

Lumbar HIVD Associated with Spondylolysis

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– Abstract –

Study Design : This is a retrospective study determining the surgical result of lumbar HIVD associated with spondylolysis.

Objectives : To analyze the incidence of lumbar HIVD associated with spondylolysis and to compare the results of open discectomy for lumbar HIVD associated with spondylolysis to simple lumbar HIVD.

Summary of Literature Review : Lumbar HIVD associated with spondylolysis need be treated by spinal fusion.

Materials and Methods : Nine patients(5 males and 4 females) who had lumbar HIVD with spondylolysis, no instability, follow-up period of 1yr were identified out of 273 patients with lumbar HIVD, treated by open discectomy from March 1989 to Feb. 1999. The type of HIVD and level of spondylolysis were evaluated, the clinical symptoms and signs including SLR, motor deficit, sensory deficit, change of DTR and severity of radiating pain were periodically followed up on the predesigned protocol.

Results : The incidence of lumbar HIVD associated with spondylolysis is 3.7%. The recovery of back pain was 2.1 to 2.1 by visual analogue scale, radiating pain was 7.6 to 0.8. The recovery rate of SLR was 100%, motor deficit; 100%, sensory deficit; 85%, change of DTR; 40%. The clinical evaluation was excellent(2), good(6), fair(1).

Conclusions : According to the recovery rate of the clinical symptoms, the results of open discectomy for lumbar HIVD associated with spondylolysis without spinal instability and simple HIVD was not different. Therefore, we conclude that lumbar HIVD associated with spondylolysis need not be treated by spinal fusion.

Key Words : Spondylolysis, HIVD, Open discectomy

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* 2000

1997

:

, ,

,

Fredrickson⁴⁾

6%

60

가

가

70

가

가

, ,

, ,

visual analogue scale 0

10

가

, 2, 6, 3, 6

, 9, 1, 1, 6, 2

protocol

, ,

3.7%

(9/273)

가

4-5

5

5

, 5 - 1

3

1

4

, 1

5

,

1

4, 5

,

4-5

5

-

: 1989 3

1999 2

1

1

1

5

273

, , 1, 5, 3, 1, . 9

가

9

42.7

(30

7 (78%)

가 5, 가 4

,

54.6

(15

~114

~64) ,

, visual analogue scale

2.1(0~8),

2.1(0~5)

,

(buttock pain)

9

, 가 (100%)

visual analogue scale

Kim

가

“ ”

가

7.6(4~10)

0.8(0~3)

가

7 (78%)

, “ ”

7

.

2

1

”

, “

가

1

가

6

, “ ”

(67%)

6

8 (89%)

7

가

,

1

4

Table 1. Clinical features of HIVD with spondylolysis

No	S/A ^a	level	type	no. F/U ^b	level involved	dis- tortion place- ment ^c	back pain	radiating pain		SLR		motor				sensory				DTR								
								pre	post	pre	post	pre	post	pre	post	pre	post	pre	post	pre	post	pre	post	pre	post	pre	post	
																												EPH
pre ^d post ^e																												
1	M/35	L4-5	seq	E	114	L5	bilat	no	2	0	0/0	0/0	30/70	70/70	-3	0	0	0	0	0	0	0	0	0	3	3	2	2
2	M/40	L4-5- SI	prot	G	41	L5	bilat	no	3	2	0/7	0/2	50/30	60/60	0	0	0	0	-1	-1	0	0	0	0	0	0	2	2
3	F/64	L5-S1	seq	G	15	L4	bilat	no	3	2	8/0	1/0	30/70	70/70	0	-1	-1	0	0	0	-1	-2	-1	2	2	2	0	2
4	M/44	L5-S1	seq	G	108	L4/5	bilat	no	0	3	10/0	0/0	30/60	50/60	-1	-1	-1	0	0	0	0	-1	-1	2	2	1	1	
5	F/34	L4-S1	prot	G	31	L5	bilat	no	0	2	5/0	2/0	30/70	70/70	-2	0	0	0	0	-1	0	-1	0	1	2	2	2	2
6	M/38	L2-S1 L4-S1	subd ext	P	15	L5	bilat	no	0	5	8/0	0/2	60/60	60/50	0	0	0	0	-1	-1	-1	-1	-1	2	1	2	1	
7	M/33	L5-S1	prot	G	36	L5	bilat	no	8	2	4/0	0/0	70/70	70/70	0	0	0	0	-1	0	-1	0	2	2	1	1		
8	F/30	L4-5	seq	E	65	L5	bilat	no	3	2	9/0	0/0	20/60	60/60	-3	0	0	0	-1	0	0	0	0	0	0	2	2	
9	F/57	L4-5	seq	G	65	L5	bilat	no	2	0	0/9	0/0	60/50	60/60	-3	0	-1	0	0	-2	-1	-3	0	0	0	2	2	

^a: Sex/Age. ^b: follow up(months). ^c: both side (bilateral). ^d: preoperative & postoperative displacement. ^e: preoperative. ^f: postoperative. E: excellent. G: good. F: fair. P: poor. SLR: straight leg raising test(angle). DTR: deep tendon reflex. Seq: sequentiated. Prot: proteinosis. Subd: subdural hematoma. Ext: extension.

* Sex/Age. † follow up (months). ‡ both side (bilateral). § preoperative & postoperative displacement. ¶ preoperative. †† postoperative. E: excellent. G: good. F: fair. P: poor. SLR: straight leg raising test (angle). DTR: deep tendon reflex. Seq: sequentiated. Prot: protrusion. Subd: subligamentous extrusion.

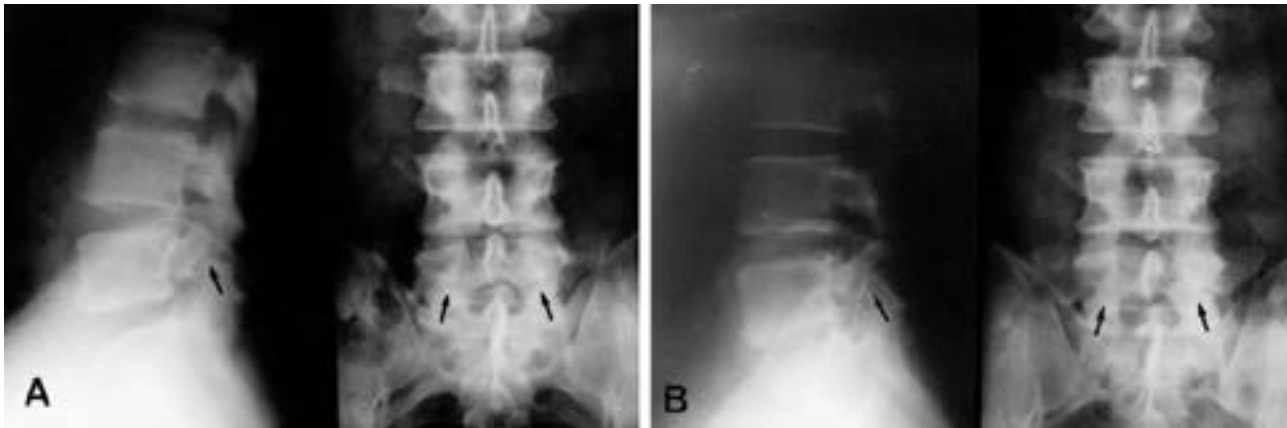


Fig. 1-A. Plane radiographs of 49 year-old man with herniated intervertebral disc at L4-5 and L5-S1 and spondylosis at L5 show well demarcated pars interarticularis defect (arrow head).
B. After open discectomy of both L4-5, L5-S1 level, spondylolisthetic anterior translation of L4 vertebral body was not occurred on the last follow-up radiographs.



Fig. 2. CT image shows that spondylolytic defects have irregular contours, sclerosis, and loss of cortical bone continuity (arrow head).

4~8%
 7,15) 가 가
 5,7,14,15)
 9,19) Fredrickson 4)
 (cartilaginous anlage)
 5 (56%) 2
 2 , 가 6 , 가 1
 97
 82%
 가 3%
 76.3% 6.9%
 74% 21.4%
 50%
 40%
 1)
 2)
 가

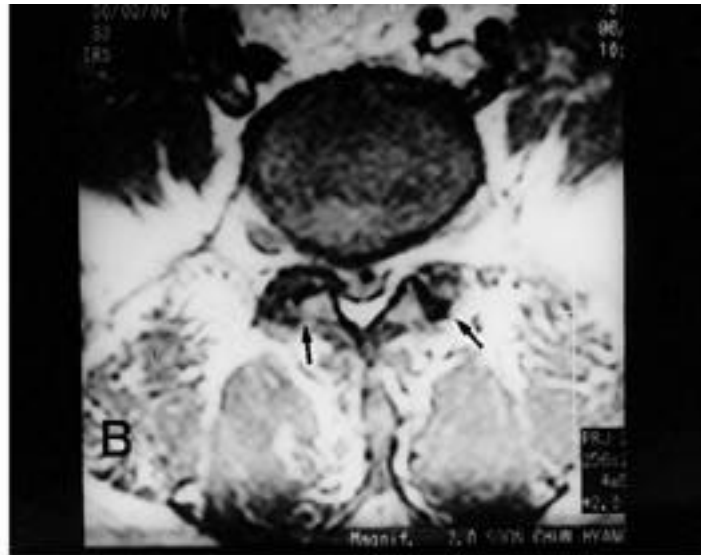


Fig. 3-A, B. T2 weighted sagittal and axial MR images show the herniated intervertebral disc at L4-5, L5-S1 level and a low signal intensity area in the left pars interarticularis of L5 (arrow head).

2가

1).

Tibrewal ¹⁷⁾

(segmetal hypermobility)

가

(Fenetra-

tion)

. Gill ⁶⁾

51

39

가

12

가

1993 Suzuki ¹⁶⁾

10

35

1993 Peter

13)

가

(level)

99 19 (19%)

, 19 6 grade I

. Cauchoux ³⁾ 520

9 (1.7%)

¹¹⁾. 1966 Henderson ⁸⁾

, Gill Frymoyer ⁵⁾

가

18%

가

가

Benini

et
(articular nerve)

Herron¹⁰⁾

97

가

가

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가
:
: 1989 3 1999 2 273
, 1 가 9 가 5 , 가 4 ,
42.7 (30 ~64) , 54.6 (15 ~114) .
Kim
가 가 .
: 3.7% 7 (78%)
, visual analogue scale 가 2.1(0~8), 2.1(0~5) , 9 (100%)
가 7.6(4~10) 0.8(0~3) 7
(78%) 7 6 (67%) 6
8 (89%) 7
5 (56%) 2 2 , 6 , 가 1
:
3.7%
가