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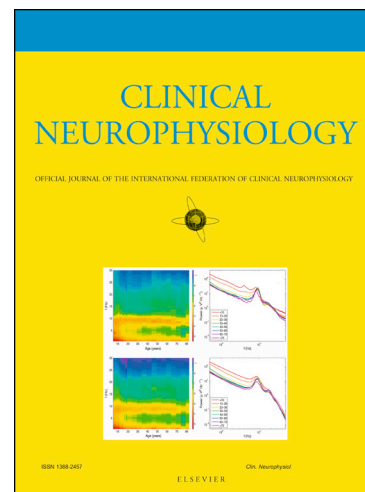
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The Utility of the Total Neuropathy Score as an Instrument to Assess Neuropathy Severity in Chronic Kidney Disease: A Validation Study

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Abstract

Objective: To demonstrate construct validity of the Total Neuropathy Score (TNS) in assessing peripheral neuropathy in subjects with chronic kidney disease (CKD).

Methods: 113 subjects with CKD and 40 matched controls were assessed for peripheral neuropathy using the TNS. An exploratory factor analysis was conducted and internal consistency of the scale was evaluated using Cronbach's alpha. Construct validity of the TNS was tested by comparing scores between case and control groups.

Results: Factor analysis revealed valid item correlations and internal consistency of the TNS was good with a Cronbach's alpha of 0.897. Subjects with CKD scored significantly higher on the TNS (CKD: median, 6, interquartile range, 1-13; controls: median, 0, interquartile range, 0-1; $p < 0.001$). Subgroup analysis revealed construct validity was maintained for subjects with stages 3-5 CKD with and without diabetes.

Conclusions: The TNS is a valid measure of peripheral neuropathy in patients with CKD.

Significance: The TNS is the first neuropathy scale to be formally validated in patients with CKD.

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