Brachial plexus palsy


I would like to clarify a few issues.

The first report on the use of the brachialis motor branch as a nerve for transfer belongs to Alexander Lurje, who transferred the brachialis motor branch to the radial nerve. In 1999, Dr. Zulmar Accioli de Vasconcellos first reported using the brachialis motor nerve to reinnervate motor branches of the median nerve. In 2002, he presented his experience to brachial plexus surgeons at a Club Narakas symposium (Vasconcellos ZAA, Oberlin C, Mira JC. A special neurotization to use in the rare avulsions C7, C8, T1 to wrist and finger flexion [anatomic study and case report]. XIII International Symposium on Brachial Plexus Surgery. Club A. Narakas Meeting, 2002, Paris). The originality of Dr. Accioli de Vasconcellos’ presentation has been recognized by other brachial plexus surgeons.

Concerning supinator motor branch transfer to the posterior interosseous nerve, our anatomical investigation was published in the Journal of Neurosurgery in 2009, followed in the same year by our clinical study. We observed that the number of myelinated fibers in the supinator motor branches corresponds to 70% that of the posterior interosseous nerve, which makes the supinator nerve a suitable donor for transfer. In a later report, we confirmed the interest of such surgery in 4 patients. Our experience also was presented to the brachial plexus community at the 2009 Club Narakas meeting, in Luxembourg. Our results were similar to those reported by Dong et al. Contrary to the opinions of these authors, however, we observed that, in chronic cases in which nerve transfer is not indicated, the supinator muscle can indeed be used to improve thumb extension.3

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Response: We read Dr. Bertelli’s letter and cited references with great interest. We sincerely thank him for reminding us of the preexisting report by Dr. Zulmar Accioli de Vasconcellos, which was written in French and included only in his Ph.D. thesis. Therefore, it was not indexed for the Medline retrieval system and not available to the general public. In 1948, Dr. Alexander Lurje, from the Union of Soviet Socialist Republics, used brachialis motor branch to neurotize the radial nerve, which was different from Dr. Yu-Dong Gu’s reported technique.4 Considering supinator motor branch transfer, at the 2009 Club Narakas meeting in Luxembourg, Dr. Bertelli presented his anatomical feasibility paper and preliminary clinical findings, and we reported our clinical experience with longer follow-up. In the same year, at the 18th Sunderland Society meeting in Shanghai, the Sunderland community had the opportunity to examine one of our cases 2 years after this transfer. (To our knowledge, this case, finished in 2007, is probably the world’s first case ever done.) Dr. Bertelli’s and our experience convince us it is a useful and reliable method in restoring thumb and finger extension after C7–T1 avulsion. However, we disagree with him regarding his assertion that 6 months should be considered as too late for this nerve transfer as our Case 2 (see Table 1 in the article), which was delayed for 16 months, gained M2 muscle strength in extensor digitorum communis and M1 in extensor pollicis longus rotisations intra- et extra-plexuelles du plexus brachial et de ses branches terminales. Étude chez le Rat et chez l’Homme [dissertation]. Paris: René Descartes University, 1999

1. Accioli de Vasconcellos ZA: Contribution à l’étude des neu-

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15 months postoperatively (by the time the manuscript was submitted) and reached M3 in extensor digitorum communis and extensor pollicis longus 21 months after surgery.\(^1\) Compared with Dr. Bertelli’s supinator muscle to extensor pollicis brevis transfer, which only leads to thumb extension, this late case had extension recovery in all 5 fingers. Therefore, we have reason to believe that for chronic cases as late as 2 years, this method may still be useful, although certainly the regeneration process takes longer.

In Dr. Bertelli’s series, he reported that the thumb and finger extensions in all his patients were associated with supination. We have observed an interesting phenomenon in that for the patient in whom both supinator motor branches were divided for transfer, which was exactly what Dr. Bertelli did in all his cases, facilitatory extension could not be achieved. However, in the patients with only one main branch taken for transfer (for preserving forearm supination when the elbow is fully extended or flexed to abolish supination by the biceps brachii), they could extend thumb and fingers more freely (Video 1 and Fig. 1). Whether preserving one supinator motor branch is the reason for the facilitatory extension recovery requires further study.

**Video 1.** Video showing the full extension recovery of the thumb and second–fifth fingers in a patient 15 months after single supinator motor branch transfer to the posterior interosseous nerve. Note that the patient’s finger extension is not associated with forearm supination. The finger flexion was reconstructed by brachialis motor branch transfer to the median nerve at mid-upper arm level without a nerve graft. Click here to view with Windows Media Player. Click here to view with Quicktime.

Finally, we congratulate Dr. Bertelli on his excellent contribution in treating lower plexus lesions in which the final goal is restoration of the pinch function of the hand (apart from what we have achieved, that is, finger flexion by brachialis motor branch transfer to the anterior interosseous nerve or brachialis muscle transfer to the finger flexors and finger extension by supinator motor branch transfer to the posterior interosseous nerve).

**References**


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**Endoscopic third ventriculostomy**


Neuroendoscopy is rapidly evolving. In particular, endoscopic third ventriculostomy (ETV) offers a promising future in the management of hydrocephalus, given the known complications of ventriculoperitoneal shunting. Although variable success rates for ETV have been reported,\(^{1,3}\) many surgeons consider the procedure the treatment of choice in managing hydrocephalus in children.

Whereas ETV’s success in treating hydrocephalus has been widely reported, opinion on its efficacy in treating communicating hydrocephalus is mixed.\(^{2,5}\) Many studies have hitherto focused on the role of the procedure...