  
**Source of Support:** Nil

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

## How to Cite this Article

Karun B, Kumar V, Jayanth M, Bharathidasan, Kasirajan S. Simultaneous Bilateral Anterior Shoulder Dislocation Following Epileptic Seizure in a Middle-Aged Male: A Rare Case Report and Review of Literature. *Journal of Orthopaedic Case Reports* 2025 October;15(10): 231-235.

