

퇴행성 경추질환에서 전방경유 추간판 절제술 및 골유합술의 결과분석

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= Abstract =

Analysis of Noninstrumented Anterior Cervical Discectomy and Interbody Fusion in Degenerative Cervical Disease

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Objectives : We retrospectively studied the efficacy of anterior cervical discectomy and interbody fusion without plate fixation in degenerative cervical disease.

Methods : Thirty two consecutive patients with degenerative cervical disease treated by decompression and interbody fusion (Smith - Robinson technique) without anterior cervical plating were studied for postoperative complication rate as well as the clinical and radiologic outcomes and were compared the result of ours with other reported series where the anterior cervical plating was used.

Results : All cases were reviewed after average period of 13 months for the purpose of this study. There were 4 postoperative complications related to grafting. A solid fusion was obtained in all cases with single - level fusion (n=21) and 81.8 % of the cases with a two - level fusion (n=11). The overall fusion rate was 93.8 % and fusion rate per level fused was 95.3%. The clinical outcome of the patients was comparable with that in the literature, with one patient having a poor result.

Comparing the result of this study with others of the anterior cervical plating, clinical outcome and fusion rate were not superior in plate fixation group in single - level fusion, but increased fusion rate and decreased graft - related complication rate were noted in multilevel fusion with plate fixation. However, the clinical outcome was not superior to noninstrumented fusion group of this study.

Conclusion : These results demonstrate that anterior cervical discectomy and interbody fusion (Smith - Robinson technique) without instrumentation is safe and reliable method of single - level fusion in degenerative cervical disease. Plate fixation system doesn't seem necessary in single level fusion in degenerative cervical disease.

KEY WORDS : Degenerative cervical disease · Anterior cervical discectomy and interbody fusion · Anterior cervical plating.

서
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가

1955 Robinson Smith¹⁸⁾, 1958 Cloward³⁾가
horseshoe graft, dowel graft

6)23),

1)5)9)17)

가
가
5

대상 및 방법

1995 1999

32

3

Smith - Robinson

curette rongeur
burr
drilling
oscillating saw
(allograft)

12 3 SOMI (sternal
occipital mandibular immobilization)
Philadelphia

가 (trabecular crossing)
가

Odom ¹⁴⁾

(excellent),
(good),
(fair),
(poor)

2)16)

5)7)8)20)22)24)

결과

32 21 11
47 (35~68)
6 15

, 8
가
13 ± 9.3 (Table 1).

32 21
2 11
43 (Table 2).
(C2 - 3, C3 - 4)가 3, (C4 - 5,
C5 - 6)가 31, (C6 - 7, C7 - T1)가 9
5~6 22 가
(Table 2).
Odom ¹⁴⁾

Table 1. Patient demographics

Patient demographics	
No. of patients	32
Sex	
Male	21
Female	11
Mean age (range) yrs	47 (35 - 68)
Duration of symptoms (mo)	
< 12	17
12 - 24	8
>24	7
Neurologic compromise	
Pain alone	9
Sensory deficit	15
Motor deficit	8
Mean follow-up period (mo)	13 ± 9.3

32 30 (93.8%)
(Table 3).

가 , 가
가

32 30 93.8%
100%, 2 11

81.8 % 9
43 95.3% 41

(Table 4).

2
4 (12.5%)

Table 2. Location of lesions and number of fused segments

Location of lesions	No.
C3 - 4	3
C4 - 5	9
C5 - 6	22
C6 - 7	9
No. of fused segment	
Single level	21
Two level	11
Total segment	43

Table 3. Clinical outcome according to Odom criteria

Odom criteria	No. of cases
Excellent	17
Good	13
Fair	1
Poor	1
Total	32

(Table 4).
가

SOMI
(Fig. 1)

2 . 1

1

2

(Fig. 2).

1

고 찰

¹³⁾. 1964 Bohler Gau-
dernak²⁾

, 1975 Orozco¹⁵⁾ H

ant-
erior cervical interlocking screw plate system

Table 4. Radiologic outcome and graft-related complication

Radiologic outcome		Graft-related complication	
Fused segment (n)	No. of fusion (%)	Complication	No.
Single level (21)	21 (100)	Graft dislodgement	1
Two level (11)	9 (81.8)	Graft collapse	2*
Total segment (43)	41 (95.3)	Graft protrusion	1

* 1 partial and 1 total collapse

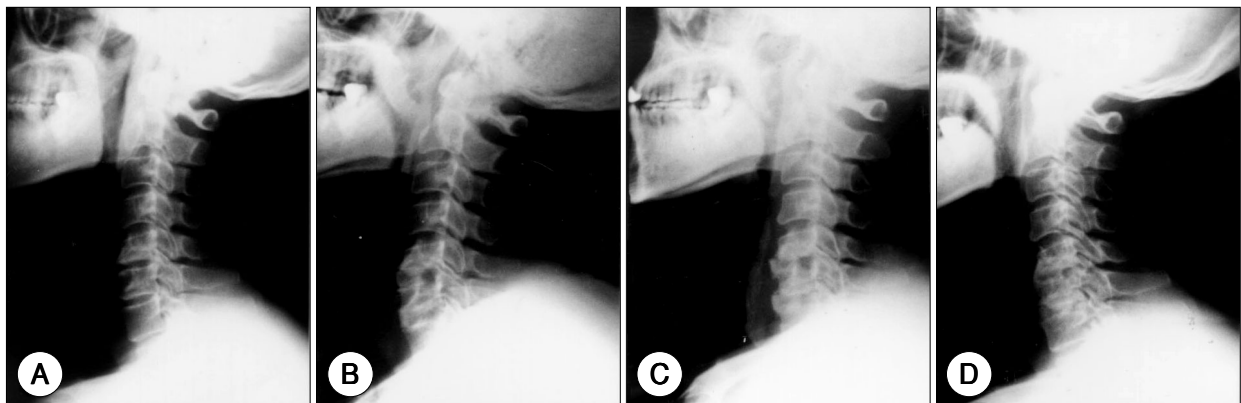


Fig. 1. A case of graft displacement. A : preoperative cervical lateral film. B : postoperative cervical lateral film. C : the cervical lateral film at postoperative day 28 revealing anterior displacement of grafts at C5-6 and C6-7. D : cervical lateral film after conservative treatment for 3 months with SOMI brace demonstrating solid fusion between C-5 and C-7.

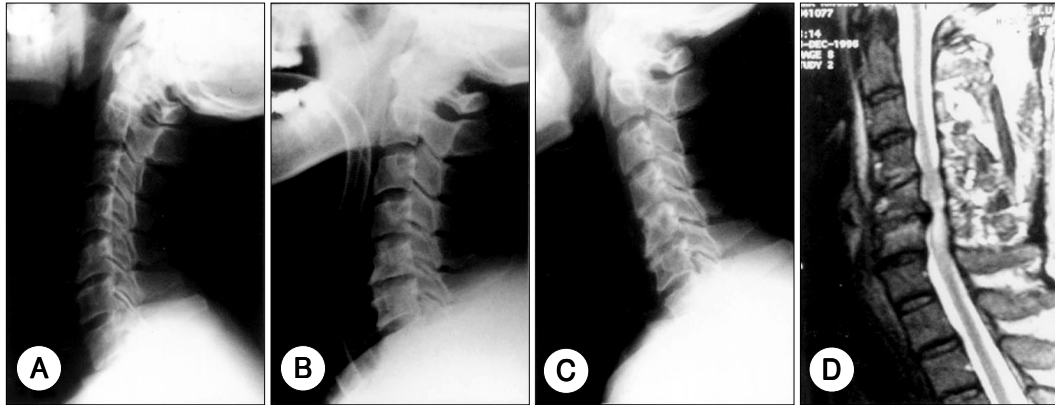


Fig. 2. A case of graft dislodgement. A : preoperative cervical lateral film. B : postoperative cervical lateral film. C : the cervical lateral film at postoperative day 30 revealing graft dislodgement at C5-6. D : sagittal T2 weighted MRI at postoperative day 30 demonstrating posteriorly dislodged graft compressing the cord with high-signal intensity at C5-6 level.

stem , sy- 25 4 , Group
 18 16
 Group
 10)
 1999 Schneeberger 19)
 35
 가 (pseudoarthrosis) (chronic spondylotic radiculopathy) 2 8
 20)22) (n=20)
 100%, (n=15) 86.7%, 51
 가 (hardware - related complications) 가 (hardware - related complications) 96.1% 49
 51.4%
 15 2
 1996 Connolly 4) Smith - Robinson (13.3%)
 43 Group
 25 , Group II
 18 Group 1
 72% 83%,
 2 73%, 3 66% 가
 . Group 83% , 21) 137
 100%, 2 70% 95%(130/137)
 . Group
 , 6 가 6
 , Group 9 (가
 3, 5, 1)
 1 8 가 2
 100% , Sc-
 hneeberger 19)
 81.8% , Schneeberger 9) 86.7%
 Group 3 95.3% Schneeberger 19) 96.1%
 3 1 4

1, 1) 12.5%
 1
 3 2
 2 (1, 1) Collony 4)
 2
 11). 1
 2
 0⁽²⁾ 10%⁽¹⁾
 5)⁽²⁾ Emery 6)
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 strut graft
 arthrodesis
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 • : 2000 7 4
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 • :
 602 - 739 1가 10
 : 051) 240 - 7257, 247 - 0244
 : 051) 244 - 0282
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