

Management of Chronic Low Back Pain: The Lumbar Medial Branch Block and the Importance of the Bio-Psychosocial Model

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ABBREVIATIONS

BPS: Biopsychosocial Model; LBP: Low Back Pain; LMBB: Lumbar Medial Branch Block; US: Ultrasound

LETTER TO THE EDITOR

The main causes of Low Back Pain (LBP) stay the facet joints (or zygapophyseal joints) mainly due to inflammation, degenerative/arthritic changes, muscle disorders or repetitive injuries [1]. If there is a failure of the first line treatments (rest, analgesics drugs and physical therapy), it is possible to perform a diagnostic infiltration, a "Lumbar Medial Branch Block (LMBB)". It consists of injecting local anesthetics sometimes with steroids into the facet joint innervated by the medial branches of the posterior rami. In case of pain relief, even short in time, radiofrequency neurotomy can be performed with the aim of obtaining a more lasting result [2]. This last consisting in transient sensory block consecutive to radio waves heating of the innervating branches of the painful facet.

Over years, LMBB has been demonstrated particularly interesting for the management of chronic LBP, demonstrated in part by the improvement of the Visual Analogue Pain Score, the Oswestry Disability Index and the Duke's Activity Statuts Index scale [1,3]. A recent prospective study showed that Ultrasound (US)-guided LMBB performed in transversal plane is as not inferior to fluoroscopy guidance (gold-standard) and avoids the inherent irradiation [1].

In the same perspective of radiation protection, we are currently conducting a study at the Erasme Hospital (Belgium) to investigate the method described by Chang et al. [4] which described a US-guided LMBB performed in a longitudinal plane. This one has the advantage of requiring only one puncture point (instead of three in transversal plane). The aim of the current study is to verify the feasibility of a US-guided LMBB in the longitudinal plan ("caudal-to-cranial" technique). For this, a contrast product is injected with usual drugs to ensure that the needle is correctly placed by the fluoroscopy. Moreover, this

technique could be faster which would limit the prone position, often uncomfortable in case of LBP.

Nowadays, LBP remains a real physical, psychological, socio-economic and healthcare problem affecting about 1 in 5 patients. Adequate management of acute pain is required to avoid the occurrence of chronic pain that affects up to 45% of patients [5]. The treatment of basic chronic LBP involves medication (analgesics/anti-inflammatory drugs), physiotherapy and management within a "Bio-Psychosocial Model (BPS)" [1]. Thus, there are different factors on which it is possible to act to reduce nervous sensitivity and therefore pain; tissue damage, stress, anxiety, depression, catastrophizing, fear, behaviour, sleep disorders, beliefs, diet, postures, relationship difficulties, isolation, sedentary lifestyle etc. In fact, the common belief of patients is that pain is directly related to the importance of tissue damage on imaging and unfortunately, psychological problems are too often neglected or unrecognized. Holistic management of chronic LBP, involving this model, is essential and helps to prevent vicious circles (e.g., sleep disturbance can cause pain and pain can cause sleep disorders). Therefore, we would like for future studies, to focus on multidisciplinary biopsychosocial rehabilitation interventions/programs as also recommended [6].

To finish, we also want to promote self-management as encouragement [7]. In that sense, the active detection of BPS problems by medical or paramedical staff is recommended to provide personal life advice and training to decrease LBP and disabilities of daily activities (e.g., body maintain and physical position in daily life; learn to understand pain thanks to adapted sites such as www.retrainpain.org, etc).

CONFLICT OF INTEREST

None

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AUTHOR CONTRIBUTIONS

All authors have read and approved the manuscript.

NML: writing up and revision of draft of paper; BA: revision of draft of the paper.

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