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Percutaneous lumbar discal nucleoplasty (PLN): Initial experience in 53 patients affected by small/contained herniated disk

Statement of the Problem: The purpose of this study is to evaluate the medium-term (6 months) efficacy of Percutaneous lumbar nucleoplasty (PLN), finding positive outcome correlation with patient's data and MRI morphological variables in patients with chronic lumbar back pain (LBP) with radiculopathy.

Methodology & Theoretical Orientation: We included fifty-three patients with chronic LBP, who underwent PLN from October 2020 to February 2021. Clinical data are obtained using VAS indices (Visual analog scale) and ODI (Oswestry Disability Index) pre-and post-procedure at 1-3-6 months. In addition, all patients were advised to follow a rehabilitation program and MRI exams before and after treatment (3 months). Findings: 40/53 patients (75.4%) report positive results after six months; about 9/50 (16.9%) do not report any improvement, while 4/53 (7.5%) reported a clinical worsening. Postoperative at six months VAS and ODI scores showed an overall decrease from baseline of 4.11 points ($p<0.001$) and 23.45 points ($p<0.001$) with lower values (VAS -2.10 and ODI -15.11) in those who attended the rehabilitation.

Postoperative MRI controls after three months showed an overall decrease in size of the disc protrusion (-1.4mm, $p<0.001$) compared to baseline, and an increase in the spinal canal area (SCSA) from baseline (+18mm^2); better values were registered in those patients who underwent the rehabilitation program.

Conclusion & Significance: The technique we used provided us with excellent intradiscal maneuverability and precision, with no postoperative complications. Furthermore, PLN has shown excellent short-term clinical outcome results, significantly if associated with conservative rehabilitation techniques. That confirms the need for further studies and a multidisciplinary approach to chronic low back pain.

Biography

Fabrizio graduated in Medicine and Surgery at the University of La Sapienza in Rome in 199 and obtained the Specialization in Radio diagnostics at the University of Tor Vergata in Rome in 2003.He mainly deals with Kyphoplasty, fracture of the spine, herniated disc, radiofrequency and vertebroplasty. Currently, he holds the role of Interventional Radiologist at the Pio XI Nursing Home in Rome and as Head of the Osteo-Vertebral Interventional Radiology Unit of the CTO Hospital in Rome. Dr. Fasoli, particularly expert in the treatment of vertebral pathologies and in the use of Magnetic Resonance, Computed Tomography and Digital Angiography.

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