

EFFECTIVENESS AND PREDICTOR FACTORS FOR SUCCESS IN INTERVENTIONAL PAIN TREATMENT FOR RADICULAR PAIN DUE TO HERNIATED DISC.

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The administration of epidural steroids with local anaesthetics injections (ESI) could decrease pain and to avoid surgery in lumbar radicular pain due to Herniated Disc (HD) (1,2)

1.OBJECTIVE:

We studied the effectiveness of ESI defined as Numerical Rate Pain Scale (NRPS) ≤ 3 at 6 months and not having had surgery at 1 year follow-up in patients suffering from radicular pain due to HD.

2.PATIENTS and METHOD

An ambispective study was conducted from 2010 to 2013 with a cohort of 146 patients with radicular pain due to HD and nonresponders to conservative treatment. When NRPS was ≥ 4 , ESI was performed with triamcinolone 0.5-1 mg/kg and ropivacaine 0.2% by interlaminar, caudal or transforaminal route with fluoroscopy guidance.

Demographic factors, duration of pain before treatment, NRPS at baseline and at 1-3 and 6 months and not surgery at 1 year were recorded prospectively.

CT/MRI radiographic findings were retrospective analysed:

- HD axial localization (Image 1):
 - Central or Posterior and paramedial
 - Subarticular or posterolateral and midlateral
 - Foraminal or lateral and extraforaminal.
- Extrusion, migration
- Nerve root involvement
- Spine structural abnormalities (canal stenosis, foraminal stenosis)

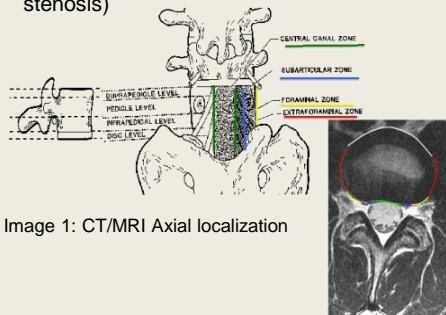
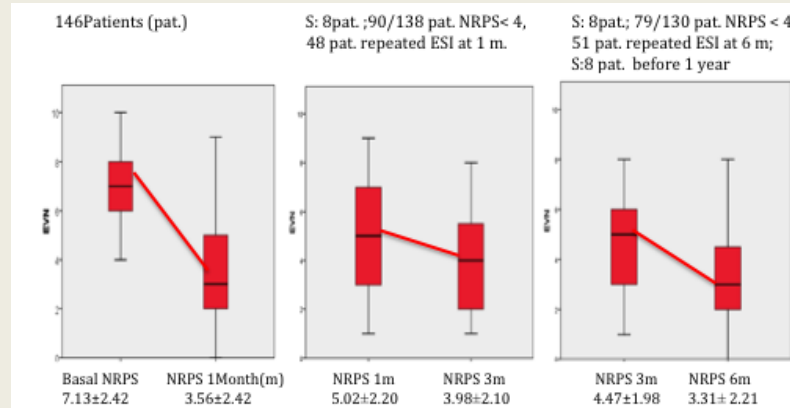


Image 1: CT/MRI Axial localization

Statistic analyses : Multivariate analyses were performed using logistic regression and Classification Regression Trees (CRT) model.

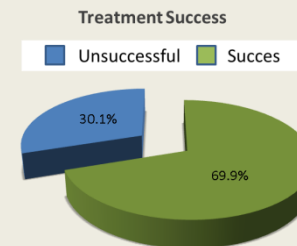
3.RESULTS:

- From 146 patients: 56.8% female, main age: 56.36 (± 14.81 SD) 43.2% male, main age: 50.67 (± 16.11 SD)
- Duration of pain previous to ESI was 8 months (± 7.64 SD)
- NRPS baseline was 7.13 (± 2.42 SD)
- Evolution of the NRPS and Surgery (S) throughout the treatment :



3.A. Treatment success

NRSP ≤ 3 at 6 months and not having had surgery at 1 year follow-up was 69.9%.



1. Kreiner DS, Hwang SW, Easa JE et al. An evidence-based clinical guideline for the diagnosis and the treatment of lumbar disc herniation with radiculopathy. Review article. The Spine Journal 2014; 14: 180-191
2. Radcliff K, Hilibrand H, Lurie JD et al. The impact of epidural steroids injections on the outcomes of patients treated for lumbar disc herniation. A subgroup analysis of th SPORT Trial. J Bone Surg Am 2012; 94: 1353-8

3.B. Predictor factors for success or unsuccessful after ESI:

1. Multivariate Analyses:
Risk for unsuccessful (red underlined):

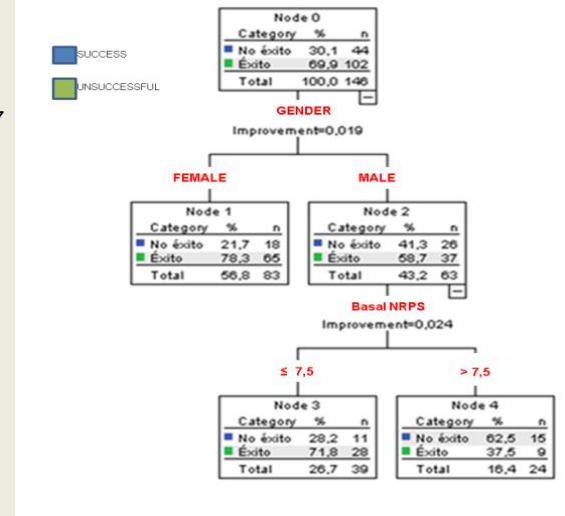
- To be male had 3.046 times more risk.
- For each point of increment in basal NRPS increases 1,397 times the risk.
- The central HD and canal stenosis had 3.472 and 4.502 times more risk respectively

(OR: Odds Ratio)

	OR	IC 95%	Sig
<u>Male</u>	3.046	1.345 – 6.898	0.008
<u>Basal NRSP</u>	1.397	1.064 - 1.836	0.016
Foraminal	1.0		0.080
<u>Central</u>	3.472	1.120 – 10.759	0.031
Subarticular	1.541	0.556 – 4.270	0.406
No pathology	1.0		0.136
Stenosis secondary to HD	2.276	0.889 - 50827	0.087
Foraminal stenosis	1.555	0.517 – 4.675	0.432
<u>Canal stenosis</u>	4.502	1.042 – 19.449	0.044
Constant	0.008		0.000

2. Logistic Regression and Classification Regression Trees Models:

- To be male and to have a basal NRPS greater than 7 were the worst predictive factors for success



CONCLUSION:

ESI could control radicular pain and to avoid surgery in 69,9% of patients. Worst predictive factors for success after ESI were: male gender, NRPS baseline greater than 7, central localization HD and canal stenosis. It is important to keep in mind these factors when we start our interventional treatment in radicular pain due to HD.