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Original Article

Management of lumbar disc herniation with radiculopathy: Results of an Iberian-Latin American survey

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ABSTRACT

Background: Lumbar disc herniation (LDH)/radiculopathy is the most frequent cause of lost workdays in people under 50 years of age. Although there is consensus about how to assess these patients, the optimal management strategy is still debated.

Methods: An online survey was sent to spine surgeons who are members of the Iberian-Latin American Spine Society to assess how they treat LDH with radiculopathy.

Results: There were 718 surgeons who answered the survey; 66% reported that 76–100% of their monthly clinic work was due to spine issues. The most frequently used conservative treatment modalities included non-opioid analgesics and nonsteroidal anti-inflammatory drugs (NSAIDs) (90.5%), followed by physical therapy (55.2%) and pregabalin (41.4%). Notably, 40% of surgeons in the public sector believed that conservative treatment failed if symptoms persisted beyond 6–12 weeks, while 39% of private surgeons deemed conservative management insufficient if it had failed to provide symptomatic relief with 3–6 weeks. Of interest, 78% utilized epidural steroid injections (ESI); 51.7% preferred the transforaminal, 27.2% the interlaminar, and 7.5% the caudal approaches. The most frequent indications for surgery included: cauda equina syndrome, progressive neurological deficits, and intractable pain. Traditional microdiscectomy was the most common technique (68.5%) utilized, followed by 7.5% advocating endoscopic disc resection, and just 6.4% favoring the tubular discectomy.

Conclusion: There is considerable heterogeneity among Iberian and Latin American spine surgeons in the treatment of LDH/radiculopathy. Although most begin with the utilization of NSAIDs and non-opioid analgesics, followed by ESI (88%), surgery was recommended for persistent symptoms/signs for those failing between 3 and 6 weeks (private sector) versus 6–12 weeks (public sector) of conservative therapy.

Keywords: Disc herniation, Discectomy, Injection, Radiculopathy

INTRODUCTION

There is a 5% prevalence of radicular pain due to LDH that it mainly affects patients between 30 and 50 years of age.[3] The clinical resolution of symptoms/signs is reported in from 67% to 76% of cases per year undergoing conservative treatment (nonsteroidal anti-inflammatory

drugs [NSAIDS], Opioids, and/or Epidural Spinal Injections [ESI]).[4] Nevertheless, surgery is still indicated in those patients with persistent symptoms including progressive/severe neurological impairment including cauda equina syndromes, and/or persistent pain. Here, we performed an international survey of Iberian and Latin American spine surgeons to determine how to optimally treat patients with lumbar disc herniation (LDH)/radiculopathy.

Table 1: Questionnaire about general information, and about specific management and treatment options, considering different clinical, and therapeutic scenarios.

Questionnaire on the management of lumbar disc herniation patients with radiculopathy		
	Questions	**Response options**
1.	In which country do you practice?	
2.	What is your specialty?	• Neurosurgery • Orthopedics
3.	At which kind of health center do you work most of the time?	• Public Hospital • Private Health Center • Hospital associated with occupational pathology • University Hospital
4.	In the average month, what percentage of your patients has spinal pathology as the reason for their referral?	• <25% • 36–50% • 51–75% • 76–100%
5.	Which of the following do you consider to be first-line medical treatment? (Choose all that apply)	• NSAIDs and non-opioid analgesics • Pregabalin • Steroids • Tricyclic antidepressants • Opioids • Physical therapy
6.	Do you prescribe leaves from work as first-line treatment?	• Yes (Specify, How many days) • No
7.	Which of the following alternative therapies do you use with your patients?	• Brace • Acupuncture • Chiropractic Manipulation • None of the above • Some other treatment – (Specify)
8.	At what point do you believe that conservative treatment has failed?	• <3 weeks • 3–6 weeks • >6 weeks • >12 weeks • >24 weeks
9.	When do you use peridural infiltration?	• Patient not responding to first-line treatment • Primally when back MRI shows compressive herniation • Initially when a patient is admitted in pain crisis • Initially if sciatica is predominantly irritative without paresis • Initially, when sciatica is associated with one or more neurological deficits • I do not perform or refer patients for epidural infiltration • Other (Specify)
10.	Which approach do you use for epidural infiltration with steroids?	• Interlaminar • Transforaminal • Caudal • Other (specify) • Do not use
11.	How many epidural infiltrations with corticosteroids to perform in a patient at most before proceeding to surgery?	• 0 • 1 • 2 • 3 • More than 3

(Contd...)

Table 1: *(Continued).*

Questionnaire on the management of lumbar disc herniation patients with radiculopathy		
	Questions	**Response options**
12.	How long do you wait for a response to infiltration before performing a discectomy?	• 1 week • 2 weeks • 3 weeks • 4 weeks • >4 weeks
13.	What is the primary indication for surgery in your patients?	• Cauda Equina syndrome • Motor deficit to M3 or less • Progressive neurological deficit(s) • Intractable pain • Isolated sensory deficit(s)
14.	When you perform surgery, which is your surgery of choice?	• Conventional Microdiscectomy • Tubular discectomy • Endoscopic discectomy

NSAIDs: Nonsteroidal anti-inflammatory drugs

MATERIALS AND METHODS

Populations studied

We utilized a 5–10 min/14 point SurveyMonkey® questionnaire [Table 1] to query the Iberian-Latin American Spine Society regarding how to best manage/treat patients with LDH/radiculopathy. The survey data were then statistically analyzed using SurveyMonkey's filter system.

RESULTS

General overview of participants

A total of 718 spine surgeons answered our survey; 163 (22.70%) neurosurgeons and 555 (77.3%) orthopedic surgeons [Figure 1]. Interestingly, 66.3% of all surgeons stated that spinal cases accounted for more than 76% of their practice; 74.5% were seen by orthopedists versus 37% by neurosurgeons. Type of practice is specified in [Table 2].

Initial conservative management

NSAIDs and non-opioid analgesics were prescribed by 90.5% ($n = 650$) of all spinal surgeons. Additional recommendations included: physical therapy (55%), pregabalin (41.4%), and opioids (15.3% and tricyclic antidepressants (4.2%); [Figure 2]. Overall, 24.2% (174) indicated that a brace might be used12.5% used acupuncture and 7.8% used spinal manipulation (56).

Duration of persistent symptoms impacted treatment failure

Notably, 40% of surgeons in the public sector believed that conservative treatment failed if symptoms persisted beyond 6–12 weeks, while 39% of private surgeons deemed conservative management insufficient if it had failed to provide symptomatic relief with 3–6 weeks.

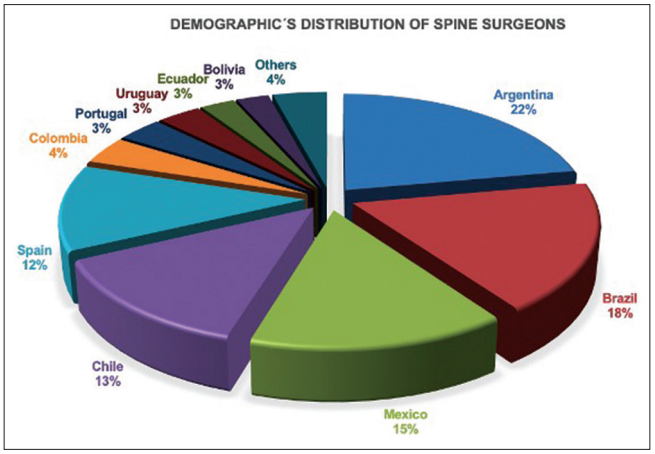

Figure 1: Group composition by country of practice.

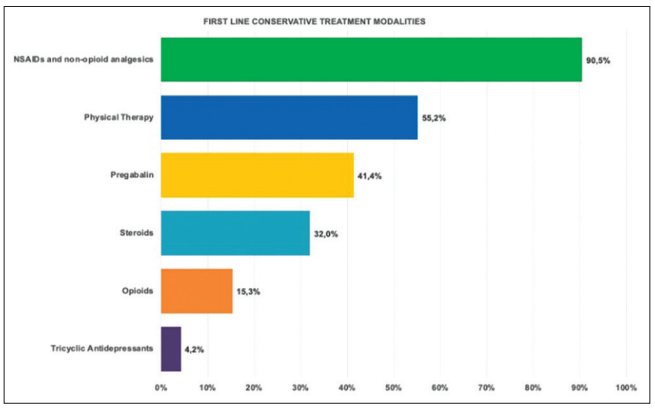

Figure 2: Overview of different conservative treatment modalities. "NSAIDs: Non-steroidal anti-inflammatory drugs."

Epidural Steroid injections (ESI)

ESI were utilized in 50.8% of patients not responding to other first-line treatments. The most frequent approach

was transforaminal (51.7%), followed by an interlaminar (27.2%) and caudal approach (7.5%). Notably, other studies acknowledge that ESI have no documented long-term efficacy.[2]

Surgical treatment

The indications for surgery included progressive neurological deficits (87.3%), intractable pain (86.2%), cauda equina syndromes (78.4%), a motor deficits worse than 3/5 (34.5%), and isolated sensory deficits (14.4%). Traditional microdiscectomy was the most commonly preferred technique (68.5%), followed by 7.5% endoscopic discectomy and finally 6.4% using the tubular discectomy [Figure 3].

DISCUSSION

This survey provides an overview of the preferred conservative and surgical treatments for LDH with radiculopathy among surgeons practicing on the Iberian Peninsula or in Latin America.

NSAIDs and non-opioid analgesics and physical therapy were most frequently used as first-line treatment.[2] Goldberg *et al.*[1] in their randomized clinical trial compared a 15-day course of oral prednisone [Table 3] versus placebo; they observed modestly improved function (at 3 weeks), but no reduction in pain severity. In our survey, only 32% of the respondents, mainly orthopedic surgeons, claimed to use steroids as first-line treatment.

Time to failure of conservative management

Thirty-nine percent of our surveyed surgeons considered that conservative treatment failed after just 3–6 weeks of treatment, while 40% did so after 6–12 weeks, with a tendency toward shorter wait times before surgery in the private versus public system.

Indications for spine surgery

In our survey, there were no significant differences in surgical indications for spine surgeons practicing in private versus public health systems. (i.e. progressive neurological impairment (87.3%), intractable pain 86.2%, cauda equina syndromes (78.4%), motor deficits of M3/5 or less (34.5%), and isolated sensory deficits (14.4%).

Notably, the vast majority of spine surgeons preferred conventional open microdiscectomy (68.5%) to minimally invasive endoscopic or tubular techniques.

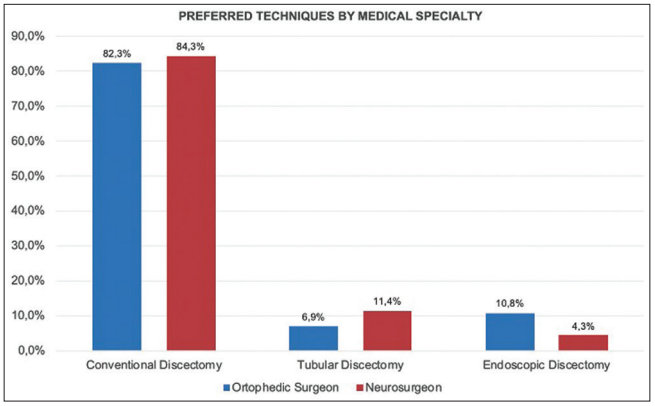

Figure 3: Distribution of preferred surgical techniques by medical specialty: Orthopedic Surgeons and Neurosurgeons.

Table 2: Type of practice of participants.	
Private Practices	54.1%
Public Hospitals	29.1%
University Hospitals	13.6%
Workers' Compensation Institutions.	3.2%

Table 3: 15-day course of oral prednisone used by Goldberg *et al.*[1]

Oral prednisone course	
Day 1 to 5th	60 mg
6th to 10th	40 mg
10 to 15th	20 mg
Total cumulative dose	600 mg

CONCLUSION

This survey documented significant variability among Iberian and Latin American spine surgeons' practices for the treatment of LDH with radiculopathy.

Declaration of patient consent

Patient's consent not required as there are no patients in this study.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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