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Spring 5-10-2021

## **UPPER-CROSSED SYNDROME AND DISABILITY IN SHOULDER ADHESIVE CAPSULITIS.**

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## UPPER-CROSSED SYNDROME AND DISABILITY IN SHOULDER ADHESIVE CAPSULITIS.

Study design: Cross-sectional analytical study.

Introduction: Adhesive capsulitis (AC) is a long-standing condition with varying extents of disability seen among patients. The role of postural manifestations and contractile tissue involvement in this condition is poorly understood and yet to be explored.

Purpose: This study aimed to analyze if individuals with adhesive capsulitis demonstrated the characteristics of an upper crossed syndrome (UCS) postural manifestation, and whether or not its presence had an effect on the extent of disability experienced by this population.

Methods: Sixty five individuals with AC were assessed for the presence of UCS. Scapular muscle strength and length alterations, forward head posture (FHP) and disability was assessed in all and then subsequently compared between those with and without UCS. Paired T-test and an independent T-test were utilized to compare means within and between these groups respectively, while non-parametric measures were utilized for their skewed counterparts. Phi coefficient ( $\phi$ ) was used to determine the strength of association between the descriptive patient characteristics. The correlation between symptom duration and degree of postural involvement was analyzed using Pearson's correlation coefficient.

Results: 43.1% of the study population demonstrated UCS and 80% FHP with significant negative correlation between Cranio Vertebral Angle and chronicity of AC ( $r = -0.27$ ). Individuals with AC demonstrated significantly decreased scapular muscle strength ( $p < .001$ ), and pectoralis minor length on the affected side ( $p = 0.03$ ). No differences were seen between groups with and without UCS. The mean SPADI scores between groups demonstrated a more significant level of perceived pain and disability in individuals with UCS ( $p = 0.049$ ).

Conclusions: Individuals with AC demonstrated alterations in movement patterns and posture as seen in UCS. UCS was seen to contribute towards the existing disability in AC. This study suggests a careful evaluation and intervention based upon these findings, and to document its effect on pain and dysfunction in AC.