International Journal of Orthopaedics Sciences

E-ISSN: 2395-1958
P-ISSN: 2706-6630
IJOS 2023; 9(3): 01-03

https://www.orthopaper.com
Received: 01-06-2023
Accepted: 02-07-2023

Dr. Sreejith GS
Orthopaedic Resident, Department of Orthopaedic Surgery, Lisie Hospital, Cochin, Kerala, India

Dr. Bobby Jacob
Consultant, Department of Orthopaedic Surgery, Lisie Hospital, Cochin, Kerala, India

Dr. Akhil Ajith
Senior Resident, Department of Orthopaedic Surgery, Lisie Hospital, Cochin, Kerala, India

Corresponding Author:
Dr. Sreejith GS
Orthopaedic Resident, Department of Orthopaedic Surgery, Lisie Hospital, Cochin, Kerala, India

Atraumatic acetabular fracture after generalized seizure during hemodialysis: A case report

Dr. Sreejith GS, Dr. Bobby Jacob and Dr. Akhil Ajith

DOI: https://doi.org/10.22271/ortho.2023.v9.i4a.3461

Abstract
Fracture is a less common complication in seizure patients, and fractures as a consequence of convulsive seizures without direct trauma occur in 0.3% of seizure cases. Acetabular fractures after convulsions are even rarer, and only a few cases of acetabular fractures dislocations, purely caused by convulsive activity, have been reported. Therefore, we report a case of unilateral acetabular fracture after a seizure episode, with relevant literature review.

Keywords: Intraarticular fractures, plating, calcaneum, internal fixation

Introduction
Fracture is not a common complication in seizure patients. Fractures due to convulsive seizures without direct trauma occur in only 0.3% of seizure cases [2]. Furthermore, fractures are directly related to trauma in 50% of those with a seizure-related fracture and only in 25% fractures are a consequence of seizure alone. More common locations for this type of fracture include the skull, proximal humerus, nasal bones, and clavicle [2] Acetabular fractures after convulsions are extremely rare, and only a few cases of acetabular fractures caused purely by convulsive activity, have been described in the literature. Here, we report a case of unilateral acetabular fracture after a seizure episode without direct trauma and include a relevant review of the literature. The seizure attack in our patient occurred during hemodialysis for Chronic Kidney Disease. Informed consent was taken prior to publication from the patient and her family

Case Report
A 50-year-old man was referred to our hospital with history of seizures while undergoing hemodialysis for Chronic Kidney Disease, which was associated with loss of consciousness. During seizure attack, there was no fall or trauma. He had no history of previous seizure.

3D CT Reconstruction Showing Acetabular Fracture
On regaining consciousness, he started to complain of increasing pain in the left hip for which orthopaedic consultation was done. Plain radiographs were taken of the hip. The radiographs revealed an acetabular fracture involving anterior column with medial displacement of the left femoral head (Fig.1). CT was taken which showed comminuted fracture of left acetabulum involving anterior wall, roof, posterior and medial walls (Fig. 2). CT and X ray showed incidental flattening of femoral head most likely due to AVN without secondary osteoarthritic changes.
After discussion with the patient and his family, it was decided to treat the fracture surgically. He was treated with skin traction and analgesics pre-operatively.
In view of pain, fracture displacement and for early mobilization surgery was advised. Surgery was done 3 days after the episode. To reconstruct the acetabulum, we used acetabular roof-reinforcement quadrangular plate (Fig. 3, 4, 5) and recon plates. Post operative radiographs were taken which showed satisfactory reduction with implant in situ (Fig.3, 4, 5).

Fig 1: Pre op X ray pelvis with both hip showing fracture left acetabulum

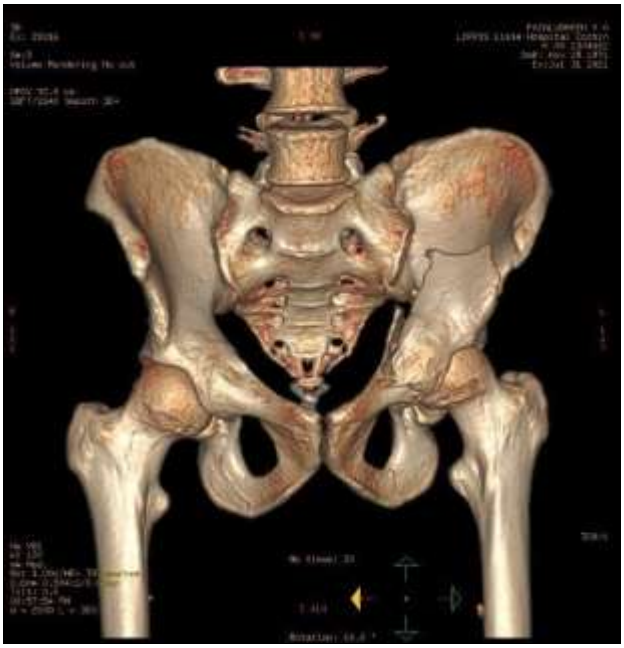

Fig 2: 3d CT reconstruction of pelvis showing fracture

Fig 3: Post-operative X ray Anteroposterior view

Fig 4: Post-operative Judet view

Fig 5: Post-operative Judet view

After surgery, the patient was advised non-weight-bearing for 6 weeks. Full weight-bearing ambulation was allowed 3 months postoperatively. Till date, he has been followed up for 1 year and there were no other complications. Also, no other event of seizure attack was reported.

Further treatment for AVN with Total hip replacement was contemplated at a later date once the fracture component has healed and his general condition improves.

Discussion

At least 26 cases of acetabular fractures resulting from epileptic seizures have been described in literature since 1970s in adults, diagnosis often being delayed due to a low index of suspicion in the absence of high-impact trauma [3].

Nilsson *et al*. reported that the high incidence of fractures is more likely to be explained by the high incidence of bone disease among epileptics, rather than seizure activity itself [4].

Here underlying renal pathology might have reduced bone mineral density which in turn would have resulted in the patient sustaining fracture following an episode of seizure.

One of the first reports issued on acetabular fracture resulting from seizure was published in1944 by Haines, whose patient was on anticonvulsive therapy [5].

Several factors could increase the fracture risk in seizure patients. Uncontrolled massive muscle contraction being one reason, and if they occur around the hip, especially in an osteoporotic bone, the force generated could be strong enough to lead to an acetabular fracture [6].

This case highlights the importance of further evaluation in patients who complains of hip pain following seizure episodes. Evaluation of extremity pain, deformity, ecchymosis, and crepitus should aid the identification of bone injury after a seizure and always be followed by radiographs of the affected area. Hence, the possibility of an acetabular fracture should be kept in mind when a patient complains of hip pain or cannot walk after a seizure especially in a patient with risk factor for osteoporosis.

Conclusion

This study concludes the possibility of hip fracture in patients complaining of hip pain following seizure episode and emphasizes need for clinical examination and early treatment in those patients which will aid in early recovery.

Conflict of Interest

Not available

Financial Support

Not available

References

1. Finelli PF, Cardi JK. Seizure as a cause of fracture. Neurology. 1989 Jun 1;39(6):858.
2. Friedberg R, Buras J. Bilateral acetabular fractures associated with a seizure: a case report. Annals of emergency medicine. 2005 Sep 1;46(3):260-262.
3. Nehme AH, Matta JF, Boughannam AG, Jabbour FC, Imad J, Moucharafieh R. Literature review and clinical presentation of bilateral acetabular fractures secondary to seizure attacks. Case reports in orthopaedics; c2012.
4. Nilsson OS, Lindholm TS, Elmstedt E, Lindbäck A, Lindholm TC. Fracture incidence and bone disease in epileptics receiving long-term anticonvulsant drug treatment. Archives of orthopaedic and traumatic surgery. 1986 Jun;105:146-9.
5. Haines HH. An unusual complication of convulsive therapy: Fracture of an abnormal acetabulum (otto pelvis). The Psychiatric Quarterly. 1944 Jun;18:273-277.
6. Sikkink CJ, van der Tol A. Unilateral transverse acetabular fracture with medial displacement of the femoral head after an epileptic seizure. Journal of Trauma and Acute Care Surgery. 2000 Apr 1;48(4):777-778.

How to Cite This Article
Sreejith GS, Jacob B, Ajith A. Atraumatic Acetabular Fracture after Generalized Seizure during Hemodialysis: A Case Report. International Journal of Orthopaedics Sciences. 2023;9(3):01-03.