

PICTORIAL REPRESENTATION OF PRE-GANGLIONIC vs POST GANGLIONIC BRACHIAL PLEXUS INJURIES

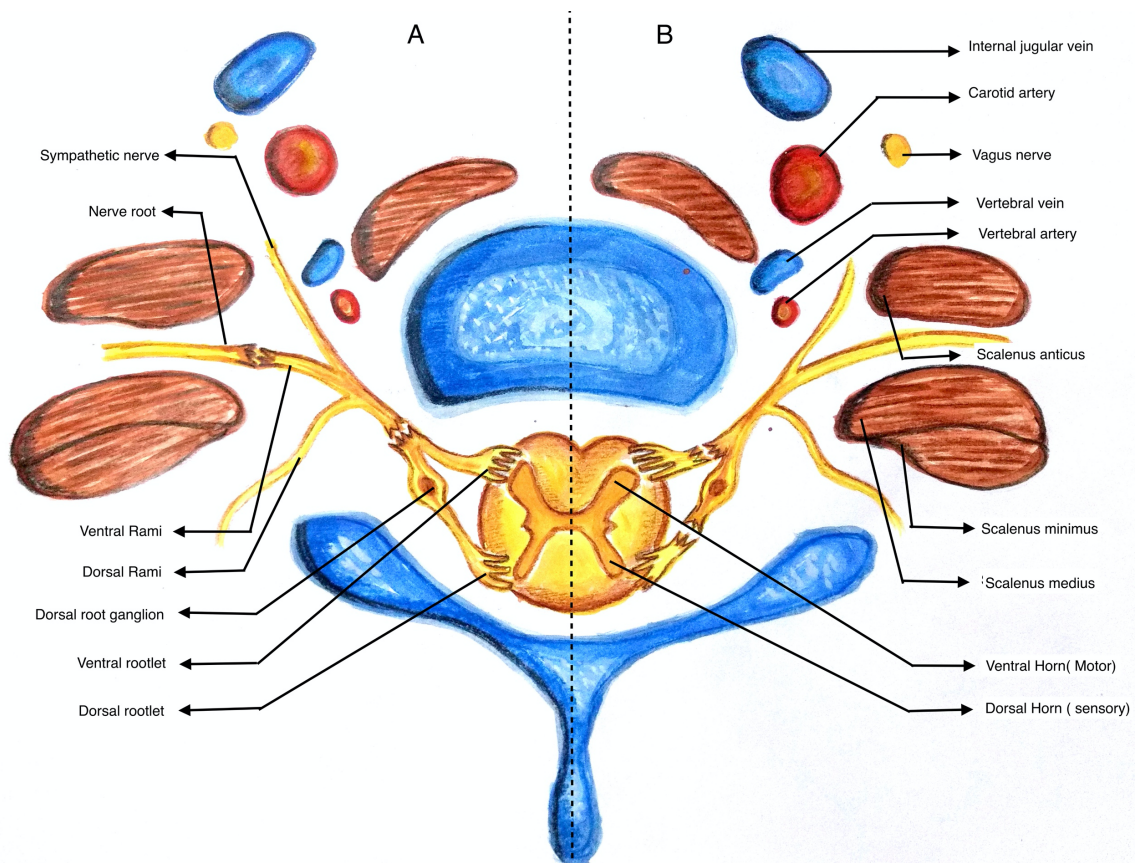


Figure 1 – The spinal cord has dorsal(sensory) horn and ventral(motor) horns. The brachial plexus nerve root is formed by the joining of the dorsal and ventral rootlets which receive their contribution from the dorsal and ventral horns of the spinal cords respectively. The cell body of the sensory rootlets lies in the dorsal root ganglion, whereas the cell bodies of the ventral root lies within the grey matter of the anterior horn. The sympathetic ganglia also contribute to the spinal nerve. After emerging from the spinal cord foramina, the spinal root divides into dorsal and ventral rami. The ventral rami contribute to the formation of brachial plexus.

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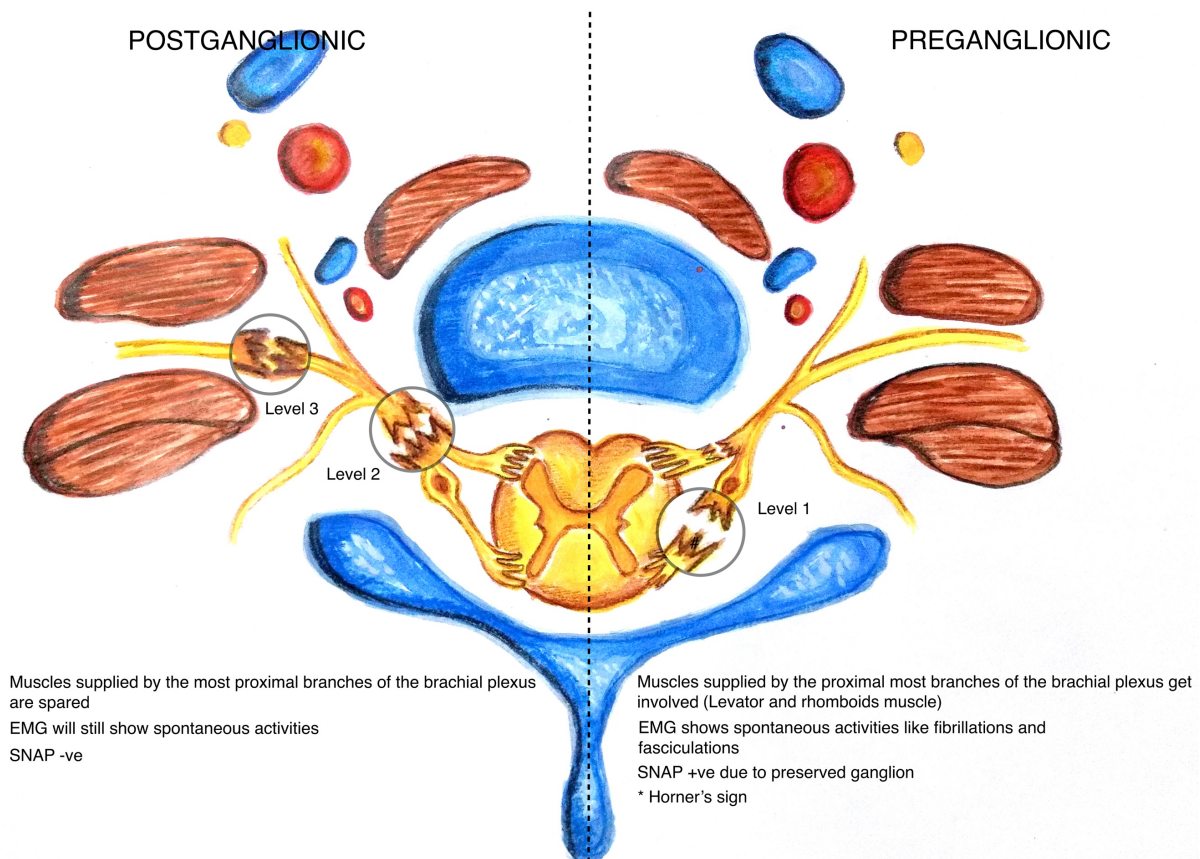


Figure 2 – lesions of brachial plexus are divided into two broad categories pre-ganglionic and post-ganglionic.

Pre-ganglionic (Level 1) – Rupture of dorsal root (sensory root) proximal to its nerve root ganglion preserves the cellular integrity of the sensory nerve and therefore SNAP amplitude is near normal in these lesions. It may occur in isolation theoretically but in practice most of the time it involves the ventral root also at the same level.

Post ganglionic intra-foraminal (level 2) – Rupture of the spinal nerve distal to the dorsal ganglion but proximal to contribution from the sympathetic ganglion. The Horner's sign may be positive despite the injury being post- ganglionic.

Post ganglionic extra-foraminal (level 3) – Rupture of spinal nerve distal to the dorsal root ganglion after the contribution from sympathetic ganglion and distal to where dorsal rami take off.