Contralateral medial pectoral nerve transfer with free gracilis muscle transfer in old total brachial plexus palsy

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Introduction

In old brachial plexus injury, the denervated muscles become atrophic and nerve transfer or nerve graft would not be effective; so FFMT is the only option, but in must cases there is no suitable donor ipsilateral nerve. So hand surgeons always have many problems in such circumstances. We try to introduce our method to solve this problem.

Methods

Between 2003-15 we had 68 patients with old Brachial plexus injury who had received no effective treatment and all extraplexal nerves had been used or were unusable, so we decided to use contralateral pectoral nerve. We had two stages. At first we used a Sural nerve graft for nerve transfer and banked it. Then after 12 months we transferred Gracilis muscle flap. After 1 year we recorded the muscle power.

Results

After one year 47 of our cases (77%) regained M4 and M3 muscle powers (Table 1). That means they were able to lift the weight of 4-6-kg and had the elbow flexion range between 35-60°. Forty-two patients could to bend their fingers (flu 31 of them could bend their thumbs.) (Table 1)

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Fig 1: Sural nerve harvesting

Fig 2: first stage operation

Fig 3: Post operative muscle strength

Fig 4: Post operation

References


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