

Clinical Study

# Does the duration of symptoms influence outcome in patients with sciatica undergoing micro-discectomy and decompressions?

Marina Pitsika, MD, MRCS(Eng)\*, Eleanor Thomas, MBChB, Sabeena Shaheen, MBBS, Himanshu Sharma, BSc, MBBS, MS(Orth), MCh(Orth), FRCSEd, FRCS(Tr, Orth)

Plymouth Spine Services, South West Neurosurgical Department, Derriford Hospital, Derriford Rd, Plymouth, Devon PL6 8DH, United Kingdom

Received 1 September 2015; revised 22 November 2015; accepted 28 December 2015

## Abstract

**BACKGROUND:** Early surgical treatment for back and leg pain secondary to disc herniation has been associated with very good outcomes. However, there are conflicting data on the role of surgical treatment in case of prolonged radicular symptomatology.

**PURPOSE:** We aimed to evaluate whether the duration of symptoms at presentation affects the subjective outcome.

**STUDY DESIGN/SETTING:** This is a retrospective review of prospectively collected data from a single surgeon including micro-discectomies and lateral recess decompressions in patients younger than 60 years old using patient medical notes, radiology imaging, operation notes, and Patient Reported Outcome Measures (PROMS) including Oswestry Disability Index (ODI), visual analogue scale for back pain and leg pain (VAS-BP and VAS-LP). The final follow-up was carried out through postal questionnaire or telephone consultation.

**METHODS:** Demographic information, duration of symptoms, type and incidence of complications, length of hospital stay, and follow-up were analyzed. Data were categorized into four subgroups: symptoms 0–6 months, 6 months–1 year, 1 year–2 years, and >2 years. A clinically significant result was an average improvement of 2 or more points in the VAS and of 20% and over in the ODI. The level of statistical significance was <0.05%.

**RESULTS:** A total number of 107 patients who underwent 109 operations were included. The level of surgery was L5/S1 (50), L4/L5 (43), L3/L4 (3), L2/L3 (2), and two levels (11). The mean improvement was from 0 to ≤6 months (VAS-LP 5.21±2.81, VAS-BP 3.04±3.15, ODI 35.26±19.25), 6 months to ≤1 year (VAS-LP 4.73±2.61, VAS-BP 3.30±3.05, ODI 26.92±19.49), 1 year to ≤2 years (VAS-LP 3.78±3.68, VAS-BP 3.00±2.78, ODI 19.03±20.24), and >2 years (VAS-LP 4.77±3.61, VAS-BP 3.54±3.43, ODI 28.36±20.93). The length of hospital stay and complication rate was comparable between groups. Average follow-up was 15.69 months.

**CONCLUSIONS:** Our study showed significant improvement in patients with symptoms beyond 1 as well as 2 years since onset, and surgery is a viable option in selected patients. © 2016 Elsevier Inc. All rights reserved.

## Keywords:

Back pain; Duration of symptoms; Microdiscectomy; Outcome; Sciatica; Surgery

## Introduction

The natural history of the herniated lumbar disc is favorable for clinical improvement with conservative management

FDA device/drug status: Not applicable.

Author disclosures: **MP:** Nothing to disclose. **ET:** Nothing to disclose. **SS:** Nothing to disclose. **HS:** Nothing to disclose.

\* Corresponding author. Plymouth Spine Services, South West Neurosurgical Department, Derriford Hospital, Derriford Rd, Plymouth, Devon PL6 8DH, United Kingdom. Tel.: +447456303743.

E-mail address: [marinapitsi@hotmail.com](mailto:marinapitsi@hotmail.com) (M. Pitsika)

in vast majority of cases, with partial or complete resolution in about two thirds of the patients. Lumbar disc prolapse with persistent and progressive radicular symptoms constitute 10% of people, in which surgical management in the form of micro-discectomy and decompression has been proven to be beneficial after 6 weeks [1]. Operative experience had resulted in very good outcomes in majority of patients presented early.

There are some controversies regarding the optimal timing of surgery, the selection of the surgical candidates depending upon the length of symptoms as well as the overall

long-term benefit compared with conservative management. There is scarce evidence in the literature to support whether the patients with prolonged duration of symptoms at presentation for several months or years should be offered surgery or to be treated nonoperatively. The Scottish guidelines clearly state that patients with chronic symptoms unchanged for 2 years or more should not be considered for surgery [2]. There is insufficient evidence to reporting the benefits of surgery for those patients having chronic symptoms, lasting for more than 2 years. The aim of this study was to assess whether the duration of sciatica symptoms influences the outcome of pain and functions in patients undergoing micro-discectomy and decompressions.

## Materials and methods

### Patients

This is a retrospective review of prospectively collected data of patients who underwent micro-discectomies and lateral recess decompression for one- or two-level disease, by one spinal surgeon between September 2012 and February 2015 at Derriford hospital, Plymouth. All patients gave informed consent to participate in the study. The inclusion criteria were radiologically (magnetic resonance imaging scan) confirmed lumbar disc herniation and lateral recess stenosis with clinically correlating radiculopathy refractory to conservative management for more than 6 weeks as indicated by the National Institute for Health and Care Excellence guidelines. In the lateral recess decompression group, only patients younger than 60 years old were included. There was no age limit for the patients who underwent micro-discectomy. Revision surgery at the same site and level were excluded; however, patients with previous lumbar spinal procedures performed at a different level were included. Additionally, all patients with incomplete data were excluded from the final statistical analysis and data interpretation.

The patients were divided in four different groups depending on the duration of their symptoms: less than 6 months duration (Group A), between 6 and 12 months (Group B), between 1 and 2 years (Group C), and with more than 2 years of symptoms (Group D).

### Treatment

All these patients underwent micro-discectomy and lateral recess decompression for single- or two-level pathologies, performed by the same surgeon (senior author HS). Standard micro-discectomy approach was used with midline incision, ipsilateral paraspinous dissection, minimal exposure laminotomy, and microscope-assisted discectomy and lateral recess decompression.

Intraoperative or postoperative complications were recorded prospectively. Patients were discharged home when mobilizing independently, and postoperative pain was well controlled either on the day of surgery or the following day. Patients with satisfactory outcome at first follow-up (between

6 and 8 weeks post surgery) were discharged to the primary care setting. Patients with less than satisfactory outcome at first follow-up were followed up for a longer period of time. We obtained longer term follow-up of our patient cohort by postal questionnaire and telephone-based surveys.

### Baseline data and questionnaires or outcome measures

Data were collected using patient notes, clinical letters, operation notes, and discharge letters, whereas the final follow-up was carried out through postal questionnaire or telephone consultation. Patient-reported outcome measures were recorded as preoperative and postoperative questionnaires with the help of visual analogue scale for back pain (VAS-BP), visual analogue scale for leg pain (VAS-LP), as well as the Oswestry Disability Index (ODI). Leg and back pain was recorded with three VASs ranging from 0 to 10 (“pain when as worst being 10,” “pain when as least as 0,” and “pain right now”). The mean value of the three scales was recorded as “VAS leg pain” and “VAS back pain” [3]. The ODI score was used to assess lower back-related functional disability with a combination of physical and social restrictions, which ranges from 0% (no disability) to 100% (the worse possible disability) [4,5]. An improvement of equal or more than 20% in the ODI score and 2 or more out of 10 in the VAS was considered clinically significant [6]. Average improvement in all groups for all score was calculated as well as the final follow-up period, length of stay, and complication rate.

### Statistical analysis

Statistical analysis was performed using the SPSS statistical software. Analysis of variance was used to compare the mean improvement in scores among four groups. The comparisons that took place were between all groups separately. The level of statistical significance was  $p$ -value of  $<.05$ .

## Results

There were 107 patients undergoing 109 operations: 90 micro-discectomies and 19 lateral recess decompression. The pre- or postoperative data were incomplete for 10 patients and were not included in the final statistical analysis of postoperative outcomes.

Of 107 patients, 11 had previous diagnostic nerve root injections and 6 had previous or further lumbar surgery at a different level or side (two under the same surgeon). The mean age was 42.5 years (range, 18–78 years) with marginal male and left-sided preponderance (56%). The level of pathology was L4/L5 and L5/S1 levels in 87% of the cases (Table 1).

There were no deaths, nerve injuries, or postoperative cauda equina syndrome. The overall complication rate was 6%; however, the majority of these complications were minor and self-limiting (Table 2). One required pharmacologic treatment (antibiotics for superficial wound infection), and one had anticipated complete heart block intraoperatively in a

Download English Version:

<https://daneshyari.com/en/article/4095852>

Download Persian Version:

<https://daneshyari.com/article/4095852>

[Daneshyari.com](https://daneshyari.com)