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## The short term results of selective nerve root block in herniated lumbar disc patients

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### – Abstract –

**Study Design:** A prospective study

**Objectives:** To analyze the serial results of selective nerve root blocks in herniated lumbar disc patients.

**Literature Review Summary:** To our knowledge there has been no study demonstrating the serial efficacy of root blocks for patients with a herniated lumbar disc only.

**Materials and Methods:** Selective nerve root blocks were performed in 36 patients who had a lumbar disc herniation only, with radiculopathy, between November 2002 and April 2003. The diagnoses were made by CT or MRI, which agreed with the symptoms and physical examinations. There were 31 men and 5 women, with a mean age of 28.2 years. The mean interval between the onset and procedure was 7.6 weeks, ranging from 1 to 26 weeks. Mono- and double-segment injections were used in 18 cases, respectively. The straight leg raising angle, visual analogue pain scale, and motor and sensory functions were investigated before, immediately, 2 days, and 1 and 3 months after the procedure.

**Results:** The mean straight leg raising angle improved significantly, from  $28 \pm 9^\circ$  to  $53 \pm 18^\circ$ ; immediately, and was maintained until 3 months after the procedure ( $P < 0.001$ ). The visual analogue pain scale was also improved, from  $4.6 \pm 0.9$  to  $2.0 \pm 1.5$ , immediately, and was maintained until 3 months after the procedure ( $P < 0.001$ ). Two of ten patients with motor weakness, and six of eighteen with sensory deficit were improved. There was no procedure related complication; however, surgical treatment was performed in two patients who showed no improvement until 3 months.

**Conclusions:** Selective nerve root block is a safe and effective treatment method to obtain a rapid and remarkable improvement of radiculopathy in herniated lumbar disc patients.

**Key Words:** Lumbar spine, Disc herniation, Selective nerve root block

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2003

				(61%) , 4-5 15 , 5 - 1 7 . 14 (39%) 3-4-5 2 , 4-5 - 1 12 . (protruded type) 32 (64%), (extruded type) 16 (32%), (sequestrated type) 2 (4%) .
1-4). 1971 Macnab <sup>5)</sup>				4-5 15 3 , 5 - 1 7 1 4 , 5 가 6-10), . 5 1 가 가 13 (36%) 가 , 11-14). 5 가 12 (33%), 1 가 가 6 (17%), 4, 5 가 5 (14%) . 1 . 2. 3 Kikuchi <sup>15)</sup> , Tajima <sup>14)</sup> (prone position) , . 1. , 1 1 1/4 . 8 cm, 22 2002 11 2003 4 (spinal needle) 1 cm , , 10 . 1 3 가 가 36 , 1 가 가 가 가 가 31 , 5 , 1 1 28.2 (19 72 ) . 0.5 cc (Isovist ) 7.6 (1 26 ) , 5.5 (3 8 ) 2% Lidocaine 1cc Triamcinolone 40 mg 가 3 가 22 30

(Table 1),

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ANOVA

paired t-test

3.

가 , 5 ,  
2 , 1 , 3 ,

visual analogue pain  
scale 가  
0 , 10  
analogue 가  
0 10  
Weber<sup>19)</sup>가  
2 , 1 3

**Table 1.** Criteria of subjective satisfaction

Criteria	
Excellent	Completely satisfied
Good	Satisfied, lesser complaints
Fair	Not satisfied, partly incapacitated
Poor	Completely incapacitated for work due to chronic back pain or sciatica

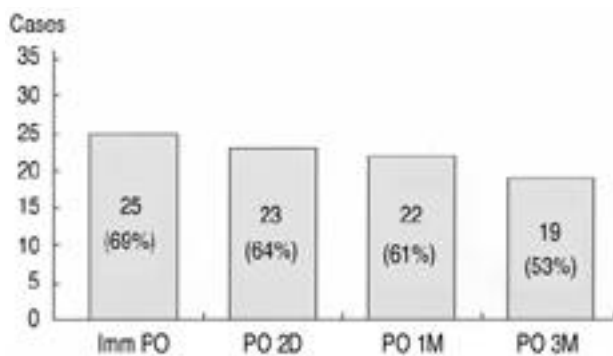
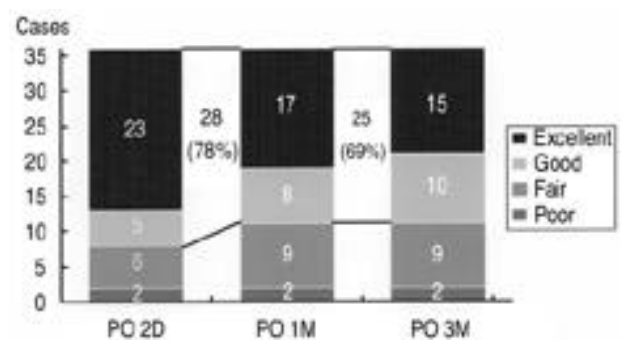
53 ± 18 °  
2 (55 ± 18 °), 1 (48 ± 17 °) 3 (49 ± 18 °)  
(P<0.001)(Table 2).  
36 가 20  
가 25 (69%), 2 23 (64%), 1  
22 (61%), 3 19 (53%) (Fig. 1).  
visual analogue pain scale 4.6 ± 0.9  
2.0 ± 1.5 , 2  
(2.3 ± 1.5), 1 (2.5 ± 1.4) 3 (2.6 ± 1.5)  
(P<0.001)(Table 2).

가  
2 28 (78%), 1 3 25  
(69%) (Table 3)(Fig. 2). 가  
10 2 , 1 ,  
1 3 가  
18 6

**Table 2.** Changes of SLR (straight leg raising) angle and VAPS (visual analogue pain scale)

	Preop.	Immed. postop.	PO 2D	PO 1M	PO 3M
SLR	28 ± 9 °*	53 ± 18 °**	55 ± 18 °**	48 ± 17 °**	49 ± 18 °**
VAPS	4.6 ± 0.9 <sup>#</sup>	2.0 ± 1.5 <sup>##</sup>	2.3 ± 1.5 <sup>##</sup>	2.5 ± 1.4 <sup>##</sup>	2.6 ± 1.5 <sup>##</sup>

\* Vs. \*\*: P&lt;0.001 # Vs. \*\*: P&lt;0.001

**Fig. 1.** Sixty-nine percents of patients showed improvement of straight leg raising angle more than 20 degrees immediately after injection. At 3 months, this improvement was maintained in 53 percents of patients.**Fig. 2.** Seventy-eight percents of patients represented satisfactory result at 2 days. Even though some of them was aggravated, 69 percents showed satisfactory result at 3 months.

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mechanical etiology) phospholipase A<sub>2</sub>  
, 2, 3  
(biochemical etiology)가  
<sup>20-23)</sup> corticosteroid  
phospholipase A<sub>2</sub>  
(nociceptive axon) , 가  
<sup>24)</sup> 가  
Kikuchi <sup>15)</sup> corticosteroid가 가  
<sup>16-19)</sup> 가  
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<sup>12-14)</sup>  
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<sup>8)</sup> 55  
(lumbar radicular pain) cor-  
ticosteroid 29  
13 28 가  
Weber<sup>19)</sup> 가 60% , 3 Hong <sup>6)</sup>  
가 가 6 59%  
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2 3  
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nab<sup>5)</sup>

**Table 3.** Results of subjective satisfaction

	Number of cases		
	PO 2D	PO 1M	PO 3M
Excellent	23	17	15
Good	5	8	10
Fair	6	9	9
Poor	2	2	2

가 . , Jacobs <sup>26)</sup>

corticosteroid 2 3

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6.10) . 1

CT MRI

가 가

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20 36

25 3 19

visual analogue pain scale 3 CT MRI

36

3

2 (78%) 1 3 (69%) 3

. Hong <sup>6)</sup> 50%

가 1 74% 1 49%

corticosteroid

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가 10 2 , 18

6 가

36

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