Rater reliability in the quantification of myofascial taut bands
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Keywords: Myofascial pain syndrome; Taut bands; MRI

Introduction.– There is evidence that myofascial pain (MP) syndrome taut bands can be identified and quantitated with an MRI technique known as magnetic resonance elastographic (MRE) imaging. We sought to assess the reliability of this identification.

Materials and methods.– Seventy-one adults with MP had taut bands in their upper trapezius isolated by skilled musculoskeletal physicians. Following examination, they lay supine in a 1.5T MRI machine while shear waves were induced in their trapezius with an electromechanical transducer. Wave propagation was visualized with offset images across a vibration-cycle. Data was assessed independently by two skilled MRE interpreters to establish intra- as well as inter-rater reliability and taut band characteristics.

Results.– Intra- and inter-rater reliability of MRE interpretation was excellent (Kappas .8686 and .7982, respectively) while the concordance of physician and MRE findings was poor (Fisher’s Exact Test, P = .064). Stiffness in MRE identified taut bands was elevated at 8.59 kPa (± 1.36 kPa) compared to 6.91 kPa (± 2.33 kPa) in surrounding muscle; tone in trapezius without taut bands was relatively uniform and lower at 5.02 kPa (± 0.79 kPa).

Conclusion.– Our findings suggest that, while physician accuracy is variable, taut bands exist, can be reliably assessed quantitatively, and represent localized areas of increased muscle stiffness.

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Biopsychosocial complexity: A risk factor for complex regional pain syndrome (CRPS)?
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Keywords: CRPS; Pain; Function; Biopsychosocial complexity

Introduction.– CRPS prognosis is uncertain. However, the relationship between biopsychosocial (BPS) factors and CRPS has received little attention. The aim of this study was to compare the relationship between BPS complexity, pain and function in two groups of patients with/without CRPS after hand physical injuries.

Material and methods.– Double cohort study. CRPS with IASP criteria’s. BPS complexity with INTERMED. Pain with VAS (Minimal Clinical Change [MCC]: $30\%$), Function with DASH (MCC: $12.75$ pts.). Pain and function predictions with multiple linear regressions (standardised coefficient, ST). MCC (yes/no) with logistics regressions.

Results.– Three hundred and ninety-three patients were included (103 CRPS+290 CRPS−). BPS complexity (INTERMED median score [p25; p75]: CRPS+: 23 pts [18; 27]; CRPS−: 23 pts [20; 27]), predicted Pain ST 0.22 (95% CI 0.11; 0.33), Function 0.20 (95% CI 0.09; 0.31) and functional MCC OR 0.44; (95% CI 0.24;0.81) in both groups. CRPS was only a predictor for function at entry 0.30 (95% CI 0.17; 0.42).

Discussion.– BPS complexity predicts pain, function and its improvement in both groups. Despite a worst function at entry, CRPS patients may improve with similar chance than patients without CRPS. As with any others pain syndromes, BPS complexity associated with poor outcomes, should be early evaluated in CRPS patients.

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Fear-Avoidance Model (FAM) and return to work (RTW) after vocational rehabilitation for orthopaedic trauma
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Keywords: Pain; Catastrophizing; Kinesiophobia; Return to work

Introduction.– The FAM explains why some patients with musculoskeletal disorders may develop chronic pain and persistent disabilities. To our knowledge, this model was not used during vocational rehabilitation (VR) after orthopaedic trauma. The aim of this study was to assess if pain, catastrophizing, kinesiophobia, anxiety and depression were predictors of RTW after VR for orthopaedic trauma patients.

Material and methods.– Prospective cohort study. Potential predictors from the FAM were assessed by questionnaires at entry: pain (BPI), catastrophizing, kinesiophobia, anxiety and depression were predictors of RTW after VR for orthopaedic trauma patients.

Results.– One hundred and sixty-three inpatients (35 women, 128 men). At 3 months, 56 (34.4%) were returned to work. Pain (OR = 0.97 [95% CI 0.95; 0.98], P < .001), catastrophizing (OR = 0.96 [0.94; 0.99], P = 0.004), kinesiophobia (OR = 0.94 [0.90; 0.98], P = 0.004), Anxiety (OR = 0.90 [0.83; 0.98], P = 0.013) and depression (OR = 0.87 [0.80; 0.95], P = 0.002) were all negatively associated with RTW at 3 months.

Discussion.– These results suggest that the FAM may be useful to screen orthopaedic trauma patients at risk of non-RTW 3 months after VR. However, confirmation with a longer follow-up is needed.

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