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Rapport : Douleurs lombaires post-opératoires

Medical management of failed back surgery syndrome in Europe: Evaluation modalities and treatment proposals

La prise en charge médicale des lombo-radiculalgies post-opératoires en Europe : modalités d'évaluation et propositions de traitement

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ABSTRACT

Failed back surgery syndrome (FBSS) is defined as persistent pain more than 3 months after any form of spinal surgery. Due to its multifactorial origin, FBSS is often difficult to treat. In this context of failed back surgery, a very thorough assessment must be conducted concerning the site and characteristics of the pain (nociceptive or neuropathic), its mode of onset (presence or absence of pain-free intervals), and its impact on the patient's work and social life. Physical examination must exclude a non-spinal cause for the pain. MRI is the imaging modality of choice in this disease, but is often difficult to interpret, as MR signals are modified for 6 months after the operation. Scar tissue, which can be distinguished from recurrent disc hernia by its gadolinium enhancement, is present even in asymptomatic patients. After having eliminated infection and sacroiliac or posterior facet joint disease, the main aetiologies investigated are foraminal stenosis, degenerative disc disease, recurrent disc hernia, and non-union of spinal fusion; sometimes patients only experience persistent neuropathic pain. The treatment of failed back surgery syndrome with a predominant neuropathic component is based on the use of analgesics, especially antiepileptics, antidepressants or transcutaneous electrical stimulation. Epidural spinal infiltration should be considered as second-line treatment in view of the risk of serious neurological complications. Management must be based on a global, multidisciplinary approach with identification of any cognitive or behavioural disorders in combination with an appropriate functional rehabilitation programme.

Mots clés :
Lombo-radiculalgies post-opératoires
Lombosciatique post-opératoire
Traitement médical

RÉSUMÉ

La lombo-radiculalgie post-opératoire chronique est une douleur persistante plus de 3 mois, après une intervention rachidienne quelle qu'elle soit. Son origine est multifactorielle, rendant sa prise en charge souvent délicate. Cet échec de la chirurgie doit conduire à une enquête minutieuse portant sur la localisation et les caractéristiques de la douleur (nociceptive ou neuropathique), son mode de survenue (présence d'un intervalle libre ou non), et son retentissement socioprofessionnel. L'examen clinique écartera une cause non rachidienne. L'IRM est l'examen d'imagerie de choix dans cette pathologie mais son interprétation est difficile car les signaux se modifient dans les 6 mois qui suivent l'intervention. Le tissu cicatriciel, qui est différencié d'une récidive herniaire par son rehaussement après injection de gadolinium, est présent même chez des patients asymptomatiques. Après avoir éliminé une infection et une atteinte sacro-iliaque ou d'une articulaire postérieure, les principales étiologies recherchées sont une sténose foraminale, une discopathie dégénérative, une récidive herniaire, une pseudarthrose d'une arthrodèse et parfois il ne subsiste qu'une douleur neuropathique. Le traitement de la lombo-radiculalgie chronique post-opératoire, dont la composante neuropathique est prédominante, fait appel aux antalgiques et surtout aux antiépileptiques, antidépresseurs ou à une électrostimulation transcutanée. Le rapport bénéfice/risque d'une infiltration rachidienne par voie épidurale doit être discuté en seconde intention compte

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tenu du risque de complications neurologiques graves. La prise en charge doit être globale, multidisciplinaire avec un dépistage d'éventuels troubles cognitifs ou comportementaux et un programme de réadaptation fonctionnelle adapté.

1. Introduction

Low back and radicular pain is a common disease for which first-line management is conservative, based on a combination of analgesics and anti-inflammatory drugs. Surgical treatment of low back and radicular pain due to disc disease in a patient presenting a good clinical and radiological concordance should be considered after the sixth week of pain, which represents only 5 to 10% of cases [1]. The expected efficacy on radicular pain is rapidly achieved in 80 to 90% of patients.

Failed back surgery syndrome (FBSS) is a complex form of pain whose origin is not always easy to determine. Low back pain is considered to be chronic when it has been present for three months and chronic postoperative pain can be defined as pain that arose after surgery and remains present after two months. In the context of postoperative persistence or recrudescence of low back and radicular pain, several diagnoses can be considered with varying degrees of urgency.

Appropriate treatment can only be proposed after a very thorough aetiological work-up taking into account the conditions of recurrence, the pain characteristics and imaging findings. Management of FBSS therefore requires multidisciplinary collaboration between surgeons, rehabilitation physicians, rheumatologists, pain physicians and radiologists.

1.1. Diagnostic approach

The diagnostic approach to a symptomatic patient comprises several steps designed to exclude non-radicular pain or infection and then to identify a specific spinal lesion responsible for low back pain and/or nerve root compression or stretching. In parallel, in order to optimally adapt drug and non-drug treatment of chronic neurogenic pain, the neuropathic component and its functional consequences are assessed by using validated tools.

1.1.1. What to look for on clinical interview and physical examination?

1.1.1.1. Confirm the radicular lesion and eliminate pain due to another cause. Examination of the hips and sacroiliac joints avoids the classical diagnostic traps associated with pain of the anterior surface of the thigh or poorly defined S1 sciatica. A history of intermittent claudication on walking justifies a vascular examination and a general physical examination, especially abdominal, is performed to exclude referred retroperitoneal pain.

As in any case of low back pain, clinical interview must also look for warning signs (*red flags*) of pain symptomatic of fracture, neoplasm or infection, as described in the European guidelines of the COST B13 group (Table 1) [2].

1.1.1.2. Characterize the low back and radicular pain. The history of the pain is carefully defined with the patient in order to determine whether pain is persistent or whether it recurred after a free interval that needs to be quantified. It is important to define the circumstances of recurrence of the pain and the positions or movements that exacerbate or improve the pain.

The findings of physical examination of the spine are non-specific. Nevertheless, examination of the spine allows evaluation of the global stability of the spine in the frontal and sagittal planes, unidirectional or multidirectional stiffness and abdominopelvic muscle strength. A possible vertebral or paravertebral pain trigger point may be detected on palpation.

Table 1
Red flags justifying complementary first-line investigations in a patient with low back pain.
Signaux d'alertes « drapeaux rouges » devant conduire à un complément d'investigations en première intention chez un patient lombalgique.

Onset before the age of 20 or after the age of 55
Recent history of trauma
Permanent pain or inflammatory pain
Chest pain
Long-term corticosteroid therapy and osteoporosis
Unexplained weight loss, alteration of general state of health
Intravenous drug use
Unexplained fever
Immunosuppression
Neoplasm
Extensive neurological syndrome

The presence of signs of disc-nerve root conflict (impulse pain, Lasègue's sign) suggests recurrence of the disc hernia. The presence of sensory loss or dysaesthesia in the painful territory and a moderate motor deficit are also suggestive of neurogenic pain.

1.1.1.3. Evaluate the neuropathic component of the pain. Neuropathic pain was defined by the International Association for the Study of Pain (IASP) in 1994 as "pain initiated or caused by a primary lesion or dysfunction in the nervous system". This is an essentially clinical diagnosis [3]. Pain is sometimes less well systematized or may present an incomplete course compared to the initial pain. The patient describes the pain as a burning feeling or a cramp, constricting pain with acute episodes of shooting pain. Pain may be accompanied by allodynia and hyperalgesia in the territory concerned. Sometimes the patient reports sensory loss, especially to heat and pain, due to damage to small diameter nerve fibres.

Several diagnostic tools have been validated for neuropathic pain: DN4 (douleur neuropathique en 4 questions), LANSS (Leeds Assessment of Neuropathic Symptoms and Signs) or S-LANSS (simplified version) [4,5].

The DN4 questionnaire (Table 2), published in 2005, is easy to use and is composed of four questions comprising a total of seven items scored during the clinical interview and 3 items based on physical examination. A score greater than or equal to 4/10 is in favour of neuropathic pain with a sensitivity of 82.9% and specificity of 89.9%.

1.1.1.4. Global evaluation of the patient: the anatomical-clinical model, the environmental model and the biopsychosocial model. One of the difficulties of management of these chronic pain patients consists of evaluating the respective proportions of the various components of the pain.

The anatomical-clinical model, which tries to attribute pain to an anatomical cause, should constitute the first-line approach in order to avoid missing lesions amenable to specific treatment. A better understanding of the biochemistry of the intervertebral disc and the description of certain profiles of patients experiencing chronic low back pain associated with Modic type 1 disc changes suggest the possibility of intradisc or targeted systemic treatments such as TNFalpha antagonists [6].

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