عنوان مقاله:

Abnormal Patterns of Biceps and Triceps Co-Contraction Following Elbow Surgery May Result in Elbow Stiffness

محل انتشار:

مجله استخوان و جراحی عمومی, دوره 11, شماره 6 (سال: 1402)

تعداد صفحات اصل مقاله: 6

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خلاصه مقاله:

Objectives: This study examines the pattern of muscular contraction and the intensity of this contraction of the biceps and triceps following elbow surgery. Methods: We performed a prospective electromyographic study of ۱۶ patients undergoing ۱۹ surgical procedures on the elbow joint. We measured the resting EMG signal intensity of the biceps and triceps of the operated and the normal sides at ۹۰ degrees. We then calculated the peak EMG signal intensity during passive elbow flexion and extension of the operated side. Results: Seventeen of ۱۹ elbows (۸۹%) displayed a co-contraction pattern of the biceps and triceps near the end of flexion and extension during the passive range of motion. The co-contraction pattern was observed near the end of the range of motion in both flexion and extension. In addition to the observed co-contraction patterns, we detected higher contraction intensities for the biceps and triceps muscles in all patients in both flexion and extension for the elbows, which had been treated surgically. Further analysis suggests an inverse correlation between the biceps contraction intensity and the arc of motion measured at the latest follow-up. Conclusion: The co-contraction pattern and increased contraction intensity of periarticular muscle groups may result in internal splinting mechanisms, contributing to the development of elbow joint stiffness, which is frequently observed following elbow surgery. Level of evidence: III

کلمات کلیدی:

Biceps, Co-contraction, Elbow contracture, EMG, Heterotopic ossification, Instability, Triceps