

Does The Pattern Of Innervation Of Brachialis By The Musculocutaneous Nerve Influence The Presence Or Absence Of The Radial Nerve Contribution?

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Date: 2013

Abstract:

The innervation of brachialis muscle by the musculocutaneous nerve has been described as either type I or type II and the main trunk to this muscle is rarely absent. The contribution by the radial nerve however ranges from 30 to 100%. It is not clear if the presence or patterns of supply to this muscle by either nerve are interdependent. The aim of this study was to determine the pattern of innervation of brachialis by the musculocutaneous nerve and relate it to the presence and contribution from the radial nerve. Fifty seven arms (25 male and 4 female); 29 right and 28 left from formalin-fixed adult cadavers were used. The pattern of musculocutaneous branch to brachialis was recorded based on the classification by Yang et al. into either type I or II. The presence and number of branches by the radial nerve to the same muscle were determined and related to the pattern from musculocutaneous. The musculocutaneous nerve supplied brachialis in all (100%) of the cases while the radial nerve did so in 33 arms (57.9%). Type I was the predominant pattern in both left and right arms (91.2%) with no correlation between the type of innervation by musculocutaneous nerve and the radial nerve contribution.