

Atraumatic simultaneous bilateral proximal humerus fracture post seizure

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INTRODUCTION:

Simultaneous bilateral proximal humerus fracture is extremely rare. The most common cause is seizure and can be recognized as pathognomonic of seizures¹.

REPORT:

A 38-year-old, Nepali with no significant comorbidities presented to the Emergency Department (ED) with sudden onset of generalized tonic-clonic seizure at his workplace without any precipitating factors. Another episode of seizure occurred in ED, which was aborted with Valium and he was started on Phenytoin. He was diagnosed with a left temporoparietal hemorrhagic venous infarct. He complained of bilateral shoulder pain with a reduced range of motion following admission. Radiological investigation revealed bilateral proximal humerus fracture. A bilateral CT scan shoulder was done. Right side shows a 4-part fracture with subluxation of shoulder joint. Left side shows a 3-part fracture with preserved glenohumeral joint alignment. Patient was opted for conservative management.



Figure 1: Right shoulder AP X-ray



Figure 2: Left shoulder AP X-ray

CONCLUSION:

Bilateral posterior fracture dislocation of the shoulder was first described in 1902, followed by 35 cases based on literature reviews¹. Bilateral proximal humerus fracture is extremely rare and could be due to seizure, electrocution, motor vehicle accidents, or falling on both arms. Most commonly occurs in seizures; hence it's recognized as pathognomonic of seizures in atraumatic patients¹. It occurs due to unprotected falls or the sudden extreme extensor and internal rotator muscle contraction of the shoulder girdle during seizures. In epilepsy patients, the increased risk of fractures is due to the side effect of medication having a sedative effect, increasing the risk of uncontrolled falls and reducing bone mineral density¹. Treatment is difficult as there's a high chance for recurrence of shoulder instability after surgical intervention².

REFERENCES:

1. Brackstone et al., Triple "E" syndrome: Bilateral locked posterior fracture dislocation of the shoulders. *NEUROLOGY* 2001;56:1403–1404
2. Cucchi D et al., Epidemiology and specific features of shoulder injuries in patients affected by epileptic seizures. *Arch Orthop Trauma Surg.* 2022 March 28