Twenty Years after a Novel Technique for Congenital Radioulnar Synostosis; A Series of 86 Limbs

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INTRODUCTION:

Congenital Radioulnar Synostosis (CRUS) is difficult to treat. Many techniques have been tried in an effort to restore forearm rotation; however, they have not been successful because of the extensive soft tissue involvement as well as postoperative scarring.

In Wilkie type I; the medullary canals of radius and ulna are joined, with several cm. fusion, with malformed proximal radius. Radius is longer and larger than ulna with increased its anterior arch. Fascial tissues are short, and their fibers are abnormally directed, interosseous membrane is narrow, and supinator muscles may be abnormal or absent. Sometimes no rotation is possible, even after the radius and ulna have been separated and the interosseous membrane has been split throughout its length. It is inadvisable by many authors to perform any operation with the hope of obtaining pronation and supination.

METHODS:

Eighty-six limbs in 57 children, 2.2 – 10.5 years old with CRUS, Wilkie type I, with fixed full pronation deformity were managed by *ALLAM'S OPERATION* which is a one-stage intervention including separation of the bony fusion, special cementation technique of the ulnar (or radial) side of the osteotomy, double osteotomy of the radius, and a single osteotomy of the ulna (all of the 3 osteotomies were done percutaneously) with intramedullary K.wire fixation of the osteotomies at the mid-prone position and above elbow cast application for 6 weeks.

RESULTS: Excellent significant functional range of forearm rotation (average:155 degree passive and 115 degree active) was obtained with no significant complications after a follow-up period of 4.9–21.5 y (average: 15.8y).

DISCUSSION AND CONCLUSION:

The ALLAM'S OPERATION is a one-stage intervention for CRUS, (Wilkie type I , with fixed full pronation deformity) with significant obtained active functional range of forearm rotation with no significant complications after a follow-up period up to more than 20 years in some cases.