

Surgical Outcome of Degenerative Spinal Stenosis - Clinical Correlation of Patient Satisfaction and Surgical Results -

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- Abstract -

Study Design : This study is a retrospective evaluation of the surgical outcome by the patient satisfaction and Oswestry low back pain questionnaire.

Objective : The goal of this study was to evaluate the clinical correlations of various factors with the patient's satisfaction and with the surgical results in degenerative spinal stenosis.

Summary of Literature Review : The patients satisfaction and surgical outcome of the degenerative spinal stenosis by the objective method have not been well described in the literature.

Material and Methods : Mean follow-up period was 4.8 years after surgery in 114 patients. Outcome was based on subjective disability using Oswestry low back pain questionnaire. Patient satisfaction degree was rated to 'very satisfied(1)', 'somewhat satisfied(2)', 'somewhat dissatisfied(3)' and 'very dissatisfied(4)'. Several factors that might be associated with patient satisfaction and outcome were investigated.

Results : Of the one hundred and fourteen patients, 84(73.9%) were satisfied to the surgery and mean satisfaction degree was 1.94. Ninety two patients(80.7%) had excellent-to-good results with the mean Oswestry disability score 26.9. There were 7 complications including dural tear in 3 cases, pseudarthrosis in 1 case, dissociation between rod and screw in 1 case, pedicle screw breakage in 1 case and termination of operation due to massive bleeding during operation in 1 case.

Conclusion : Clinical results and patient satisfaction were better in the cases with short segments fusion than long segments fusion and the patients with preoperative leg symptom as major symptom had significantly lower Oswestry disability score.

Key Words : Lumbar spine, Degenerative spinal stenosis, Surgical outcome, Oswestry questionnaire, Satisfaction

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* 1999

가 , Fair-
bank Oswestry 가 10)
20% (excellent), 21% 40%
(good), 41% 60% (fair), 61%
(poor) 가 .

가
가 .
26~100%^{15,17,27)} , Turner
64% , , , , ,
28) . , 2
가 가
T-test, ANOVA test, Chi-square test, Mann-Whitney test,
Kruskal-Wallis test Spearman correlation .
가
가
가

73.9%(84)가
1) 가 2) Oswestry 가
가 3) 1.94 (Table 1).
80.7%(92)가 , Oswestry
26.9 (Table 2). 50
(Table 3).
Oswestry Spearman cor-
relation r=-0.056
가 .
7 3 ,
가 1 , 1 ,
가 1 , 가 1
가 가 114
(Table 3).
89 25 ,
50.9 .
2 11 4 4 10 .
1 40 7.6
Oswestry
r=0.185 가 .
2 3
Oswestry
(Table 3).
(1)', '
(2)', ' (3)', ' (4)' 4

Table 1. Satisfaction degree

Satisfaction degree	No. of Pt. (%)	
very satisfied(1)	45 (39.5 %)	
Somewhat satisfied(2)	39 (34.2 %)	73.7 %
Somewhat dissatisfied(3)	22 (19.3 %)	
Very dissatisfied(4)	8 (7.0 %)	26.3 %

Table 2. Clinical result by Oswestry score

Disability score	No. of Pt. (%)	
Excellent(0-20)	52 (45.6 %)	
Good(21-40)	40 (35.1 %)	80.7 %
Fair(41-60)	12 (10.5 %)	
Poor(>60)	10 (8.8 %)	19.3 %

Table 3. Results of various factors

	Sex			Age			Complication		
	Male(45)	Female(8)	p-value	<50 yrs	>50 yrs	p-value	Yes(7)	No(107)	p-value
Satisfaction degree	1.80	1.98	0.38	1.87	1.99	0.312	1.86	1.94	0.876
Oswestry score	22.60	28.08	0.256	25.27	27.93	0.515	31.86	28.55	0.524
	Fusion segments			Postoperative symptoms			Concomitant systemic disease		
	Short*(57)	Long#(57)	p-value	No(62)	Yes(52)	p-value	No(74)	Yes(44)	p-value
Satisfaction degree	1.77	2.11	0.024	1.61	2.33	0.0001	1.80	2.00	0.893
Oswestry score	21.82	31.93	0.010	20.5	34.5	0.001	27.4	26.5	0.812

* less than 2 segments, # more than 3 segments

Table 4. Change of preoperative symptoms

Preoperative symptoms	Postoperative symptoms	3 ,	3 ,	1
Back pain (30)	none(14) back pain(12) leg pain(1) miscellaneous(3)	2 Oswestry 25.8, 2	2 Oswestry	2 43.3
Leg pain (40)	none(26) back pain(6) leg pain(6) miscellaneous(2)	(p=0.034).		가
Back and leg pain (44)	none(22) back pain(8) leg pain(3) back and leg pain(6) miscellaneous(5)		. Johnsson (18)	
			15%	

가 , Fast¹¹⁾, Macnab¹¹⁾, McCulloch²³⁾, Wiltse²⁹⁾ Oswestry 가 (Table 3). (, , ,) , , (Table 3). 62 (54%) 64%(26~100%) , Turner²⁸⁾ 3) 84%, 5) 77%, 1) 63.3% 65% 가 . 가 가 가 (Table 4). (, ,) Oswestry , , , (p=0.033). Katz²¹⁾ 76%

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76% 가 50% , Naska²⁴⁾ 89% 가 59% . Herno¹⁶⁾ 14 Oswestry 31.0 40.9, 67% 46% 1 2 7 가 3 , 3 , 가 Oswestry 가 Oswestry 가 가 114 73.9% 가 , 80.7% 가 가 Oswestry 가

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: Oswestry 가
 :
 , Oswestry 가 ,
 : 4 10 ‘ (1)’, ‘ (2)’,
 ‘ (3)’, ‘ (4)’ 4 가 Oswestry 가
 20 , 21 40 , 41 60 , 61
 가 .
 : 73.9%가 1.94 . 80.7%가
 , Oswestry 26.9 . 7 3 , 가
 1 , 1 , 가 1 , 가 1 .
 : 가 가 ,
 Oswestry 가 .
 : , ,