**A prospective case study: Comparing two surgical techniques—the closing and reverse wedge osteotomy for treating clinodactyly**

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 **ABSTRACT:-**

 Background: Clinodactyly or inclination of the digits, particularly the fifth digit, is a congenital anomaly of the hand that occurs in 1% to 19.5% of the population. This deformity requires reconstruction of both the functional and the aesthetic appearance of the finger, if it is severe, to avoid future growth deformity. Objective: The study aims to review the outcomes and the complications associated with closing and reverse wedge osteotomy techniques for treating clinodactyly. Patients and Methods: Ten patients’ ten fingers with clinodactyly were submitted for reconstruction from March 2014 to May 2016 in the Al Wasity teaching hospital in Baghdad. They were treated using the closing and reverse wedge osteotomy techniques. In the closing wedge procedure, a wedge was removed from the most convex part of the middle phalanx. Subsequently, the finger is aligned in the midaxial plane and repaired with 2 K-wires. In the reverse wedge osteotomy, the wedge was rotated 180 degrees and reinserted into the bone gap with the wide end first. This buttressed the osteotomy open. Subsequently, the K-wires were inserted in retrograde fashion, maintaining the graft’s position. Then, dressing was applied with the small splint from the PIP to the tip of the finger. Results: After a 15-month follow-up, all the patients showed satisfactory results aesthetically and the functionally—with full range of motion. There was no recurrence in any case. Only one case had residual angulation and no major complications were encountered. Conclusion: The closing and reverse wedge osteotomy was proven effective in treating clinodactyly. The closing wedge is simpler than the reverse wedge. The technical difficulty of reverse wedge osteotomy may make it a less appealing option to surgeons but the outcomes we had were rewarding, both techniques provided good overall correction of angulation in one stage, and straightforward procedure, with few complications, good aesthetic outcome and patient satisfaction with improved function. Keywords: clinodactyly, closing wedge, reverse wedge