

A Segmental Medial Malleolus Fracture: A Rare Entity

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ABSTRACT

Though medial malleolus fracture is very common ankle injury, here the present authors are presenting a very rare segmental medial malleolus fracture in a young person with indefinable mechanism of injury. The present authors aimed to provide a treatment so to achieve perfect anatomical reduction of the ankle mortise and avoid any alteration in mechanism of ankle joint. Open reduction internal fixation and stabilisation with conventional tension band wiring were performed. After six months, patient achieved full range of motion with no pain.

Keywords: Ankle injury, Fracture, Tension band wiring

CASE REPORT

An 18-year-old male presented to the emergency Department with history of pain, swelling and inability to move right ankle following road traffic accident one day prior to admission. There was no significant medical and surgical history.

On physical examination, the patient was conscious and oriented with stable vitals. On local examination, swelling was present on right ankle medially with no abrasion and bruises. Tenderness was present over medial side of right ankle with painful movement. The position of right ankle at time of injury was not defined. Rest of general and systemic examination revealed no obvious abnormality. Blood counts, liver and kidney function test were within normal limits. However, the ankle radiograph showed isolated segmental fracture of medial malleolus [Table/Fig-1], while chest radiograph was normal.



[Table/Fig-1]: Fracture Segmental Medial Malleolus of Right Ankle.

Patient was managed with limb elevation, ice pack followed by open reduction internal fixation with conventional tension band wiring passing through both fragments [Table/Fig-2]. After six months of follow-up, fracture was united [Table/Fig-3a,b] and patient was doing well with full range of movement at ankle joint. Patient consent



[Table/Fig-2]: Postoperative radiograph of right ankle.



[Table/Fig-3a]: (AP view)-six months post operated fracture with union.



[Table/Fig-3b]: (lateral view)-six months postoperated fracture with union.

was taken before publishing the case.

DISCUSSION

Ankle fractures are commonly seen in those who play contact sports and also the general population [1]. To identify a fracture and classify the type of injury is important for diagnosis, otherwise considered as occult ligament injuries [2]. Lauge-Hansen system describes many fracture patterns, but all fractures do not fit into a definitive pattern. It is the most common classification for ankle injury based on the position of ankle like adduction, abduction, supination external

rotation, pronation external rotation and vertical compression [3-6]. Here the present authors presented an extremely rare segmental fracture of medial malleolus not previously reported in literature yet, as to the best of authors knowledge.

Medial malleolus fracture is the most commonly occurring ankle injury in sports and high velocity ankle twist and trauma injury. The patient history gives an idea about mechanism of injury while diagnosis is confirmed by anteroposterior and lateral radiographs [7]. Undisplaced fracture can be treated conservatively with below knee cast [8], while in case of displacement open reduction internal fixation with tension band wiring [9] or fixation with cancellous screw is a choice [10]. In the index case, fracture pattern was segmental with transverse orientation of fracture fragment. Open reduction internal fixation was done by passing two K-wire through both fragment followed by tension band wiring in traditional way. Fracture was found to be united with full range of motion after six months.

CONCLUSION

Medial malleolus fractures are most common type of ankle fracture. Although segmental medial malleolus fracture is rare but intervention and outcome are same as unsegmented transverse displaced medial malleolus fracture.

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