Guest Editorial

Peripheral Nerve Surgery: Where Do Neurosurgeons Stand?

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It is a fact that not many neurosurgeons are practicing peripheral nerve surgery or getting trained for it, with occasional exceptions. This is a matter of surprise and concern. Neurosurgeons worry that ENT (ear, nose, and throat) is taking over skull base surgery, spine and TBI (traumatic brain injury) is being taken over by trauma surgeons, and neurovascular cases are now under the gambit of interventionists. However, the neurosurgical community seems to be either indifferent or resigned about peripheral nerve surgeries.

Let us examine some realities. Results of peripheral nerve surgery take time to manifest. One needs to be patient and be willing to wait for some time (between 6 months and even 1.5 years). After a careful and sometimes tedious dissection and repair of the nerve, the results are not exactly as one would expect and seem disproportionate to the efforts undertaken. The results may not always be encouraging, even after a long wait.

A surgeon should also understand that peripheral nerve injury generates a cascade of events. Wallerian denegation, growth cones, bands of Bunger, regeneration across the distal segment are often remembered. The lesser remembered events include death of cell bodies (due to loss of large amounts of axoplasm), transneuronal degeneration, bombardment of anhidrotic impulses, and changes in cortical and spinal levels with reorganization. Most of the times, the clinician addresses only the well-known facts and tends to be unaware of the more obscure pathology.

There lies the problem—of not recognizing the cause of poor results of surgical repair.

The current status of nerve repair is that there is a reasonable amount of clarity regarding the timing of repair, placement of sutures, choice of donor nerves, selection of grafts, changes in the spinal cord and brain following brachial plexus injury, and the management of dysesthetic pain.

The waiting period to consider surgical management of plexus/nerve injury is also well established. Also well known is the need to keep the end organ intact, the need to keep the cortical changes and reorganization suitable for reinnervation, as well as to reeducate the muscle with range-of-motion exercises and donor synkinetic exercises as required.

Any surgeon doing peripheral nerve repair would do well to keep these facts in mind and accept the limitations of the repair process (either spontaneous or operative).

The need of the hour is for better training of a general neurosurgeon who is trained in emergency and critical care of neurotrauma and vascular strokes, neuro-oncology including skull base, spine, functional neurosurgery, and gamma knife as well as peripheral nerve surgeries. Another important need is the availability of good medical colleges and district hospitals with proper infrastructure and financial support where people can work with dignity and security.

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