Ulnar and median nerve transfers to arm muscles have been used to recover elbow flexion in infants with neonatal brachial plexus palsy, but there is no direct outcome comparison with the classical supraclavicular nerve grafting approach. METHODS:

We retrospectively analyzed patients with C5-C7 neonatal brachial plexus palsy submitted to nerve surgery and recorded elbow flexion recovery using the active movement scale (0-7) at 12 and 24 months after surgery. We compared 13 patients submitted to supraclavicular nerve grafting with 21 patients submitted to distal ulnar or median nerve transfer to biceps motor branch. We considered elbow flexion scores of 6 or 7 as good results. RESULTS:

The mean elbow flexion score and the proportion of good results were better using distal nerve transfers than supraclavicular grafting at 12 months ($p < 0.01$), but not at 24 months. Two patients with failed supraclavicular nerve grafting at 12 months showed good elbow flexion recovery after ulnar nerve transfers. CONCLUSION:

Distal nerve transfers provided faster elbow flexion recovery than supraclavicular nerve grafting, but there was no significant difference in the outcome after 24 months of surgery. Patients with failed supraclavicular grafting operated early can still benefit from late distal nerve transfers. Supraclavicular nerve grafting should remain as the first line surgical treatment for children with neonatal brachial plexus palsy [1)].

1)
Heise CO, Siqueira MG, Martins RS, Foroni LH, Sterman-Neto H. Distal nerve transfer versus supraclavicular nerve grafting: comparison of elbow flexion outcome in neonatal brachial plexus palsy with C5-C7 involvement. Childs Nerv Syst. 2017 Jun 24. doi: 10.1007/s00381-017-3492-0. [Epub ahead of print] PubMed PMID: 28647810.