

Diagnostic distribution of non-traumatic upper limb disorders: vibrotactile sense in the evaluation of structured examination for optimal diagnostic criteria

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KEY WORDS

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SUMMARY

Background: Upper limb disorders (ULDs) are common, and so are the difficulties in specific diagnoses of these disorders. Prior studies have shed light on the nerves in the diagnostic approach beside disorders related to muscles, tendons and joints (MCDs). **Objective:** The study aimed to compare the distribution of upper limb disorders, and the vibration perception threshold (VPT) in different diagnostic groups according to 1) A-criteria: the SALTSA consensus criteria, including MCDs and four peripheral neuropathies, and 2) B-criteria: including MCDs and 10 different neuropathy diagnoses – re-defined in an attempt to refine diagnostic criteria of peripheral neuropathy in respect of different MCDs; and further to discuss the impact of the presented criteria. **Methods:** 161 patients – recruited from 21 general practitioners – were examined by the same examiner according to the two sets of diagnostic criteria. VPT measurements were conducted in all patients. **Results:** Three patients did not fulfill the criteria of any ULD diagnosis. A/B criteria were fulfilled for 181/183 upper limbs, respectively, out of which 29.3%/63.3% were neuropathy diagnoses alone, 23.8%/10.9% MCD alone, and 46.9%/25.7% were categorized as neuropathy in combination with MCD diagnoses. The overall agreement on presence of neuropathy was high (75%), but on focal level there was a large discrepancy. According to the A-criteria, patients with symptoms located at wrist and shoulder were primarily defined with wrist diagnoses, and only few had concomitant shoulder diagnoses. In contrast, the B-criteria primarily defined neuropathy located at the shoulder, often concomitantly with neuropathy of the radial and the median nerve at the elbow, but seldom at the wrist level. In MCDs defined by both sets of criteria – Rotator cuff syndrome and medial/lateral epicondylitis – the A-criteria defined more MCDs than the B-criteria, the B diagnoses typically constituted only a part of the A diagnoses and additionally defined neuropathy. The B-criteria showed more significant VPT findings than the A-criteria concerning the discrimination between limbs with and contralateral limbs without diagnoses as well as between diagnostic groups with and without neuropathy. **Conclusions:** The VPT findings suggest the B-criteria to be superior to A-criteria for differentiating between patients with and without neuropathy. This study shows that neuropathy is extensive in ULDs when specific diagnostic criteria are used. Additionally it suggests the importance of a critical revision of the current diagnostic criteria of upper limb neuropathy, and the differential diagnoses concerning the MCDs. Management and prevention is highly dependent on correct diagnoses.