

## Bilateral Shoulder Dislocation Presenting as a Unilateral Shoulder Dislocation: Case Report

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**Shoulder dislocations are a common condition seen by orthopedic surgeons and emergency medicine physicians. Shoulder dislocations typically present unilaterally and are anterior in nature. Bilateral simultaneous posterior shoulder dislocations are typically associated with seizure or electrocution and are more common than bilateral simultaneous anterior dislocations, which occur because of trauma or fall. In a traumatic setting, a shoulder dislocation may be accompanied by a distracting injury, and a thorough examination must be conducted to avoid overlooking concomitant diagnosis. The authors highlight the case of a patient who presented to the emergency department with the rare incidence of traumatic bilateral anterior shoulder dislocations, which resolved after 2 closed reductions. Orthopedic surgery and emergency medicine teams must maintain a high index of suspicion for injury to the contralateral limb to avoid missing pathologic changes due to distracting injuries.**

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**S**houlder dislocations are common and account for half of all major joint dislocations.<sup>1,2</sup> Anterior shoulder dislocations account for 95% of these cases.<sup>3-5</sup> Bilateral simultaneous shoulder dislocations are rare, with posterior dislocations being more common than anterior dislocations. Classically, most simultaneous anterior dislocations reported are related to trauma or fall, and simultaneous posterior dislocations are associated with seizure or electrocution incidents.<sup>6-9</sup> Bilateral shoulder dislocations resulting from trauma are likely to be missed and therefore pose a challenge to the physician. Anterior bilateral shoulder dislocations may be accompanied by trauma, and, as a result, distracting injuries may prevent diagnosis. In cases of bilateral posterior shoulder dislocations, the diagnosis may not be suspected because of the presence of seizure or electrocution. In both cases, results of the physical examination may be misleading because both shoulders will be symmetrical in comparison with the contralateral side. Osteopathic physicians must take care to do a thorough clinical examination, as patients may not complain of bilateral shoulder pain in the presence of distracting injuries. We report a case of a bilateral simultaneous anterior shoulder dislocation that presented with unilateral symptoms. This case is unique because few case reports in the literature describe simultaneous bilateral anterior shoulder dislocation. Our report demonstrates the challenges that a patient with this diagnosis presents and the potential for complications. The difficulties of diagnosis and treatment are described.

## Report of Case

A 61-year-old woman presented to the emergency department (ED) with left shoulder pain after falling from 2 steps approximately 45 minutes previously. She had no history of shoulder dislocation. The patient had attempted to brace herself from the fall by placing both of her arms in front of her. She was unable to recall the exact position of her arms at the time of impact. Her husband assisted her off the floor, and she was subsequently able to ambulate with assistance. She did not lose consciousness or experience seizurelike activity at the time of injury. The patient described left shoulder pain, which was aggravated with motion.

On examination, the patient was found to have a positive sulcus sign of the left shoulder, and her arm was maintained in a position of extension, abduction, and external rotation. She was neurovascularly intact. Left shoulder radiographs confirmed the diagnosis of a left anterior-inferior glenohumeral dislocation (*Figure 1* and *Figure 2*).

The patient received 4 mg of intravenous morphine and a 20-mL injection of 1% lidocaine into the sulcus created by the dislocated humeral head. Closed reduction was performed by means of traction-countertraction without complication. Postreduction radiographs demonstrated satisfactory reduction (*Figure 3* and *Figure 4*). The patient reported a decrease in shoulder pain, and a sling was fitted. She was given instructions by the ED staff regarding pain medication and the sling, and she was advised to follow up with an orthopedic surgeon after discharge. The patient was able to ambulate and was aided into the passenger seat of her husband's car.

During the course of the night after discharge from the ED, the patient experienced progressively increasing pain in her right shoulder. Despite having narcotic medications available for pain, she insisted on not taking them because of the adverse effects. She did not exhibit any signs of having drug habit-forming be-



**Figure 1.** Radiograph of an anterior-posterior view of the left shoulder demonstrating gross inferior dislocation of the glenohumeral joint.



**Figure 2.** Radiograph of a lateral scapula view of the left shoulder demonstrating gross anterior dislocation of the glenohumeral joint.



**Figure 3.** Radiograph of an anterior-posterior view demonstrating satisfactory reduction of the glenohumeral joint.



**Figure 4.** Radiograph of a lateral scapula view demonstrating reduction of the left shoulder.

havior. The next day, she saw an orthopedic surgeon for follow-up. The orthopedic surgeon examined the patient's right shoulder and observed a positive sulcus sign. The patient felt pain with any range of motion but was neurovascularly intact. Radiographs of her bilateral shoulders were obtained, and the reduction of the left shoulder was maintained; however, the right shoulder was found to have an anterior-inferior dislocation. The patient denied any traumatic or provocative incidents after the previous day's discharge from the ED. She was sent back to the ED.

While the patient was in the ED, radiographs were obtained and a diagnosis of right anterior-inferior dislocation was confirmed (*Figure 5* and *Figure 6*). After consultation with the orthopedic surgeon, the patient received a closed reduction of the right shoulder in a similar manner as the contralateral side, using a 20-mL injection of 1% lidocaine into the sulcus created by the dislocated humeral head and traction-countertraction techniques. Postreduction radiographs demonstrated satisfactory reduction (*Figure 7*, *Figure 8*, and *Figure 9*). The patient was neurovascularly intact after manipulation of the right shoulder, and she reported a notable decrease in pain. She was ultimately treated conservatively, with a short period of immobilization followed by improved range of motion. The patient achieved a good outcome despite a delay in diagnosis.

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## Discussion

Simultaneous anterior shoulder dislocations are extremely rare, presumably because a simultaneous force needs to be applied to both shoulders at the same instant. For this reason, simultaneous posterior shoulder dislocations, also rare, are more commonly reported in the literature than simultaneous anterior shoulder dislocations. Simultaneous bilateral posterior shoulder dislocations are usually caused by seizure activity or electrocution incidents as the weaker external rotators are overwhelmed by the contraction of the internal rotators.<sup>6-9</sup> Bilateral simultaneous anterior shoulder dislocations are typically caused by a force that causes extension, abduction, and external rotation of the shoulders, such as trauma or a fall.<sup>10-12</sup> The traumatic nature of these injuries can make the diagnosis difficult. In trauma-related incidents, dislocations may not be as apparent because of distracting injuries. Particularly in the case of bilateral



**Figure 5.** Radiograph of an anterior-posterior view of the right shoulder demonstrating gross inferior dislocation of the glenohumeral joint.



**Figure 6.** Radiograph of a lateral scapula view of the right shoulder demonstrating gross anterior dislocation of the glenohumeral joint.



**Figure 7.** Radiograph of an anterior-posterior view demonstrating a reduced glenohumeral joint of the right shoulder.



**Figure 8.** Radiograph of a lateral scapula view of the right shoulder depicting improved reduction.



**Figure 9.** Radiograph of an axillary view of the right shoulder demonstrating a concentric reduction of the glenohumeral joint.

shoulder dislocation, patients may not report pain in both shoulders.

To the best of our knowledge, this case is the first in the literature to describe a bilateral simultaneous anterior shoulder dislocation presented as a unilateral dislocation. The lack of pain in the contralateral shoulder may have contributed to the delay in diagnosis and treatment. It is likely that the patient did not complain of immediate pain in the right shoulder because she was also experiencing discomfort from the left shoulder dislocation. The addition of morphine for pain control may have also contributed to the patient's delayed perception of her own pain and injuries. The delay in diagnosis did not ultimately lead to an adverse outcome. However, the increased amount of time before definitive joint reduction carries a risk of neurologic injury and the possibility of a worse outcome.

## Conclusion

Bilateral anterior shoulder dislocation is a rare occurrence that must be considered in the treatment of patients to avoid delayed diagnosis and treatment. We propose that all patients who present with shoulder dislocations after trauma undergo a thorough physical examination including the contralateral shoulder and appropriate radiographic imaging. Such steps will help ensure an optimal outcome as well as decrease the likelihood of litigation.

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