by one letter writer a decade ago[2] is answered in the affirmative. The symptoms experienced by his patients were, in fact, due to "bends of the breast." Notably, there is no risk of implant rupture.
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DISCLOSURE

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Supraclavicular Nerve Graft Interposition for Reconstruction of Pediatric Brachial Plexus Injuries

Sir:

Interposition nerve grafting is an important tool for reconstructing pediatric brachial plexus injuries. Conventional donor nerves, such as the sural, medial/lateral antebrachial cutaneous, saphenous, and superficial radial nerves, have been used with good success. With a relatively small diameter, however, several segments are required for large proximal reconstruction. In addition, nerve harvest translates into additional incisions, sensory loss over the extremity, and the potential need to change patient positioning. The supraclavicular nerve, a sensory nerve derived from the C3-C4 cervical roots of the superficial cervical plexus, offers many advantages: it is already in the operative field and easy to locate with a predictable anatomical pattern, and has a well-matched caliber for larger proximal targets and smaller distal targets, excellent length, and minor donor-site morbidity. In this article, we describe the technical use of the supraclavicular nerve in pediatric brachial plexus reconstruction and highlight some of its potential advantages.

A 6-month-old patient with minimal improvement of a right Erb obstetrical palsy underwent brachial plexus exploration. A skin incision was made along the lateral aspect of the right sternocleidomastoid muscle down to the supraclavicular region and followed laterally along the clavicle. A subplatysmal flap was reflected laterally. The supraclavicular nerve was identified just posterior to the sternocleidomastoid muscle, with large and well-defined intermediate and lateral rami (Fig. 1). The C5 and C6 nerve roots were noted to be intact, with C5 demonstrating normal fascicular architecture proximally. Significant neuroma enveloped C5 and C6 at their confluence, the suprascapular nerve at its takeoff, and the proximal portions of the anterior and posterior divisions of the upper trunk. Electromyogram recordings confirmed significant supraspinatus electrical activity with distal stimulation of the suprascapular nerve, as well as appreciable biceps and deltoid electrical activity with stimulation distal to the scarred fascicles of the anterior and posterior divisions, respectively.

Operative treatment began with neuroma resection. The lateral ramus of the supraclavicular nerve was chosen for interpositional nerve grafting, given its favorable branching pattern. A single nerve coaptation was performed proximally between the cut end of the C5 root and the large trunk of the lateral ramus. Eight branches emanated distally from the graft, three of which were coapted to the suprascapular nerve, three to the anterior division of the upper trunk, and two to the posterior division of the upper trunk (Fig. 2). The surgical site was then closed in a layered fashion.

Cadaveric studies have highlighted the supraclavicular nerve's predictable anatomy, originating as a common stem posterior to the sternocleidomastoid muscle with 97 percent of specimens possessing medial and lateral rami and 49 percent containing the additional intermediate ramus.[1] The medial, intermediate, and lateral rami provide sensation over the sternal angle, anterior chest, and shoulder, respectively. The main rami are flattened structures with an average diameter of about 2.5 to 2.7 mm and contain two to five fascicular

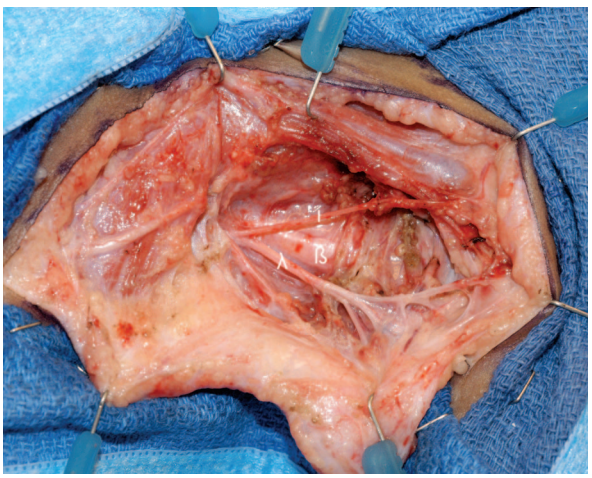

Fig. 1. Intraoperative photograph of the surgical approach to the brachial plexus reconstruction. Note the close proximity of the intermediate (ι) and lateral rami (λ) of the supraclavicular nerve to the scarred in brachial plexus (ß).

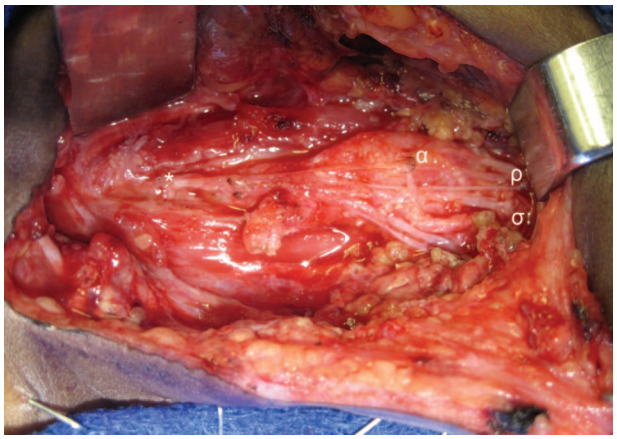

Fig. 2. Intraoperative photograph demonstrating use of the lateral ramus of the supraclavicular nerve as an interpositional nerve graft. With its favorable branching pattern, the large trunk of the lateral ramus was coapted to the proximal end of the C5 nerve root (*). Smaller branches emanating distally from the graft were then coapted separately to the distal ends of the suprascapular nerve (σ) as well as to the anterior (α) and posterior (ρ) divisions of the upper trunk.

units.[2] Prior studies have used the supraclavicular nerve in intraoral reconstruction,[3] reconstruction of the median sensory branch in adult brachial plexus injury,[4] and restoration of the mental nerve.[5]

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Crossover Replantation of Carpometacarpal after Traumatic Amputation

Sir:

In April of 2009, a 46-year-old man presented with massive injuries after being crushed by playing rig. His right forearm showed severe avulsion-type amputation, and there was extensive skin loss on the right forearm. The wound of the proximal stump was severely contaminated, and his left hand showed extensive crush injury below the second and fifth metacarpophalangeal joint level (Fig. 1). Orthotopic replantation was not possible because of the extensive soft-tissue damage and multiple fractures, but the right palm and second, third, and fourth fingers were well preserved. No additional injury was found. Intensive care to compensate for blood and fluid loss was started immediately at 1 hour after injury.

After a rapid débridement, the right metacarpal bones were then shortened approximately 5 cm proximal to the wrist, and the vasculars, nerves, and tendons on the right palm were all separated (Fig. 2). The right little finger and left thumb were sutured to a local flap. After the ends of left and right metacarpal bone fixation were established with cross-Kirschner wires, the flexor and extensor tendon ends were repaired with 0/1 pull-out tendon sutures. The stumps of the muscles were sutured respectively. Corresponding fractured vessels and nerves were sutured using 10/0 microscopy without any grafts. Every main artery of the palm was sutured. Hand veins were anastomosed to guarantee adequate venous drainage for each finger. With our technical modification, the soft tissues and bones were repaired successfully, and

Fig. 1. View of the crushed left upper extremity.