

SURGICAL TECHNIQUES

SURGICAL CORRECTION OF ULNAR DEVIATION DEFORMITY OF THE WRIST IN PATIENTS WITH BIRTH BRACHIAL PLEXUS Palsy SEQUELAE

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ABSTRACT

Ulnar deviation deformity of the wrist in patients with birth brachial plexus palsy is an important cosmetic concern among the patients and their relatives; especially in the patients who have recovered the basic limb functions. Though there is ample literature available regarding the management of the shoulder deformity there is paucity of literature regarding management of wrist ulnar deviation deformity. We report our experience with correction of this deformity in five cases with isolated ulnar deviation deformity without forearm rotational deformity or weakness of the wrist muscles. All the patients underwent extensor carpi ulnaris (ECU) to extensor carpi radialis longus (ECRL) tendon transfer. At a minimum of 18 months follow-up all the patients and their families were satisfied with the cosmetic appearance of the limb. Correction of the deformity improves the appearance of the limb, improves self-confidence of the child, and allows them to integrate well into the society. Interestingly, the patients expressed improvement in their grip strength and overall hand function after this surgery. The notable functions which improved were easy reach of the hand-to-mouth for feeding and easy handling of the things requiring bimanual activities. Although the main aim of this operation was to correct the appearance of the hand it was found to be also functionally useful by the patients and hence we are encouraged to report it for wider use. The results were maintained during the follow-up period of as long as 47 months.

Keywords: Birth Brachial Plexus Palsy; Wrist Deformity; Forearm Deformity; Ulnar Deviation Deformity; Hand Deformity.

INTRODUCTION

Patients with birth brachial plexus palsy tend to develop secondary deformities because of muscle imbalance as a result of delayed recovery and co-contractions resulting from cross innervations in a growing skeleton. The deformities occur commonly at the shoulder and there is ample literature regarding the management of these deformities. There is paucity of literature dealing with correction of forearm and hand deformities, especially the ulnar deviation deformity of the wrist.

Ulnar deviation deformity can occur in two settings: in patients with partial recovery of global paralysis where it is usually associated with supination deformity and in patients with an intermediate type (C5, 6, 7 involvement) of palsy with spontaneous recovery where it is an isolated deformity in the forearm and hand along with the shoulder adduction and internal rotation deformity.^{1–3} The latter group of patients tend to have good hand function and once the shoulder deformity is corrected they will have good overall limb function because of the good hand and almost normal-like appearance of the whole

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