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Combined epidural adhesiolysis and ganglion root radiofrequency with multifunctional epidural device for chr

Claudia Paoletti [1] , Luigi Nardi [2] , Nicola Camposarcone [3]

1. Casa di Cura Villa Igea, Pain Center, Ancona, ITA 2. Casa di cura Villa Montefeltro, Pain Center, Sassocorvaro (PU), ITA 3. Policlinico Gemelli, U.O.C di Anestesia Terapia Intensiva e Medicina del Dolore, Campobasso, ITA

Corresponding author: Claudia Paoletti, clapaoletti@libero.it

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Abstract
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Abstract

Introduction: Pathologic degeneration of the disc can be a major cause of pain. Radiculopathy is pain that occurs along the dermatome of a nerve due to inflammation or other irritation of the nerve root at its origin[1]. The presence of post-surgical or inflammatory fibrotic tissue in the peridural space can hinder the diffusion of peridurally injected drugs. We hereby present some cases of discogenic root pain (DP) treated with a combined technique of epidural lysis of adhesions (LOA) [2] and radiofrequency of the spinal root ganglion (PRFG) [3], using a multifunctional device.

Method: 7 patients (4 women and 3 men, average age 72 yr), 5 of them suffering from lumbar DP (2 in L2, 3 in L4) and 2 from cervical DP (1 in C5, 1 in C6), who met the criteria (mono-radicular pain >3 months, MRI-confirmed disc herniation, NRS>6, conservative treatment for at least 4 weeks), were undergoing combined LOA+PRFG procedure. NRS and ODI values were recorded at admission and then at 1 week, 1 month, 3 months. In a sterile operating room after antibiotic prophylaxis, the patient was placed in prone position, noninvasive monitoring was applied and sterile field prepared. Using a C-arm machine, the entry point into the peridural space was identified and was injected with local anestethics; a 14 G needle was inserted into the peridural space; Iopamiro$^{\delta}$ 300 I.U. 2 ml was infused for confirmation of position and evaluation of presence of filling defects; the multifunction device (Alfamed Voyager Linear Bipolar$^{\delta}$) was then inserted, and in several steps the selected ganglion was reached; after stimulation test at 50 and 2 Hz for correct position confirmation, high-voltage PRF (up to 100 volts) was administered at a temperature of 42° for 2 cycles of 240˚; at the end it was infused, in order: Iopamiro$^{\delta}$300 U.I. 2 ml, lidocaine 2% 2 ml, and in the absence of spinal block NaCl 10% 4 ml and dexamethasone 8 mg 2 ml. The device was then withdrawn to a more medial position, cut near the handpiece, and connected to elastomer for infusion over the next 24 h (ropivacaine 2% 1 mg/h if lumbar infusion or 0.3 mg/h at the cervical level, dexamethasone 8 mg/24h). After 24 hours, the device was removed and dressing was applied. In the absence of neurological deficits, the patient was then discharged the next morning.

Results: the NRS and ODI values at 1 week, 1 month and 3 months were significantly reduced from baseline. None of the patients presented any relevant side effects.

Conclusions: the combined LOA+PRFG treatment appeared in the presented cases to be effective at least in the medium term and free from major side effects. The multifunctional device, thanks to its characteristics and after appropriate training, allows the combined procedure to be performed at all levels of the spine even in the presence of surgical prostheses.

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