A CASE REPORT ON ADJUNCT SINGLE CIRCULAR EXTERNAL FIXATOR' FOOT FRAME IN TREATING COMPLEX FRACTURE-DISLOCATION OF THE TARSAL NAVICULAR BONE

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Introduction: Fracture-dislocation of tarsal navicular is rare and commonly associated with dislocations of midtarsal (Chopart's) joint. The goals of treatment in this complex injuries are realignment of the medial and lateral columns of the foot and restoration of joint congruity. This article reports the combined method of direct restoration of joint congruity with internal implants of navicular with simple circular external fixator foot frame to maintain the column length.

Discussion: We performed a surgery on a 57 years old man, who presented 3 weeks late following a trauma with his left foot deformed in varus position. The plain radiograph of left foot showed crushed navicular bone with dislocation over Chopart' joint. Intraoperatively, patient was placed on single level circular external fixator to act as foot frame, connected by threaded rods, and held by multiple tensioned Ilizarov wires. This construct allowed acute or gradual compression-distraction forces over both columns. In this case, the medial column was acutely distracted to allow navicular bone fragments relocated back into place. Medial approach of the foot directed over navicular bone was performed and screw fixation and mini plate were applied to construct the navicular bone. No further fixation was performed as both columns' length maintained by the circular external fixator foot frame. The frame was removed at 2 months with maintenance of both column. Patient able to walk pain free with normal foot arch.

Conclusion: Adjunct simple circular external fixator can be considered as an alternative technique in other complex foot trauma surgeries with potential advantages of intra or postoperative gradual distraction or compression than internal fixation alone.