

Treatment of post-traumatic chronic neuropathic pain with peripheral block. Case report*

Tratamento da dor neuropática crônica pós-trauma com o uso do bloqueio periférico. Relato de caso

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SUMMARY

BACKGROUND AND OBJECTIVES: Neuropathic pain may have earmarks, but may be difficult to diagnose and treat. This study aimed at reporting a case of post-traumatic chronic pain, with poor adherence to pharmacological treatment, which was treated with peripheral blocks and adjuvants.

CASE REPORT: Male patient, 42 years old, who suffered a car accident with hip and right lumbar region trauma. Patient was submitted to laparotomy with right nephrectomy, right femur and right lunate osteosynthesis. Patient evolved with right lumbar region pain not improving with prescribed drugs and with poor adherence to proposed therapeutic approach due to his difficult socio-economic status. We decided for peripheral nerve blocks in five sessions, in outpatient regimen.

CONCLUSION: Treatment with peripheral nerve blocks in the lumbar region was effective and has decreased neuropathic pain symptoms in up to 60%, remaining with intensity between 3 and 4 by the visual analog scale and with no pain when the scar was touched.

Keywords: Chronic pain, Hyperesthesia, Lidocaine, Peripheral nerve blocks.

RESUMO

JUSTIFICATIVA E OBJETIVOS: As dores neuropáticas podem apresentar sinais inequívocos, mas, podem ser de difícil diagnóstico e o tratamento é difícil. O objetivo deste estudo foi relatar o caso de um paciente com dor crônica pós-traumática, com baixa adesão ao tratamento farmacológico e que foi tratado com bloqueios periféricos e adjuvantes.

RELATO DO CASO: Paciente do gênero masculino, 42 anos, sofreu acidente automobilístico com trauma no quadril e na região lombar direita. Foi submetido à laparotomia exploradora com nefrectomia direita, osteossíntese de fêmur direito e de semilunar direito. Evoluiu com dor na região lombar direita que não melhorava com as medicações prescritas e com baixa adesão ao esquema terapêutico proposto, devido a sua difícil situação socioeconômica. Optou-se pelos bloqueios de nervos periféricos, em cinco sessões, realizados em regime ambulatorial.

CONCLUSÃO: O tratamento com os bloqueios de nervos periféricos na região lombar foi eficaz e reduziu as sintomatologias da dor neuropática em até 60%, permanecendo com intensidade entre 3 e 4 pela escala analógica visual e ausência de dor ao toque da cicatriz.

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INTRODUCTION

Pain, according to the International Association for the Study of Pain (IASP) is an emotional and unpleasant experience, associated to existing, potential or described tissue injury, however pain is sometimes too encompassing and should be associated to patients' suffering, their physical, emotional, spiritual and social distress, the so-called Total Pain¹.

Neuropathic pain management is complex and in general calls for the combination of several therapeutic modalities with different action mechanisms. Tricyclic antidepressants, anticonvulsants, neuromuscular blockers and anti-inflammatory adjuvant drugs, among others, are part of different pharmacological groups and have specific or potentiating action to control certain types of pain. The association of different classes of drugs may decrease pain and adverse effects².

This study aimed at reporting a case of post-traumatic chronic pain, with poor adherence to pharmacological treatment, and who was treated with peripheral blocks and adjuvant drugs.

CASE REPORT

Male patient, 42 years old, victim of car accident, who was submitted to laparotomy and right nephrectomy. He also had right femur and lunate bone fracture and luxation, which were treated with reduction and osteosynthesis. In the immediate postoperative period he referred severe right lumbar pain. After discharge, pain has increased and prevented him from sleep, changing his mood and impairing return to work. He was followed by clinicians, surgeons and orthopedists who informed him that the pain was normal because he had suffered major trauma and that pain would improve with time. After several months without pain relief, he had depression and lost his driver job. He used dipirone, carisoprodol, gabapentin, nortriptyline, cyclobenzaprine and phenobarbital and was submitted to physical therapy, massages, transcutaneous electrical nerve stimulation (TENS), stretching, muscle strengthening, cryotherapy and thermotherapy, without improvement. Five years after the accident, patient still had severe right lumbar pain.

Physical evaluation was normal. Chest X-rays have shown mild thoracic spine degenerations; lumbar region MRI has shown mild degenerative lumbar spine changes, morphostructural modification of right iliac with the presence of medial fragment anteriorly shifted, associated to atrophy and hyporeplacement of the visualized portion of gluteus muscles.

Lumbosacral MRI has shown partial dehydration of intervertebral disc L₄-L₅ with L₄-L₅ disc protrusion. He presented xifoinfraumbilical (27 cm) scar and distal surgical scar on the ventral region of right forearm (10 cm). He had also a post-trauma scar above the right posterior-superior iliac crest (10 cm) where patient referred severe pain in twinge, pang, burn and shock and would not allow the scar to be touched. Pain intensity by visual analog scale (VAS) was higher than 10 although VAS has maximum score of 10 for the worst possible pain. During clinical evaluation it was observed the presence of allodynia, disesthesia and hyperesthesia.

He was under irregular use of drugs such as gabapentin (1200 mg), cyclobenzaprine (5 mg) every 8 hours and dipirone (1 g) every 8 hours. He was oriented to make regular use of medications being added amitriptyline (25 mg twice a day) and to return two weeks later. After 1 month of treatment there has been no symptoms improvement however patient did not adequately used medication due to financial difficulties. Paravertebral peripheral nerve block was indicated but was not performed due to localized pain and patient's refusal due to fear of the procedure.

He decided for subcutaneous infiltration with 1% lidocaine (50 mg) without vasoconstrictor, around the lumbar scar, with pain improvement.

One week later pain had improved and patient agreed with paravertebral block in four different points in right lumbar region between L₁-L₅, and subcutaneous infiltration around the scar with 1% lidocaine, without vasoconstrictor, in a total of 100 mg. The same procedure was repeated three times with 1-week intervals. Paravertebral block was performed with subcutaneous infiltration of 0.5 to 1 mL of 1% lidocaine with insulin needle, approximately 2 cm to the right of the spine, followed by infiltration until the transverse apophysis with longer needle, and injection of 2 to 2.5 mL lidocaine in each point. Reduced volume of local anesthetic was used because blockade was only for analgesia.

DISCUSSION

Managing post-traumatic chronic neuropathic pain with five years of evolution, exuberant symptoms and in a unmotivated patient, in addition to having socio-economic and emotional impairment and low adherence to treatment, is a major challenge.

Neuropathic pain may be caused by different mechanisms. It involves numerous phenomena, being the most important: receptors sensitization, presence of ectopic foci of action potential in peripheral fibers and central tracts, emphatic currents, synaptic reorganization in central neurons, abnormal activity of suppressing structures and central processing of sensory afferent inputs, release of tissue algogenic substances, release of excitatory neurotransmitters, neurogenic inflammation and physical, psychic and neurovegetative adaptation phenomena. This way, it is understood why pre, intra and postoperative analgesia knowingly decrease the possibility of pain onset^{2,3}. An effective analgesia was not performed in this patient after surgical procedures, which has allowed the exacerbation of painful symptoms, preventing him of exerting his professional activity. One has to stress that his delicate socioeconomic situation has contributed a lot for low adherence to proposed treatment.

Paravertebral block indication is part of a strategy and may be considered a relatively easy procedure with proven efficacy. In spite of the modified method, it has been observed that local anesthetics are still excellent adjuvants to treat chronic neuropathic pain due to some of their properties, such as: anti-inflammatory, transient chemical sympatholytic action, as neuronal pathways nociception blocker, modeling pain and touch sensitivity, among others. These results were confirmed by our study because patient was submitted to anesthetic blocks with lidocaine. Antidepressants are also useful and are effective for chronic painful syndromes due to their broad action mechanism: increased endorphin levels, sodium channels block, sympathetic block, antagonism of several neurotransmitters, in addition to improving depression⁴. The antidepressant used with our patient has shown to be a good adjuvant.

It is important to stress that chronic neuropathic pain management should be individualized, multi-mode and based on parameters such as current disease history, preexisting diseases, physical evaluations, lab exams, complementary exams, cost of drugs as well as their side effects, contraindications

and follow up of responses to previously used methods⁵.

Given the rich symptomatology of the case and neuropathic pain pathophysiology complexity, physicians should not give up when facing management with modest results, but rather should persist in the search for pain relief to provide better quality of life to patients⁶.

Patient's poor performance with planned strategies and the complexity of chronic neuropathic pain healing process may lead physicians, after some fruitless attempts, to a feeling of dismay. Dealing with such situation and trying to overcome it should be part of the daily life of those managing pain.

CONCLUSION

Treatment with lumbar peripheral nerve blocks was effective and has decreased neuropathic pain symptoms in up to 60%, remaining with intensity 3 and 4 by VAS and no pain when scar was touched.

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