

P56

Optimal Recording Site of the Trapezius in the Preoperative Patient with Head and Neck Cancer

Ki Hoon Kim^{1*}, Se Young Shin¹, Dong Hwee Kim^{1†}

Korea University Ansan Hospital, Department of Rehabilitation Medicine¹

Objective

To determine the optimal recording site of the trapezius muscles in motor nerve conduction study in the preoperative patients with head and neck cancer.

Methods

A total of 32 upper (UT) and middle (MT) trapezius muscles of 16 preoperative patient with head and neck cancer were recruited retrospectively. The spinal accessory nerves were stimulated on the posterior margin of the sternocleidomastoid muscle at the midway between mastoid process and suprasternal notch. For UT recording, the midpoint (point M) between the C7 spinous process and the acromion was determined. Active recording electrode was placed on the 4 cm (P4) and 2 cm (P2) proximal to point M, point M, and 2 cm (D2) and 4 cm (D4) distal to point M in sequence. For MT recordings, active recording electrodes were located on the following sites: midpoint between the root of scapular spine (Sc) and vertebral spinous process (SP) at the level; medial and lateral one third between the Sc and the SP.

Results

The mean age were 62.1 ± 12.1 years. The distance between the C7 spinous process and the acromion was 20.7 ± 1.0 cm. The compound muscle action potential (CMAP) amplitudes of the UT were 4.4 ± 1.0 , 7.3 ± 1.3 , 8.4 ± 1.6 , 5.4 ± 1.3 , and 3.2 ± 1.2 mV with the recordings in the P4, P2, M, D2, and D4, respectively. The CMAP amplitudes of the MT were 3.9 ± 1.5 , 2.6 ± 1.1 , and 4.3 ± 1.6 mV with recording in the midpoint between the root of scapular spine (Sc) and vertebral spinous process (SP) at the level, medial and lateral one third between the Sc and the SP, respectively.

Conclusion

The optimal recording site of the upper trapezius muscles in motor conduction study was the midpoint (M) between the C7 spinous process and the acromion.