Prevalence and associations of neuropathic pain in a cohort of multi-ethnic Asian low back pain patients

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Abstract The prevalence of neuropathic low back pain differs in different ethnic populations. The aims of the study are to determine its frequency and associations in a multi-ethnic cohort of Asian low back pain patients. This was a cross-sectional study of low back patients seen at the University of Malaya Medical Centre, Kuala Lumpur, Malaysia. Neuropathic low back pain patients were identified using the painDETECT questionnaire and compared with non-neuropathic (unclear or nociceptive) low back pain patients, in terms of socio-demographic and clinical factors, pain severity (numerical pain rating scale, NPRS), disability (Roland Morris Disability Questionnaire, RMDQ), as well as anxiety and depression (Hospital Anxiety and Depression Scale, HADS). Of 210 patients, 26 (12.4%) have neuropathic low back pain. Neuropathic pain is associated with non-Chinese ethnicity, higher body mass index and pain radiation below the knee. Patients with neuropathic pain have significantly higher NPRS and RMDQ scores, and there are more subjects with anxiety on HADS. However, there are no differences between the groups in age, gender, pain duration or underlying diagnosis of low back pain. The prevalence of neuropathic low back pain in a multi-ethnic Malaysian cohort is lower than previously reported in other populations with possible differences between ethnic groups. It is associated with greater pain severity, disability and anxiety.

Keywords Low back pain · Neuropathic pain · painDETECT · Multi-ethnic · Asian

Introduction

Low back pain is a major health problem worldwide. In a recent systematic review, the global point prevalence of low back pain in the general population was estimated at 11.9% [1]. The authors concluded that with an ageing population, the number of low back pain sufferers will continue to increase in the future [1]. Low back pain, with a prevalence of 11.6%, was reported to be one of the main causes of musculoskeletal pain among Malaysians [2].

Low back pain has nociceptive, neuropathic or mixed components [3-5]. Mechanisms for neuropathic low back pain include lesions of nerve sprouts within a degenerated intervertebral disc, compression of a nerve root, or by inflammatory mediators released during the degenerative process [3, 4]. Successful treatment of neuropathic pain depends on its early identification as conventional analgesic treatment is less effective for neuropathic pain [3, 4].

Using modelling data from epidemiological studies, an estimated 4% of the adult population has neuropathic back pain [6]. Furthermore, because of its greater severity, costs of treating neuropathic back pain patients have been estimated to be 67% higher than those with nociceptive back pain [6]. These findings stress the importance of identifying neuropathic components in patients with chronic low back pain.

Screening tools for neuropathic pain based on the description of pain symptoms, with or without some clinical examinations, have been developed, including the Leeds Assessment of Neuropathic Symptoms and Signs (LANGS) and its self-reported version, the S-LANS, the Neuropathic Pain Questionnaire (NPQ)."