

# ARM WRESTLER'S FRACTURE

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**Arm wrestler's fracture is an uncommon fracture sustained during the sport of arm wrestling. It is a spiral fracture situated at the junction of the middle and lower thirds of the shaft of humerus with a large butterfly fragment. We present two such cases. One patient also had a radial nerve palsy. Both the cases were treated conservatively. The fracture in the first case united with an external callus and complete recovery of the radial nerve palsy. The second case remained ununited at the end of 12 weeks and had to be managed by surgical intervention.**

Arm wrestling is a competitive sports and a popular past time. It involves two competitors seated opposite each other with their shoulders at 40 degree flexion, elbow resting on the table at 90 degree flexion, wrists neutral and hands gripping each other. With the elbows fixed on the table with vertical pressure, the competitors try to overpower each other by a pressure applied at the hand, trying to externally rotate the opponent's shoulder and bring the dorsum of his hand on to the table. The strain involves continuous strong contraction of the internal rotators of shoulder and biceps, and culminates by sudden yielding at the winning point of the contest. The winner's shoulder goes into internal rotation and the loser's shoulder goes into external rotation with the forearm resting on the table.

Arm wrestler's fracture is a closed spiral fracture situated at the junction of the middle and lower thirds of the shaft of humerus with a large butterfly fragment (Heilbronner, 1980). This is due to violent incoordinated muscular action. Butterfly fragment indicates that this fracture results from axial loading

epicondyle of humerus can also occur (Moon et al, 1980) particularly when the elbow of one of the competitors is lifted off the table.

## CASE REPORTS

**Case No.1 J.R.:** a 20 year old male tried to raise his arm from the table against the power of the opponent's arm. He suddenly experienced severe pain and an audible snap in the right upper arm. He presented with fracture of the shaft of humerus with radial nerve palsy. X-ray revealed a spiral fracture with a large butterfly fragment at the junction of middle and lower one thirds of right humerus (Fig.1). He was treated conservatively with a plaster slab and a wrist drop splint. The fracture united in a satisfactory position (Fig.2) and the radial nerve recovered completely.

**Case No.2 N,** a 36 year old obese man, was having a friendly challenge match of arm wrestling when the arm gave way with a snap. X-rays revealed the typical arm wrestler's fracture. There was no radial nerve palsy. The fracture did not unite at the end of 3 months' conservative treatment and therefore, required internal fixation and bone grafting.

## DISCUSSION

Fracture of the humerus in javelin throwers, baseball players and hand grenade throwers have been described by several authors. However, there are only a few reports of humeral shaft fracture due to arm wrestling in the world literature.

## REFERENCES

- Heilbronner DM (1980): Fractures of the humerus in arm wrestlers, *Clin. Orthop.* 139: 169-171.  
Moon MS, Kim I, Hyung Han I, Hoo K, Hwang JD (1980): Arm wrestler's injury: Report of seven cases, *Clin. Orthop.* 147: 219-221.



Fig.1: Fracture shaft of humerus with a butterfly fragment.



Fig.2: Fracture united.

with torsion and not from torsional force of the upper arm muscles alone. Occasionally avulsion fracture of the medial

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