

# CASE REPORT

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## **BILATERAL ANTERIOR DISLOCATION OF SHOULDER WITH GREATER TUBerosITY FRACTURE DUE TO HYPONATREMIA: A RARE PRESENTATION**

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**ABSTRACT:** We here report a rare presentation of bilateral anterior dislocation of shoulder with associated fracture of greater tuberosity in a 38 year old male due to minor trauma which he sustained secondary to hyponatremia induced irritability. There was no associated rotator cuff tear which is often associated with BADS which makes this presentation unique. Unilateral dislocation of shoulder is a common condition which is frequently encountered in emergency trauma department. Anterior dislocation is more common than posterior dislocation. However, simultaneous bilateral shoulder dislocations are usually posterior. Bilateral anterior dislocations with fractures of the greater tuberosity are even rarer and are usually associated with trauma or seizures.

**KEYWORDS:** BADS, hyponatremia, greater tuberosity fracture.

**INTRODUCTION:** Bilateral dislocation of shoulders is a very rare entity and is almost always posterior. Such dislocations are usually caused by sports injuries, seizures, electrocution and hypoglycemia. Anterior shoulder dislocations occurring bilaterally without any predisposing factors are very rare. These types of injuries are due to trauma with a unique mechanism of injury. Till date only around 40 such cases are reported.

**CASE REPORT:** A 38 year old male patient presented to RIMS OPD, SRIKAKULAM, INDIA in July 2014 with chief complaints of pain and restriction of movements in both shoulders following minor trauma. He presented twelve days following trauma. Patient sustained this injury when he fell down from a sitting stool with both his elbows touching the ground simultaneously. Immediately following trauma, he was semi-conscious and had severe pain and restriction of movements in both shoulders. Radiography of both shoulders showed BADS with bilateral Greater Tuberosity fracture. He was suffering from diarrhea for the past four days (prior to incident) and serum electrolyte assessment revealed hyponatraemia. He had no history of epilepsy, previous shoulder dislocations or instability in other joints. He is not a known smoker, alcoholic, hypertensive or diabetic. He has a family history of epilepsy.

**ON EXAMINATION:** Patient's arms were abducted, externally rotated at the time of presentation. There is loss of round counter of shoulders, increased vertical diameter of anterior axillary fold on both sides. There was no neurovascular deficit.

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**DISCUSSION:** BADS is a very rare condition.<sup>[1]</sup> First case reported in 1902 was due to camphor over dosage.<sup>[2]</sup> Of the 40 cases reported till date only about 15 of them had associated Greater Tuberosity fracture. Bilateral Posterior dislocation occurs relatively more common and is due to violent contractions of the muscles of the shoulder girdle.<sup>[3]</sup> Most of them were due to violent trauma or electrocution and very few reported cases were due to seizures. BADS is almost always associated with rotator cuff tear. In our case, patient had no history of violent trauma or epilepsy. As reported in literature, rotator cuff injury is very common in BADS with Greater Tuberosity fracture, but there is no Rotator cuff injury in our case which is evident in MRI reports. Presence of Bilateral Greater Tuberosity displaced fracture is even rarer. The greater tuberosity is displaced in the approximately 15% of all anterior shoulders dislocations of the shoulder.<sup>[4]</sup> Crowell and Smith reported a case of bilateral anterior dislocation of the shoulder without any fractures in a bench-pressing athlete.<sup>[5]</sup> Possible rotator cuff tears and other shoulder pathologies should be investigated by magnetic resonance imaging (MRI).<sup>[6]</sup>

In addition, patient had diarrhea for the past 4 days and developed hyponatraemia & dehydration which can be ascertained as the probable cause for fall due to irritability. Closed reduction of both shoulder dislocation carried out under general anaesthesia by Milch manoeuvre is usually performed<sup>[7]</sup> in acute presentations with no associated fractures. In spite of delayed presentation, we were able to reduce dislocation by closed manipulation. In order to achieve good abduction of shoulder and good range of motion, we fixed Greater Tuberosity with screws and Tension Band Wiring. The rarity of BADS with bilateral Greater Tuberosity fracture and absence of Rotator cuff injury along with hyponatraemia prompted us to relate this observation.

**CONCLUSION:** As BADS is very rare, it is important to take accurate clinical history, thorough clinical examination and adequate imaging in order to exclude the injury. This is especially of concern since reported rate of late diagnosis is >10%. In our case, the reported time is around 10 days as mentioned in literature. This is grossly misleading as this case is relevant to cervical spine injury and head injury.

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# CASE REPORT



Figure 1



Figure 2



Figure 3

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