

Descriptive Patterns of Radiating Pain for Lumbar Herniated Intervertebral Disc

Seong Kyu Park, M.D., Dae Moo Shim, M.D., and Won Gu Lee, M.D.

*Department of Orthopaedic Surgery, School of Medicine,
Wonkwang University, Iksan, Korea*

– Abstract –

Study Design and Objective : To evaluate the descriptive patterns of radiating leg pain due to lumbar herniated intervertebral disc, and the correlation between the patterns and various factors such as age, gender, occupation, education, duration of symptom, straight leg raising test, and degree of disc herniation on magnetic resonance imaging.

Materials and Methods : One hundred and three patients who had lower back pain and radiating leg pain were diagnosed with lumbar herniated intervertebral disc. We investigated the descriptions of their radiating leg pain, and standardized and classified 44 adjective words to 11 groups by the Korean McGill pain questionnaire. We analyzed the frequencies of each word and the correlation between the frequencies and the various factors.

Results : The pattern of pain descriptions tended to exhibit certain characteristic traits. The word 'flashing' was the most common (72.8%), followed by the word 'jerking' (62.1%). Descriptions of most patients included either the word 'flashing' or 'jerking' (92.2%). However, there was no significant relation between the frequencies of each word and any factors ($p>0.05$, chi-square).

Conclusions : The pattern of patients' descriptions for radiating pain of lumbar herniated intervertebral disc is either the word 'flashing' or 'jerking'. This is a useful description to diagnosis and plan for the treatment of lumbar herniated intervertebral disc.

Key Word : Lumbar Herniated Intervertebral Disc, Radiating pain, Pain descriptions

(non-radicular pain)
(radiating pain)

(sciatica) (radicular pain)

Address reprint requests to

Seong Kyu Park, M.D.

Department of Orthopaedic Surgery, Kunpo hospital, Wonkwang University,
1126-1, Sanbon-dong, Kunpo, Gyunggi-do, Korea

Tel: 82-31-390-2556, Fax: 82-31-390-2854, E-mail: pathe@wmc.wonkwang.ac.kr

* 2003

(referred pain)

103

가

1).

가

가

2)

2.

가

가

20 ~40

‘ 40

‘ 40

, 가 ,

가

1

8 가

‘ 8

‘ 8

3.

가

가

가

. 30

30

4.

1.

[illegible]

	.	'	,	가
Grade 1 (Bulging),	.	11	44	
	가		.	
가 가	Grade 2	11	44	
(Protrusion),	,			
가 가				.
	Grade 3 (Extrusion),	44		103
			.	가
Grade 4 (Sequestration)	.	,	,	,
		,	,	,
	가	가		.

5. 가, 1983 Lee³⁾, McGill⁴⁾, 20 77, 10 41, 17 3, 11 44 (Table.1).

6. SPSS (Ver. 10.0) . Chi-Square test (² test) Fisher 's Exact test 0.05 (p<0.05). 103 70 , 33 , 40 50 , 40 53 . 가 50 , 가 53 , 35 , 68 . 8 49 , 8

Table 2. Pattern of Descriptions of Radiating Pain due to Lumbar Herniated Intervertebral Disc

				13					11		
1					1					1	29
					1					1	
					1						
					1						
2	/				31	/				5	61
	/				4	/				3	
	/				3	/				3	
	/				2	/				2	
	/				1	/				1	
	/				1	/				1	
	/				1	/				1	
	/		/		1	/				1	
3	/		/						4	11	
	/		/						2		
	/		/						1		
	/		/						1		
	/		/						1		
	/		/						1		
	/		/						1		
4	/		/		/					1	2
	/		/		/					1	
										103	

Table 3. Frequencies of Words for Descriptions of Radiating Pain

	(%)
75 (72.8)	
64 (62.1)	
12 (11.7)	
10 (9.7)	
5 (4.9)	
5 (4.9)	
4 (3.9)	
3 (2.9)	
2 (1.9)	
2 (1.9)	
1 (1)	
1 (1)	
1 (1)	
1 (1)	
1 (1)	
1 (1)	
1 (1)	
44 (42.7)	
95 (92.2)	

54 .

46

57 .

Grade 1 (Bulging) 15 ,

Grade 2 (Protrusion) 34 , Grade 3 (Extrusion) 35 ,

Grade 4 (Sequestration) 19 .

가 1

가 29 (28.2%) , 2 61 (59.2%),

3 가 11 (10.7%), 4 가 2 (1.9%) ,

1.86 (Table.2).

103 ‘ , 가 75 (72.8%)

가 , ‘ 가 64 (62.1%)

가 12 (11.7%), ‘

가 10 (9.7%), ‘ , ‘ ,

가 5 (4.9%), ‘ 가 4 (3.9%), ‘ 3

(2.9%), ‘ , ‘ , 가 2

(1.9%) . ‘ , ‘ ,

‘ , ‘ , ‘ , ‘ ,

1

44 (42.8%), ‘ , ‘ ,

95 (92.2%) (Table.3).

	가	가	가	가	가
	70	52	45	33	64
	33	23	19	11	31
40	50	38	34	25	45
40	53	37	29	16	48
	50	35	31	19	47
	53	40	33	25	48
	35	28	22	17	35
	68	47	41	27	61
8	49	36	33	22	47
8	54	39	31	22	48
	57	38	32	19	51
	46	37	32	25	44
Grade I	15	7	9	3	13
Grade II	34	20	22	12	30
Grade III	35	32	21	19	34
Grade IV	19	16	12	10	18

McGill

가 , , 가 10

, , ,

.

, , ,

가 , Dubuisson Melzack⁹⁾

가 77% 가 Kim ¹⁷⁾

, Leavitt ¹⁰⁾ 71

13

93.6%

가

가

가

가

20 1-10

, 11-15 , 16 가 ,

17~20 .

,

, ,

가 ,

가

McGill 1983 Lee ³⁾

, ,

20 77

(pricking) ' (burning) '

McGill

가 10 41 17

3 , 11 44

(Simple Descriptive Scale, SDS)¹¹⁾, 가 75 (72.8%) 가

(Numerus Rating Scale, NRS), 가 64 (62.1%)

(Visual analogue pain rating scale, VAS)¹²⁾, '가 12 (11.7%), ' , ' ,

가 10 (9.7%), ' , ' ,

가 5 (4.9%) , ' , ' ,

(Pain drawing)¹³⁾, McGill (McGill 44 (42.8%), ' ,

Pain Questionnaire, MPQ)⁴⁾, Oswestry 95 (92.2%) .

(Oswestry Low back Pain Disability Questionnaire)

92.2%

REFERENCES

- 1) **van Akkerveeken PF.**: Pain patterns and diagnostic blocks. In: Wiesel SW, Weinstein JN, Herkowitz H, eds. *The Lumbar Spine*. Philadelphia, WB Saunders Co: 105-122, 1996.
- 2) **Bogduk N**: *Clinical Anatomy of the Lumbar Spine and Sacrum*. New York: Churchill Livingstone, 1997.
- 3) **Lee EY, Yun SN, Song MS**: A study for development of a korean pain measurment tool(I). *Newest Medical Journal* 1983; 26:141-168.
- 4) **Melzack RR, Torgerson WS**: On the language of pain. *Anesthesiology* 1971; 34(1):50-59.
- 5) **An HS**: Synopsis of spine surgery. *Williams & Wilkins*:225-246, 1998.
- 6) **Mixter WJ, Barr JS.**: Rupture of the intervertebral disc with involvement of the spinal canal. *N Engl J Med* 1934; 211:210-215.
- 7) **Rydevik B, Brown MD, Lundborg G**: Pathoanatomy and pathophysiology of nerve root compression. *Spine* 1984; 9:7-15.
- 8) **McCarron RF, Wimpee MW, Hudkins PG**: The inflam - matory effect of nucleus pulposus. A possible element in the pathogenesis of low back pain. *Spine* 1987; 12:760-764.
- 9) **Dubuisson D, Melzack R**: Classification of clinical pain descriptions by multiple group discriminant analysis. *Exp Neurol* 1976; 51:480-487.
- 10) **Leavitt F, Garron DC, Whistler WW**: The detection of psychological disturbance in patients with low back pain. *J Psychosom Res* 1979; 23:149-154.
- 11) **Keele KD**: Pain-sensitivity tests the pressure algometer. *The Lancet Martch* 1954; 27:636-639.
- 12) **Huskisson EC**: Measurement of pain, *Lancet* 1974; 2:1127-1131.
- 13) **Ransford AO, Douglas C, Mooney V**: The drawing as an aid to the psychologic evaluation of patients with low back pain. *Spine* 1976; 1:127-134.
- 14) **Mann NH III, Brown MD, Enger I**: Expert performance in low-back disorder recognition using patient pain draw - ings. *J Spinal Disord* 1992; 5:254-259.
- 15) **Sprengler DM, Freeman CWR, Miller JW**: Low back pain following multiple limbar spine procedure. *Spine* 1980; 5:356-360.
- 16) **Uden A, Astrom M, Hans B**: Pain drawing chronic back pain. *Spine* 1988; 13:389-39.
- 17) **Kim HT, Park BH, Chun DW, Lee HS, Jeon HB**: The use of pain drawings in low back disorders *J Kor Spine Surg* 1994; 1:93-101.
- 18) **Ohnmeiss DD, Vanharanta H**: Relationship of pain drawings to invasive tests assessing disc pathology. Pre - sented at the annual meeting of the North American Spine Society, Washington, DC, October, 1995.
- 19) **Ljunggren AE**: Descriptions of pain and other sensory modalities in patients with lumbago-sciatica and herniated intervertebral discs: Interview administration of an adapt - ed McGill pain questionnaire. *Pain* 1983; 16:265-276.
- 20) **Ohnmeiss DD, Vanharanta H, Ekholm J**: Degree of disc disruption and lower extremity pain. *Spine* 1997; 22:1600-1605.
- 21) **Karppinen J, Malmivaara A, Tervonen O et al**: Severity of Symptoms and Signs in Relation to Magnetic Resonance Imaging Findings Among Sciatic Patients. *Spine* 2001; 26:149-154.



가

가

103

McGill

11 44

1.86

가 64 (62.1%) 가

가 75 (72.8%),

95 (92.2%)

(p>0.05).

가 가

1126-1

Tel: 82-31-390-2556, Fax: 82-31-390-2854, E-mail: pathe@wmc.wonkwang.ac.kr