

Session I

어떻게 진단하나?

김치현, 정천기, 양승헌
서울의대

Disclosure

- Consultant of RIWOspine

10:00-11:10	Session I. 요추협착증이 의심되는 환자! 어떻게 접근을 해야할까?	
10:00-10:15	어떤 병인가?	경북의대 성주경, 서울의대 정천기 순천향의대 박형기
10:15-10:30	어떻게 진단하나?	서울의대 김지현
10:30-10:45	어떻게 치료하나?	강원의대 김종표
10:45-11:00	효과적인 비수술적 치료는?	수원나누리병원 김현성
11:00-11:10	토론	
11:10-11:30	Coffee Break	

목차

1. 자연경과
2. 임상 증상
3. 이학적 검사
4. 정량적 평가 및 해석
5. 영상의학적 진단
6. 감별진단
7. 증례
8. 정리

Natural history

- MRI severe LSS: >20% of asymptomatic, >60 yrs
- Severe LSS: < 20% acutely symptomatic
- Symptomatic LSS: favorable course in 20%
- Severe deterioration is rare: 당장 마비 온다 (x)
- No hurry!!

Clinical characteristics

- Gradual onset, slow progression
- Low back pain
- Claudication
 - Numbness, tingling sensation
 - Paresthesia, chilliness
- Radicular pain
- Restless leg syndrome, leg cramps
- Priapism

환자 분 들 표현

- 엉치가 아파, 방치가 아파
- 공지가 빠질 것 같아
- 다리 뒤가 아파
- 다리가 무거워, 저려
- 당~첼 걸어갈 수가 없어
- 잠은 잘자
- 자다가 쥐가 나서 살수가 없네
- ...

Clinical characteristics

- Relieving factor
 - Sitting, bending: most informative sign
 - Lying down
- Aggravating factor
 - Standing intolerance: most sensitive symptom
 - Walking

Physical examination

- Unusual physical findings are uncommon
- Minimal recommendation
- Knee, Ankle motor power
- Heel, toe gait, one leg standing
- Tandem stenosis (>20%)
 - DTR in U/E and L/E both
 - Upper extremity examination
 - Hand dexterity, shoulder/EF/EE/grip/finger
- Dorsalis pedis pulse, posterior tibialis pulse

Quantitative evaluation



Walking distance
Quality of life: SF-36, EQ-5D

- 저는 제가 직접 합니다.
- 차트에 기록하고 평가하면 진료에 필요하기 때문에 간호분부에서 업무로 도와주십니다.

Interpretation

- Oswestry disability index (Surgery is considered)
 - 0% – 20%: mild disability
 - 21% – 40%: moderate
 - 41%-60%: severe
 - 61%-80%: crippled
 - 81% - 100%: bed ridden or exaggeration of symptom
- Pain
 - 0: no pain
 - 1-3: mild pain
 - 4-6: moderate pain
 - 7-10: severe pain
- Minimum clinically important difference (MCID)
 - ODI, 7-10; VAS 2-3

Medical record

- VAS
- ODI
- EQ-5D (5L or 3L)
- Walking distance
- Any discomfort

Electrodiagnostic (EMG/NCV) test

- Not much informative
- Peripheral neuropathy
- Neuromuscular disease



Radiologic diagnosis (Plain X-ray)

- Alignment
 - Whole spine X-ray
 - Sagittal vertical axis
 - Lumbar lordosis
 - Pelvic parameters
 - Any scoliosis
- Instability
 - Dynamic X rays



Radiological diagnosis



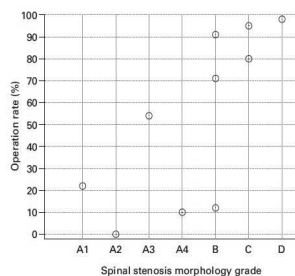
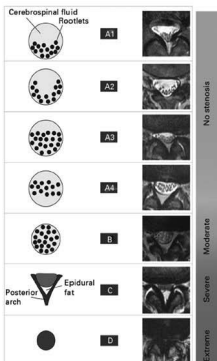
- Central
- Lateral recess
- Neural foramen

Radiologic diagnosis (MRI)

- Quantitative criteria
 - AP diameter: 10mm
 - Area: 75mm², 75-100mm² (relative)
 - Unable to verify correlation with pain, functional status and walking distance
- Qualitative criteria
 - Central canal
 - Lateral recess
 - Neural foramen
- Not always correlated with symptom
- Multiple lesion

Central stenosis

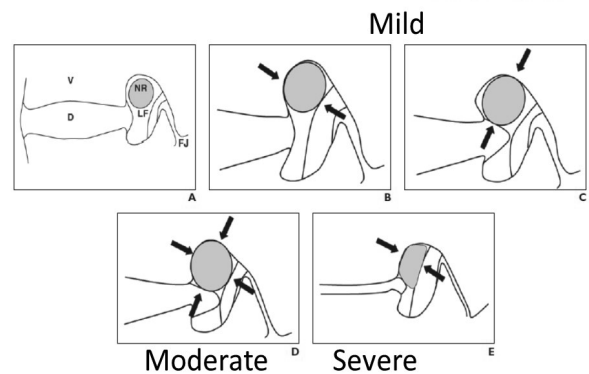
J Bone Joint Surg Br
2012;94-B:98-101.



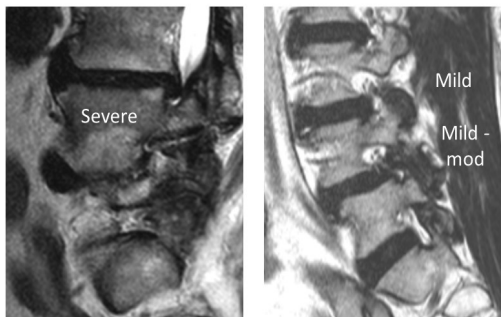
- questionable correlation with Sx

Foraminal stenosis

*AJR*2010; 194:1095-1098

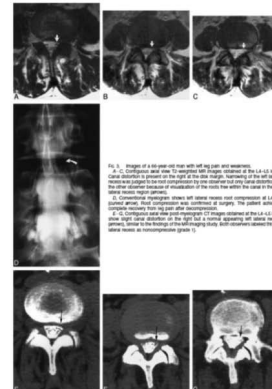


Foraminal stenosis



Lateral recess stenosis

- Underestimation
 - MRI: 29%
 - Myelography: 7%
 - CT myelography: 38%



AJNR Am J Neuroradiol 24:348-360, March 2003

Radiologic diagnosis (CT)

- Bony anatomy
- Compressive lesion
 - Disc
 - Ligamentum flavum
 - Osteophyte



감별 진단

- 말초성 혈관질환
 - Dorsalis pedis pulse: false negative
 - Ankle brachial index
- 대동맥류
- 골반 질환
- 염증성 관절염: Axial Spa



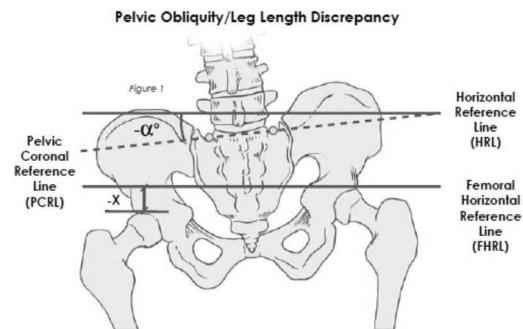
Differential diagnosis

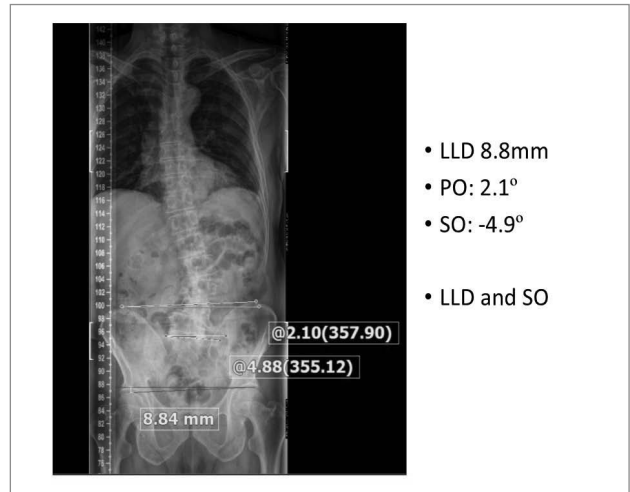
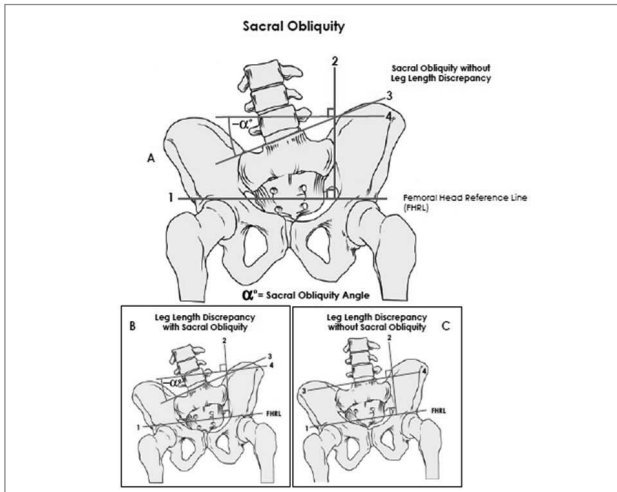


http://img.webmd.com/dtmcms/lve/webmd/consumer_assets/ste_images/media/medical/hvi/h9991211.jpg

<http://stemcellorthopedicinstituteofexas.com/wp-content/uploads/2015/03/Knee-comparison.jpg>

Leg length discrepancy pelvic obliquity sacral obliquity





Tandem spinal stenosis

- Tandem degeneration in both C and L spine: 79%
 - Matsumoto et al. 2013
- 20% of symptomatic LSS: Cervical spinal stenosis
 - lizuKa et al. 2012

F/64
back pain and left post thigh pain
AND Neck pain, left arm tingling sense
N/E: left hand paresthesia, left Hoffmann sign +, increased DTR

진상과: 신경외과
증례: 추운양센터신경외과

Chief Complaint
1. (허리, 좌측 다리 외측 통증) - 15 년 전

통증평기
통증 유무: 유
통증의 기간(통증 시작 시기): 6개월 이내
통증의 빈도: 간헐적
통증의 강도: 13세 이상
고도(7-10점)
통증중재 필요여부: 불필요

소견 및 계획
Present illness/Physical examination
허리, 좌측 다리 외측 통증
VAS 8/6
누우면 호전
NIC 100m
허리 두사 등등

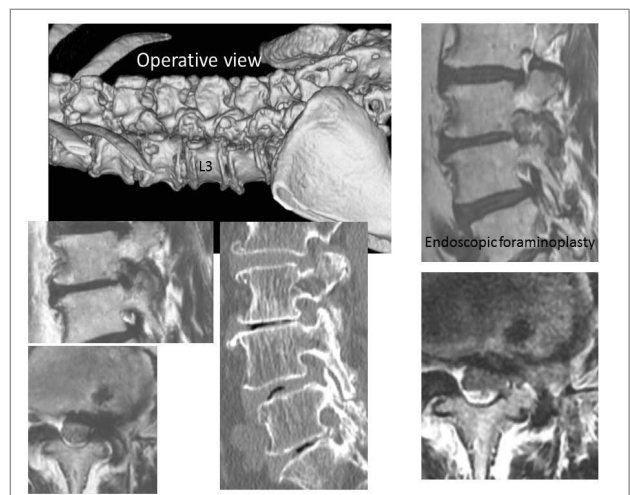
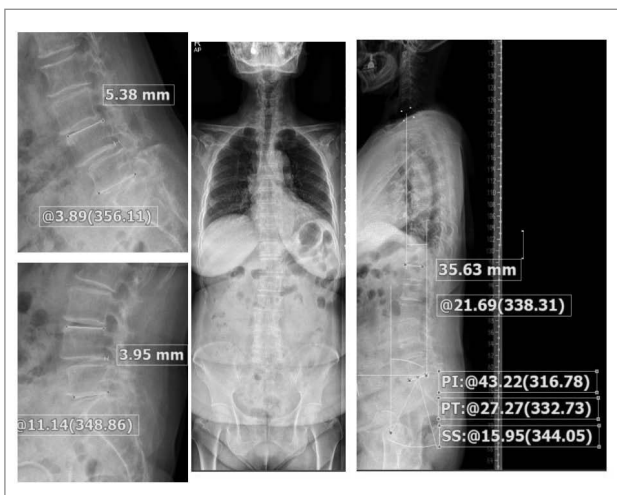
ADF V/N
KE V/R
DRP OK
KJ +/-

EQ 5L 41.343
VAS 8/6, ODI 17/45
NIC 100m

L4

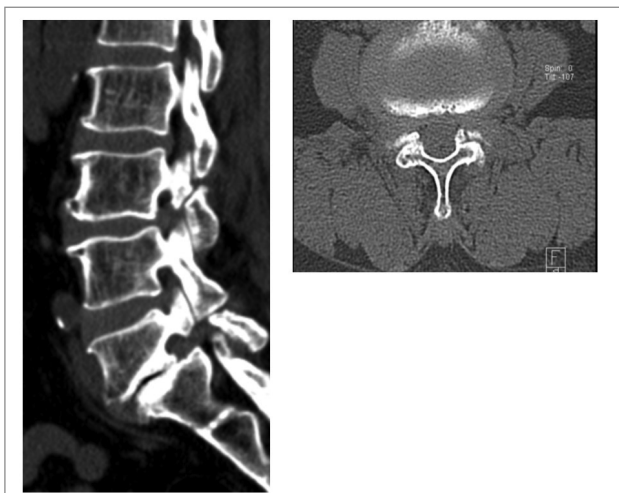
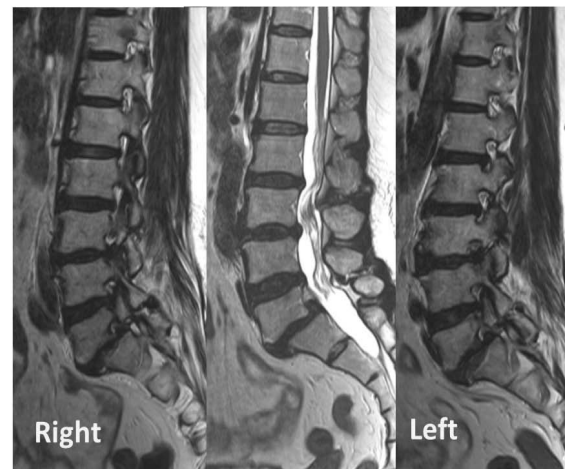
L3-4

L4-5



Case 2. F/60

- Left ant thigh pain (1.5mo)
- N/E
 - ADF, APF, KE V/V
 - Sup J, KI +/-
 - Both leg hypesthesia mild
- VAS, 9/10
- ODI, 42/45
- NIC, 10 Min
- EQ 3L, 3,3,3,3,2



정리

- 기본기에 충실
- 정량적 평가 및 해석 습관
- 영상 진단 시 증상과 일치하는 병변 찾기
- 감별 진단 놓치지 않기
- 치료/시술 고려 시 문제 유발 부위만