

The Brachial Plexus: An Anatomic and Histologic Investigation of Variations

The brachial plexus can develop with many types of variations as it travels from the cervical spine to the hand. Specific variations have been shown to cause prolonged symptoms after surgical procedure for otherwise unrelated conditions. Identification of more common variations are seen during presurgical electromyography with signal velocity and amplitude differences. The Missouri Southern State University human dissection lab has a current variation rate of 87.5%. Cross section samples of variations stained with hematoxylin and eosin have varying nerve fiber type populations. Microdissection of the nerves elucidate variant fascicle distribution throughout typically taught brachial plexus anatomy. The high rate of brachial plexus variations found in the dissection lab are likely due to the small sample size of the study. Larger sample sizes of more recently acquired cadavers are also needed for accurate identification and statistical analysis of variant nerve fiber type populations. The extent of muscle innervation by variants through histologic staining will be beneficial for accurate assessment of clinical significance.