

Clinical Features of Degenerative Scoliosis

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– Abstract –

Purpose : To describe and analyze the clinical features of degenerative scoliosis so that we could guess the pathogenesis of the disease.

Materials and Methods : Forty-eight adults with degenerative scoliosis were reviewed. We evaluated the symptoms and physical findings. Simple radiographs of the lumbar spine and MRI films were investigated.

Results : All patients had low-back pain, and eleven of them had severe low-back pain. Forty-six patients(96%) had lower extremity symptoms, and 80% of them had severe symptoms. The mean curve was 18°(range, 11°-44°). The mean lordosis was 27°(range, -16°-+45°). The frequency of significant degenerative change was highest in the low-lumbar region. Stenosis detected on MRI was present in the low-lumbar area in most cases and a limited number of cases revealed stenosis on the mid-lumbar area. The most frequent incidence of stenosis was at L4-5.

Summary and Conclusion : The frequency of degenerative change was highest in the low-lumbar region and significant cases revealed degenerative change only in low-lumbar area. This may imply that degeneration and instability of low-lumbar area can cause secondary biomechanical compensation at above levels, resulting in scoliosis and degenerative change.

Key Words : Degenerative lumbar scoliosis, Clinical features

가, Bridwel¹³⁾ 가
3-4, 4-5
Grubb Lipscomb⁹⁾,
Moon⁹⁾,
가
1-6, 8, 9, 11-15)
Prichett¹²⁾ 4 가,

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가

가

method

Moe¹⁰⁾

Jackson⁷⁾

criteria

Cobb

Nash

가

Toyama¹⁴⁾

1994 1 1998 12

60

12 48

가 42 (88%), 가 6

42 78 61

1

1)

40

11 (23%)

가

2

, 38 (79%)

가 10

4 (8%)

Table 1. Symptoms and physical findings

	No. of patients(%)
Symptoms	
Back pain	48(100)
Leg pain and/or buttock pain	46(96)
Anterior thigh pain	4(8)
Stooping	5(10)
Physical findings	
Nerve root tension sign	2(4)
Motor and/or sensory deficit	14(29)

Table 3. Associated olisthesis

Level	No. of levels		
	Spondylolisthesis	Retrolithesis	Total
L1-2	1	0	1
L2-3	2	5	7
L3-4	8	3	11
L4-5	15	6	21
L5-S1	6	4	10
Total	32	18	50
No. of patients	23(48%)	16(33%)	33(69%)

Table 2. Radiographic features of the curves

Curve features	No. of patients(%)
Curve direction	
Right side	17(35)
Left side	31(65)
Number of segments involved	
5	8(17)
4	21(44)
3	17(35)
2	2(4)
Mean : 3.7 segments	
Curve magnitude	
11~20°	36(75)
21~30°	10(21)
31~40°	1(2)
41~50°	1(2)
Mean : 17.8°	
Lordosis, L1-S1	
-19~-10°	1(2)
-9~0°	1(2)
1~10°	3(6)
11~20°	6(13)
21~30°	11(23)
31~40°	8(17)
41~50°	18(38)
Mean : 27.8o	



Fig. 1. These radiographs of a patient with scoliosis show typical pathologies of degenerative scoliosis including scoliosis, tilt, rotation of vertebral bodies, lateral subluxation and olisthesis.

2)		11	가 20	3
	37		가 가 level 4-5	가
	가 19 ,		가 가 level 3-4, 4-5	
	가 18		가	50
	가		level, 33 (69%)	가 가
3)	가	5	4-5 (Table 3).	
4)		2 (4%)	7) 2	
		14 (29%)		Grade 2
	(Table 1).		(Fig. 1). 7 (15%)	가
5)		3	가 15 (31%), 4-5	4
	3.7	31 (65%)	가 13 (27%), 5	가 20 (42%)
	(35%)	11	가	
	18	45	8)	
28		-16	L1-2 2 (5%), L2-3 5 (12%), L3-4 14 (34%), L4-5	
6)	Jackson 7)	Grade 2	23 (56%), L5-S1 17 (45%)	
	가 25 ,		(Table 4).	가 가 4-5

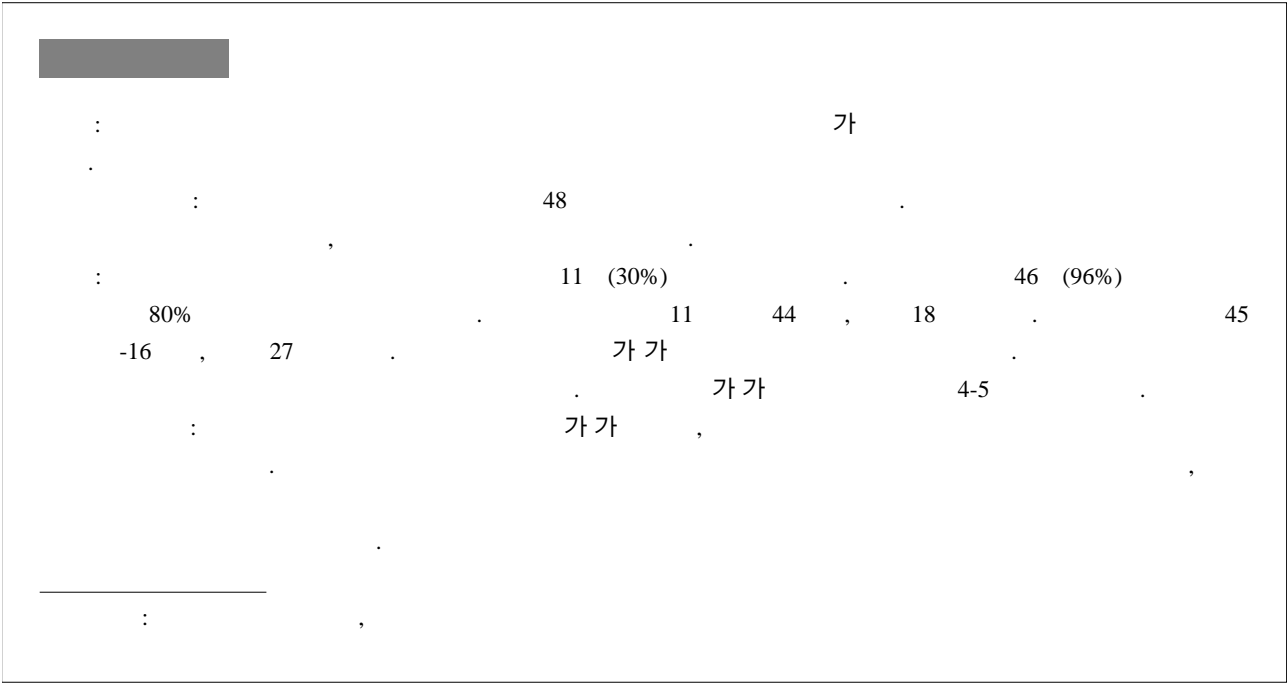
Table 4. Stenosis on MRI(n=41)

Level	No. of levels			No. of patients(%)
	Central, Recess	Foraminal	Total	
L1-2		2	2	2(5)
L2-3	1	5	6	5(12)
L3-4	9	9	18	14(34)
L4-5	14	16	30	23(56)
L5-S1	6	16	22	17(35)
Total	30	42		
No. of patients	21(44%)	27(56%)	33(69%)	33(69%)

Moon⁹⁾ 18, 14 가
 9) Toyama¹⁴⁾ 1, 11, 2 가
 10 27 가 가 23 Pritchett¹²⁾ 55% 가
 1 9, 2 14, 3
 Toyama 가 33
 (69%) , 4-5
 가 (Table 3).
 Moon
 52%~71%^{1,3,5,12)} 9) L3-4 62%, L4-5 92% , Toyama¹⁴⁾ L2-3 9%, L3-4 35%, L4-5 70%, L5-S1 52%
 88% (Table 4).
 Grubb Lipscomb⁵⁾ 85%,
 45%
 3,5,6,11) Pritchett Bortel¹²⁾ 4, 5 Toyama 4-5
 , P rennou¹¹⁾ 3, 4
 가 4 (8%)
 Bridwel¹³⁾ , Toyama 가 가
 , Pritchett¹²⁾ 가 1 5 - 1
 level
 11 22, 30
 7.0, 5.3 mm 가
 .(P=0.10, P=0.12)^{5,9)}
 4 (8%)
 가 (Table 4). 35% 65% , 가
 5,9,12,14)

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