

عنوان مقاله:

Abductor Pollicis Brevis/Abductor Digiti Minimi Compound Muscle Action Potential Ratio as a Diagnostic Marker for Amyotrophic Lateral Sclerosis

محل انتشار:

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خلاصه مقاله:

Background: We aimed to assess the diagnostic utility of abductor pollicis brevis/abductor digiti minimi compound muscle action potentials (APB/ADM CMAP) ratio as an indicator of split hand phenomenon in the differentiation of amyotrophic lateral sclerosis (ALS) patients from healthy controls. Objectives: To assess diagnostic utility of APB/ADM CMAP ratio as an indicator split hand phenomenon in differentiation of ALS patients from healthy controls. Materials & Methods: This cross-sectional retrospective study was conducted at Alzahra and Kashani hospitals of Isfahan, Iran, in ۲۰۲۱. The study population consisted of all patients with definite diagnoses of ALS who had undergone electrophysiological studies within the previous ۵ years. APB/ADM CMAP ratio was calculated in both groups based on right/left hand and below/ over ۵۰ years of age. The statistical analysis also evaluated the diagnostic accuracy of the APB/ ADM amplitude ratio. Results: A total of ۲۰۰ ALS patients and ۲۰۰ healthy controls were evaluated. APB/ADM ratios of the right hand in the controls and patients were 1.27 ± 0.71 and 1.27 ± 1.69 ($P=0.961$), while in the left hand, these figures were 1.30 ± 0.54 and 1.11 ± 0.97 , respectively ($P=0.018$). Analysis based on age group revealed a significant difference in the APB/ADM amplitude ratio in the left hand of individuals younger than ۵۰. The cut-off points of ۰.۸۱ (sensitivity=۸۶.۲% and specificity=۵۸.۷%) and ۱.۰۳ (sensitivity=۷۲.۵% and specificity=۵۸.۵%) were calculated for right and left hands, respectively. Conclusion: APB/ADM CMAP ratio is a relatively highly sensitive but moderately specific diagnostic marker for differentiating ALS patients from healthy controls with higher diagnostic utility in patients younger than ۵۰.

کلمات کلیدی:

Muscle atrophy, Amyotrophic lateral sclerosis, Split hand

