Derotational humeral osteotomy for brachial plexus birth palsy

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ABSTRACT
Introduction: Brachial plexus birth palsy (BPBP) is a traumatic injury during delivery, affecting C5 to T1 nerve roots. The most frequent is the Erb’s Palsy, with C5 and C6 injury (80%), with different degrees of shoulder dysfunction. In those patients having a persistent functional impairment and glenohumeral joint contracture, several surgical techniques are suggested. One of them is the derotational humeral osteotomy, performed in patients with a severe gleno-humeral joint deformity.

Objective: To analysis of functional and aesthetic outcomes of this technique in patients with BPBP.

Patients and Method: We followed prospectively 10 patients with BPBP from the Teleton Institute, Santiago, between 7-13 years old, during 2003-2007, who have variable glenohumeral joint deformity and severe internal rotation shoulder contracture. They were treated with derotational humeral osteotomy and evaluated with Mallet score, clinical and radiological features pre and post surgery.

Results: We observed a significant improvement on Mallet score of 4 points, increased median from 30° to 55° on shoulder abduction, and from -10° to +30° on external rotation. All of them with p < 0.05. Parent’s opinion about aesthetic improvement of the extremity was good.

Conclusion: Derotational humeral osteotomy improves shoulder function because it increased shoulder external rotation and abduction and upper extremity appearance.

Key words: Brachial plexus birth palsy, humeral osteotomy, Mallet score.