

경추 후종인대 골화증

Ossification of Posterior Longitudinal Ligament(OPLL) of Cervical Spine

5

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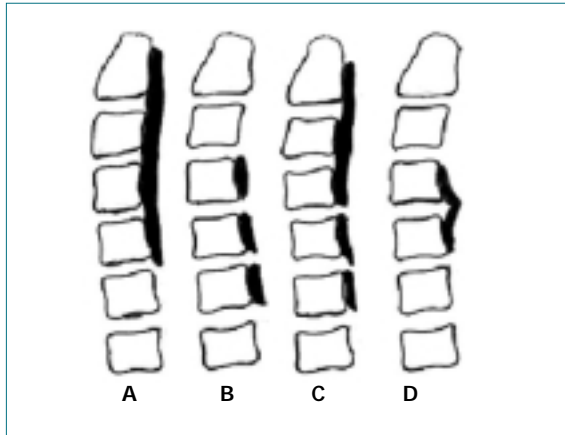
Abstract

The most common and neurologically important enthesopathy that is caused by inflammation of tendinous and ligamentous attachments to bone is ossification of posterior longitudinal ligament (OPLL). The OPLL can occur at the posterior surface of the spinal vertebral bodies from the foramen magnum to the sacrum; however, the cervical portion of the vertebra is mainly affected. The cervical OPLL is originally thought to occur only in individuals of Japanese descent; however the advances in its diagnosis by using computed tomography and magnetic resonance imaging have led to more frequent identification of the disease in other Asians and whites as well. The cervical OPLL is a surgically treatable cause of myelopathy and various surgical approaches including anterior and posterior approach have been introduced. Although the indications of surgical treatment have been defined, the selection of the most effective operation remains controversial.

Keywords : Enthesopathy;
Ossification of posterior longitudinal ligament;
Surgical treatment

(OPLL)

9 1 .
OPLL 1960 Tsukimoto가
(1) , , ,
가 .
OPLL 가
가 ,
OPLL , OPLL ,
OPLL (hyperostotic change)
가 , 가
가 . OPLL
가 ,
가 가
가 가
가 ,
가 .
OPLL 1



A) B) C) D)

1.

OPLL

OPLL

3, 4

가

가

가

OPLL

가

OPLL

가

Nakamura OPLL

Tip toe walking(ttw) mouse

(2) Nucleotide pyrophosphatase(NPPS)

가 OPLL

(3).

가

가

1

0.7 mm,

4.07 mm

가

(osteoid),

(chondroid),

가

OPLL

가

(superficial layer)

(bone matrix)

(4).

OPLL

가

가

가

가

가

가

가

HLA

가

가

가

가

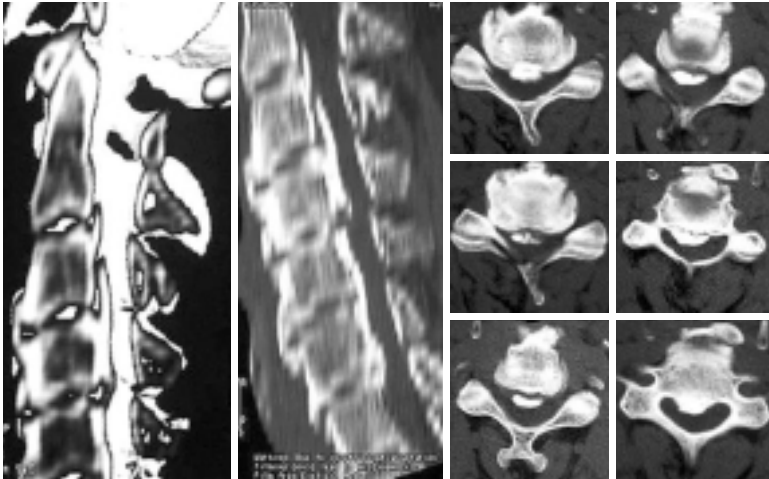
OPLL
 .
 ,
 가
 .
 OPLL
 ,
 OPLL
 가
 가
 가
 .
 .
 OPLL
 (long tract sign)
 . ,
 ,
 가 .
 , 가
 가 .
 가
 , 가
 가
 , 가
 , 가
 ,
 1
 가 .
 OPLL 10
 가 ,
 30 ~ 60%
 가
 50%
 가
 ,
 가



2.



3.



4.

가 ,

1.

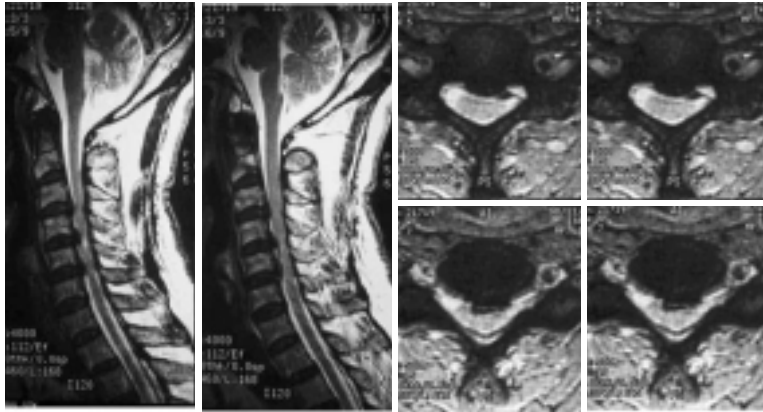
(2).

(radiculopathy) 가 , 2.

가

(sagittal tomogram of lateral view)

가



5.

1.

(Col-lar)

가 .

(ins-tability) 가

, , .

(3).

2.

3. (Computed Tomography)

가 .

OPLL , ,

. Computed tomogram(CT)

partial volume

가

.

가 (4).

1)

CT - Myelogram

가

.

(1)

SF block

MRI

- , 가
- , 가

4. (Magnetic Resonance Imaging)

MRI

OPLL

가

. 가 가

- 가 ,

level

(5).

(2)

가 OPLL , 가

(3) .

70 가 , (posterior structure) (kyphotic deformity) “swan - neck deformity”가

9 mm

OPLL (6). (palliative)

가

가 4 (

5), 70 (systemic illness)

2) OPLL

가 2

1

(osteophyte) 가 4 가

OPLL (5) OPLL

(lamino-plasty)

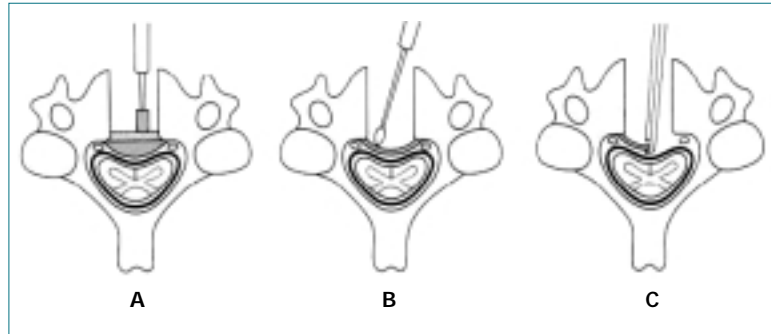
(7~9).

(Infolding) 가

가 (10).

(laminectomy) high speed drill system

OPLL



6.

3)

(1) 가

가

high speed drill

1.5~1.7

(con-

cm drilling

drilling

ventional corpectomy and anterior interbody fusion)

가

가

(2)

bone wax

drilling

2/3

(sterno-

drill tip

cleidomastoid muscle)

(medial margin)

cutting

가

(platysma)

burr

(6A, 6B).

가

,

, 가

(paper

thin)

가

가

가

(longus colli mus-

cle)

self - retractor

가

가

가

(retractor) blade가

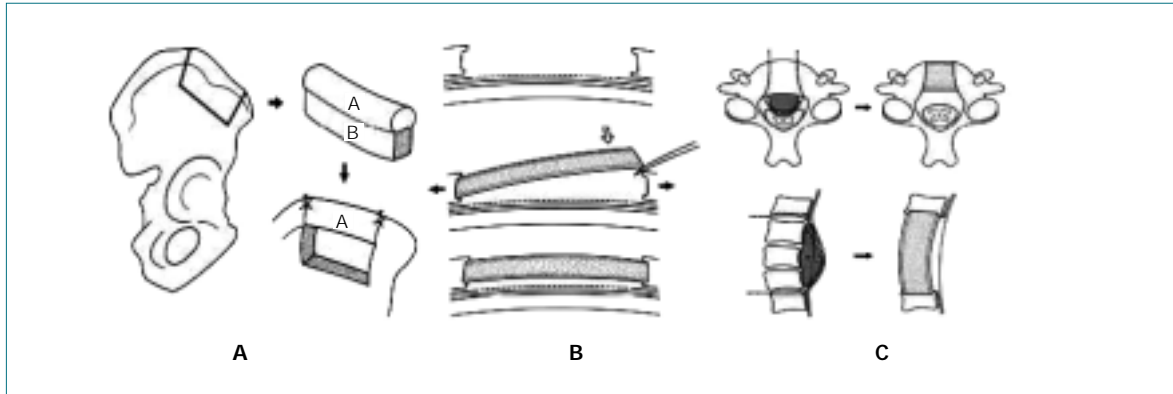
(recurrent

(upper margin)

laryngeal nerve)

fine curette micro - punch

(6C).



A

B

C

7. A)

가

B)

C)

1.5 cm

bipolar coagulator gelfoam

(anterior internal verte-

(7A).

bral venous plexus)

(cortical portion)

가

가

가

1.0~2.0mm

(7B).

가

가

가

가

hard collar

(external im-

가

mobilization)

, 가

(plate - screw fixation)

(internal immobilization)

collar

가

(8 - 0)

halo brace

lum-

(8).

bar drainage 5

4)

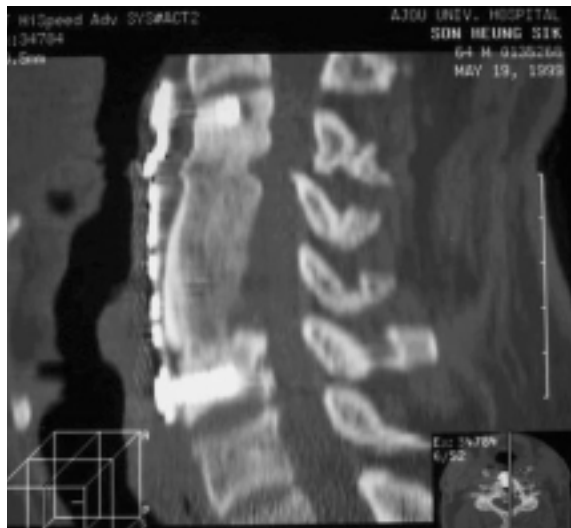
Pitfalls

(anterior foraminotomy)

가

9

level



8.



9.

가

50%

(11).

가 1

,

,

가 2 gelfoam
5 lumbar drainage

가

veriplast

(fluoros-

copic image)

1997 1 2000 1
19 3

5)

가

(1)

(12)

(9).

가 2

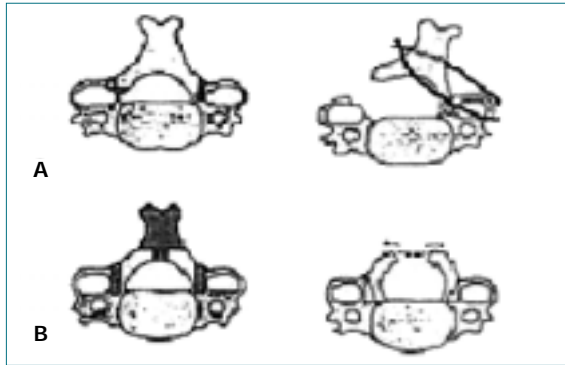
(laminectomy) OPLL

(cervical spondylotic mye-

- (plate - screw fixation)

lopathy)

가



10. A)
B)

(laminoplasty)

3~4 mm

burr

high speed drill

drill

burr

en bloc

가

block

OPLL

OPLL

가

punch

high speed drill

(2)

(Laminoplasty)(13~16)

(posterior element)

10%

5, 6

(radicular pain)

가

가

(10).

(Unilateral hinge laminoplasty)

1983

Hirabayashi가

(15)

open - door type laminoplasty

high speed

drill

3~4 mm

burr

가

scalp clip holder

green-

stick fracture

(hinge)

(10A).

(Bilateral hinge laminoplasty)

French - door type

mid - sagittal splitting

laminoplasty

Kurokawa가 1996

(12)

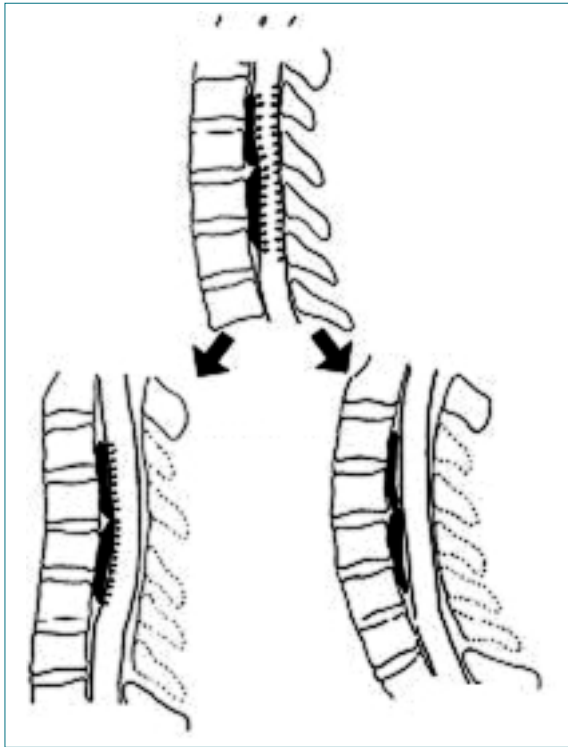
bone block

open - door type laminoplasty

high speed drill

green-

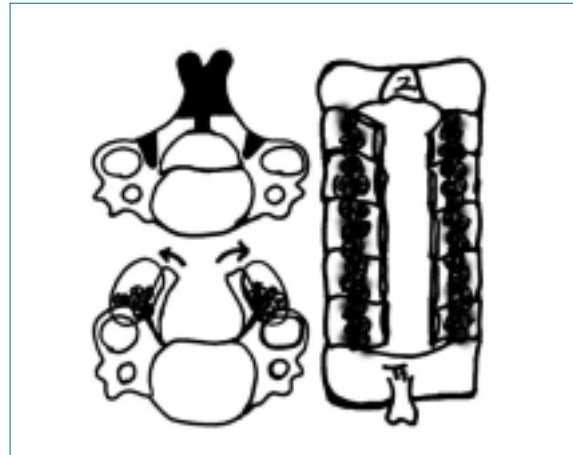
stick fracture



11.

bone block
(10B).
hydroxyapatite spacer
(16).
bone block,
miniplate
(kyphotic defomity)
가

kyphotic alignment lordotic alignment
dorsal shift
(11)(7).



12. Open laminoplasty with lateral bone fusion

가
(dorsal shift)
가 (ventral compression)
가 .

“Open laminoplasty with lateral bone fusion” .

bilateral hinge laminoplasty .

12
high speed drill

fracture . green - stick

(kyphotic defomity)
chip

(posterior foraminotomy)

가



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