

Clavicular fracture in an infant following febrile seizure.

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Abstract:

A seven month old infant presented with excessive crying on handling following recovery from a generalized tonic clonic seizure. On examination he was noted to have swelling and tenderness over his left clavicle. There was no history of trauma. Chest radiograph disclosed undisplaced fracture of left clavicle at the junction of outer third and middle third. The fracture was attributed to the seizure that occurred in the infant.

Key words: injury; seizures; infants

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Introduction

Injuries can occur either as a result of clinical seizure or due to an electrical seizure activity which is not apparent clinically. Orthopedic injuries, superficial injuries (cuts & lacerations), concussions and internal injuries are commonly reported [1]. Most injuries occur at home [1, 2] and hospitalization for injuries are reported to be three times more common in patients with epilepsy than in general population [1]. We describe an infant who developed a clavicular fracture due to generalized tonic clonic seizures following fever.

Case Report

A seven month old male infant was brought with history of seizures in the form of tonic clonic movements of both upper limbs and lower limbs, following a febrile illness which lasted for three days. The seizures lasted for less than 5 minutes. Following recovery from seizures, his parents noticed that he was crying excessively on being held. There was no history of lethargy, poor feeding or altered sensorium before or after the onset of seizures. There was no history of cough, cold, fast breathing or chest indrawing. There was no history ear discharge, vomiting, loose stools or exanthematous illness. There was no history of similar complaints in the past and no family history of febrile seizures or epilepsy was noted. He was developmentally normal and immunized for age with uneventful antenatal and neonatal period with a normal birth weight. On examination he appeared to be afebrile, conscious and crying. There was no evidence of bulging fontanelle or stiff neck. Systemic examination was essentially normal with normal vital signs. As the infant was observed to cry more on being held by his

chest, he was re-examined for possible musculoskeletal trauma and he was noted to have tenderness and swelling over his left clavicle with crepitus on palpation. Investigations revealed normal total and differential counts with normal blood sugar and serum calcium levels. An x-ray of the chest with right shoulder showed an undisplaced clavicular fracture at the junction of outer third and middle third. The infant was treated symptomatically with analgesics and sedation and a figure of eight bandage was used to fix the clavicle in position to encourage healing. There was no history of physical trauma or child abuse in the child and there were no further seizures during hospital stay.

Discussion

The risk of developing fracture in patients with seizures is two times more than it is among controls [3]. The mechanisms implicated for fractures include inability to activate protective reflexes during seizures and that of strong muscle contractions during seizure which leads to bone fractures [4, 5]. The common orthopedic injuries seen following seizures include injuries to spine, humerus, hip, forearm fractures and shoulder dislocations [3]. The risk of fractures is higher in first two years after diagnosis [6]. In our case, the initial suspicion was that of shoulder dislocation with clavicular fracture. However, the most common type of shoulder dislocation that follows a seizure is reported to be posterior shoulder dislocation in which the position of limb is that of adduction flexion and internal rotation with humeral head pulled upward and posteriorly due to strong contraction of shoulder muscles [7, 8]. In our case, the limb was adducted and flexed at the elbow joint with painful restriction of movements around his shoulder joint and there was no radiological

evidence of shoulder dislocation. The seizure type that is most commonly associated with injury is generalized tonic clonic seizure [9] as had occurred in our infant.

Conclusion

Management of patients with seizures should not only be limited to pharmacotherapy but also should include a counseling session regarding injury prevention strategies and also prompt treatment of injuries as and when they occur. Temporary restriction in activity till seizure control is achieved is necessary. In children with frequent seizures, long term restriction in activity with close supervision is warranted. Avoiding restraints during seizures and anticipatory guidance especially for infants and young children with seizures are of paramount importance in prevention of injuries in children with seizures.

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