

Congenital Absence of the Lateral Ulnar Collateral Ligament Treated with a Novel Internal Joint Stabilizer for the Elbow

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Introduction

- Posterolateral rotatory instability (PLRI) can occur with injury to the LUCL. The most common etiologies are traumatic or iatrogenic. Little has been reported regarding congenital absence of the LUCL as a cause for PLRI.

- Classic treatment options include LUCL repair, reconstruction, and static or hinged external fixation. Recently the use of an internal joint stabilizer (IJS) used as an ‘internal external fixator’ has been described.

Objectives

- Describe the case of a 12-year-old healthy female with bilateral PLRI due to congenital absence of the LUCL after multiple failed stabilization procedures treated with LUCL reconstruction and IJS placement.

Methods

- Staged bilateral LUCL reconstructions using tendon allograft were performed. A volar distal radius locking plate was then bent and twisted such that the distal locking screws were fixed to the proximal ulna and a partially threaded screw was placed through the axis of ulnohumeral rotation allowing for immediate stable post-operative ROM.

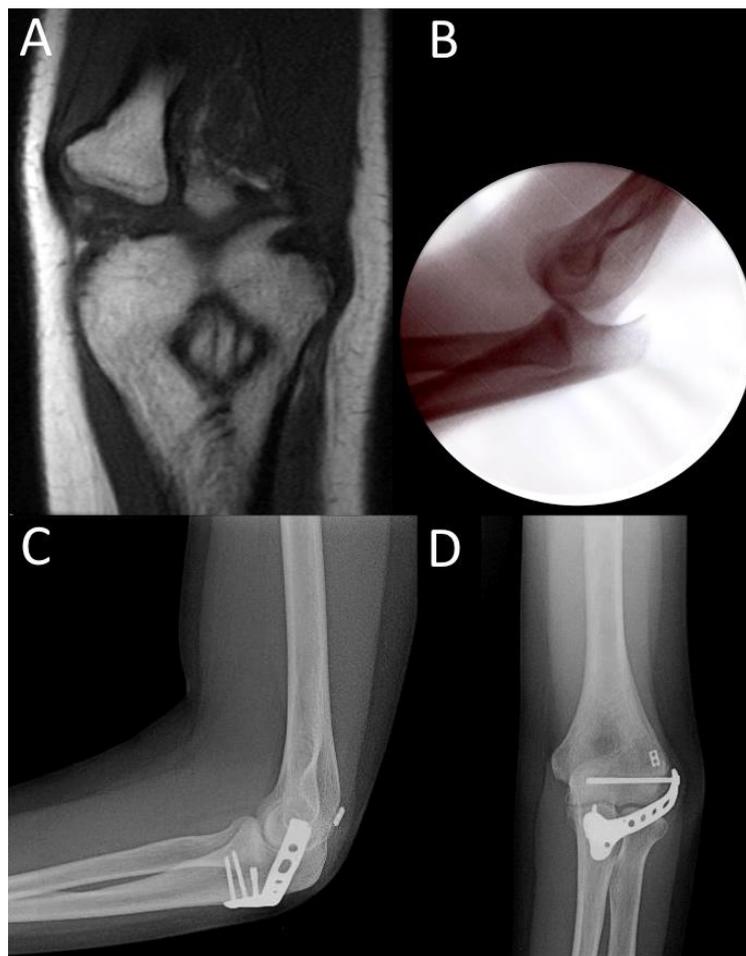


Figure 1A-D: **A)** representative sagittal T1 MRI demonstrating radial head subluxation and absence of a distinct LUCL. **B)** intraoperative elbow instability with lateral pivot shift test. **C,D)** post-operative lateral and AP radiographs demonstrating placement of the IJS with concentric reduction of the elbow.

Results

- Immediate stable post-operative ROM was achieved.

- Mayo Elbow Performance Score (MEPS) and Disabilities of Arm, Shoulder, and Hand (DASH) values improved at her most recent post-operative visit (7 and 11 months for the left and right elbows, respectively) as per Table 1.

Figure 2: bent, twisted volar locking plate used as the IJS



Table 1	DASH	MEPS	ROM
R. elbow	73→9	35→75	140
L. elbow	73→9	35→65	110

Conclusion

- This is the first report to our knowledge of congenital absence of the LUCL as a cause for PLRI.

- The IJS provides for immediate, stable post-operative ROM and significantly improves patient outcome scores.