



Fig. E1-A

A twenty-year-old patient sustained a right total brachial plexus avulsion injury following a motorcycle accident, resulting in complete paralysis of the right upper extremity. He underwent surgical exploration and nerve repair three months after the injury. Contralateral C7 nerve root transfer via the modified prespinal route and direct coaptation with the injured lower trunk was performed, and the musculocutaneous nerve was also neurotized by the contralateral C7 nerve root through the bridging medial antebrachial cutaneous nerve. The distal accessory nerve was used to neurotize the suprascapular nerve for shoulder elevation at the same stage.

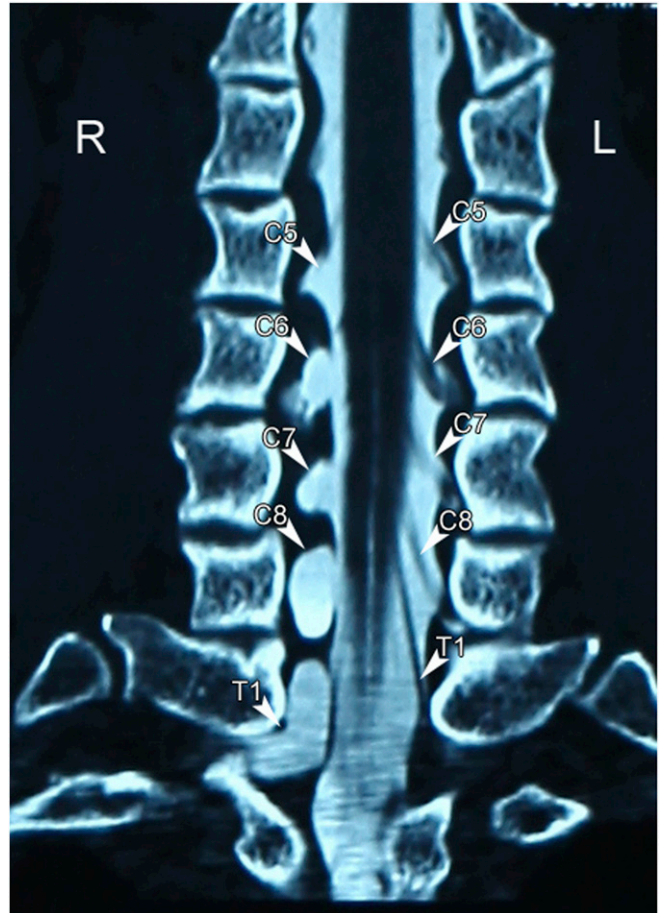


Fig. E1-B

Preoperative CT myelography of the same patient showing five large pseudomeningoceles at the C5 to T1 level and an absence of corresponding nerve-root-filling defects, which demonstrated a preganglion injury of the C5 to T1 nerve roots (right [R]). The coronal reconstruction image of the normal side (left [L]) shows the intradural ventral rootlet-filling defects of C5 to T1.

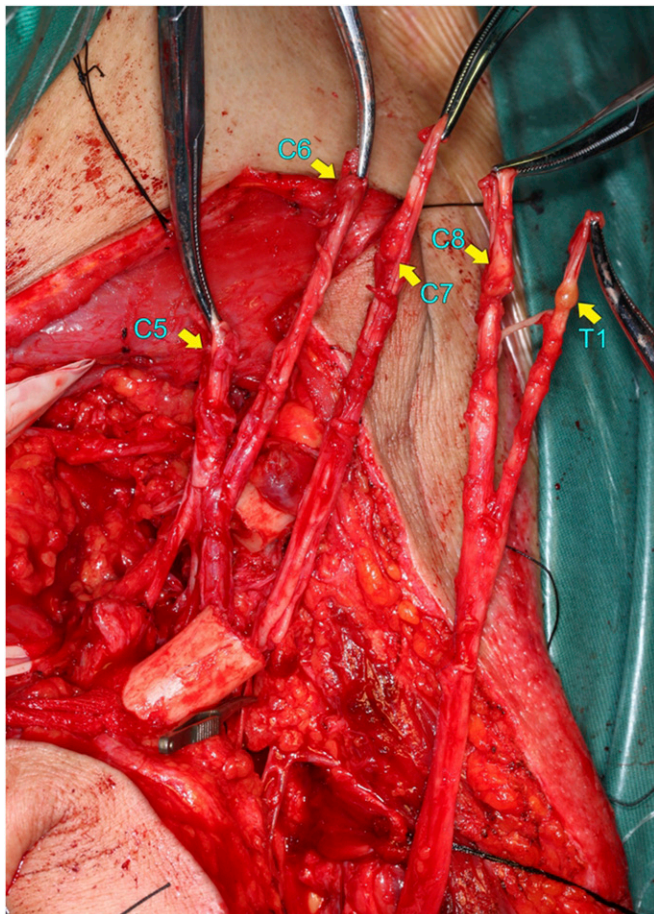


Fig. E1-C

Intraoperative exploration confirmed the avulsion of the C5 to T1 nerve roots. The ganglions of C6 to T1 were clearly identified. However, no ganglion was identified for C5. No residual nerve root stump was found on further exploration of the C5 root up to the foramina. This indicated that there was avulsion of the C5 root, and its ganglion may have been degenerated and fibrotic.



Fig. E1-D

A right wrist fusion was performed forty-three months after the first-stage reconstruction. Forty-eight months after the first operation, the patient was seen with strong finger flexion (M4) as well as adequate elbow flexion (M3+). A mild synchronous contracture of the normal upper limb was seen.