Neuropathic pain in patients with cancer: performance of screening tools and analysis of symptom profiles

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Abstract

Background: Neuropathic pain (NP) affects up to 40% of cancer patients and is associated with increased pain intensity and analgesic consumption and decreased quality of life. The use of screening tools is recommended to identify NP; however, some reports indicate poorer performance in cancer populations. The objective of this study was to determine the performance of screening tools for identifying NP in patients with cancer.

Methods: Systematic literature search identified studies reporting use of LANSS, DN4 or painDETECT in cancer patients with a clinical diagnosis of neuropathic or not neuropathic pain. Data on sensitivity, specificity and overall classification rate were extracted from full reports. Individual datasets were requested from study authors for secondary analysis of descriptor item profiles.

Results: Six studies recruited 2301 cancer patients of which 1564 (68%) reported pain. Overall accuracy of screening tools ranged from 73%-94%. Sensitivity values varied widely (17-87%). Specificity values were high (77-100%). Individual data from 1351 patients showed large variation in the selection of NP descriptor items by cancer patients with NP. LANSS and DN4 items characterised a significantly different NP symptom profile from non-NP in both tumour- and treatment-related cancer pain aetiologies.

Conclusion: We identified concordance between the clinician diagnosis and screening tool outcomes for LANSS, DN4 and PDQ in patients with cancer pain. Shortcomings in relation to standardised clinician assessment are likely to account for variation in screening tool sensitivity. Further research is needed to standardise and improve clinical assessment in patients with cancer pain, which should include the use of the NP grading system. Until the standardisation of clinical diagnosis for neuropathic cancer pain has been validated,

screening tools offer practical approach to identify potential cases of neuropathic cancer pain.