LUNCH PRESENTATION

DUAL PORTAL ENDOSCOPIC DECOMPRESSION FOR BERTOLOTTI'S SYNDROME, FAR OUT SYNDROME

연세척병원
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THE WORLD UBE SOCIETY
Since 2017

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UCI health 29.3.2025

Curriculum Vitae

- 2014 Clinical fellowship in Spinal Neurosurgery, Severance Hospital, Seoul, Korea.
- 2015 Clinical research assistant professor in Spinal Neurosurgery, Severance Hospital, Seoul, Korea.
- 2019 Clinical assistant professor in Spinal Neurosurgery, Severance Hospital, Seoul, Korea.
- 2021 – 2023 Clinical associate professor in Spinal Neurosurgery, Severance Hospital, Seoul, Korea.

- Korean minimal invasive spinal surgery society (KOMISS) executive director.
- Korean spinal endoscopic surgery society (KOSESS) academic secretary.
- Busan-Ulsan spinal endoscopy research society general affairs director.
- The world UBE research society executive director.
- Amplify Dual portal endoscopic surgery symposium, UCLA, CA, USA 2023 Faculty

부 · 울 · 경
척추내시경
연 구 학 회
The BuUlKyeong Endoscopic spinal Surgery Research Society

Since 2017
THE WORLD UBE SOCIETY

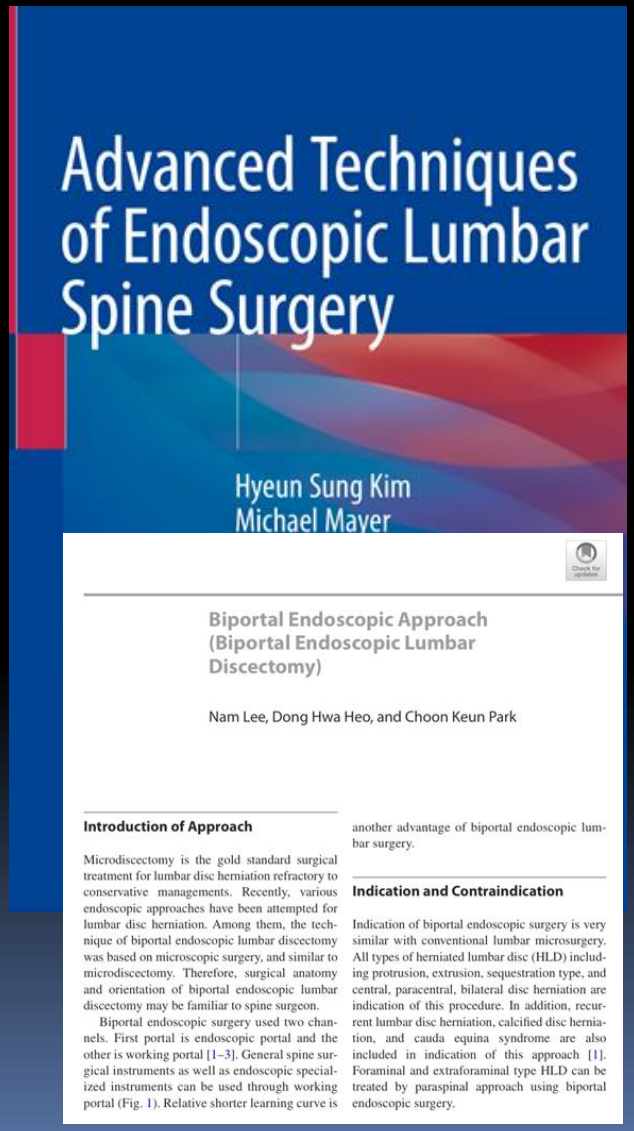
- ***Master's Degree of Yonsei University***

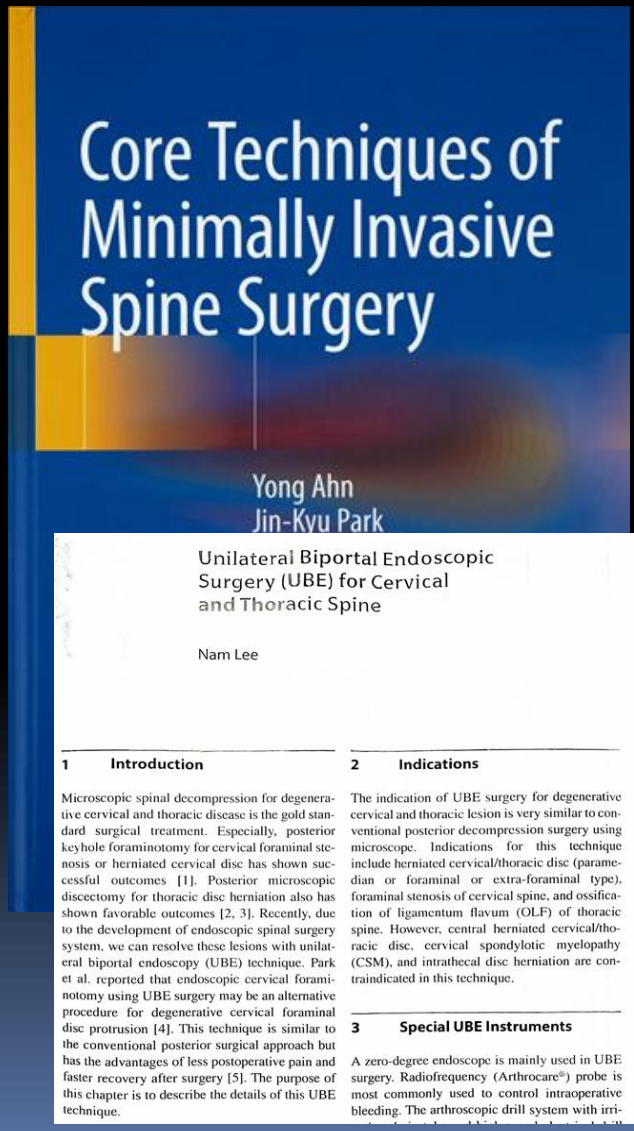
I've been to California twice

1. Stanford medicine visiting fellow(2015.11)

2. Amplify symposium at UCLA (2023.3)

3 Textbooks as 1st author





Bertolotti's syndrome (Far out syndrome)

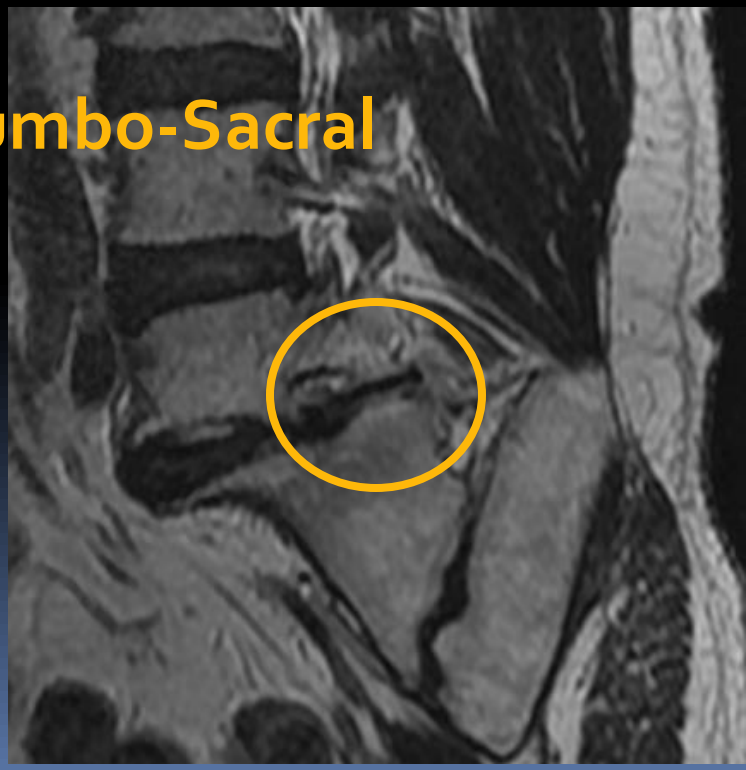
- Compression and entrapment of L5 root in the 'extra-foraminal' area between hypertrophied **L5 transverse process & sacral ala**

Wiltse LL, et al. The far-out syndrome. Spine 1984;9:31-41.

- One of the manifestations of **Lumbo-Sacral Transitional Vertebrae (LSTV)**

- **LSTV** is classified into **4 types**

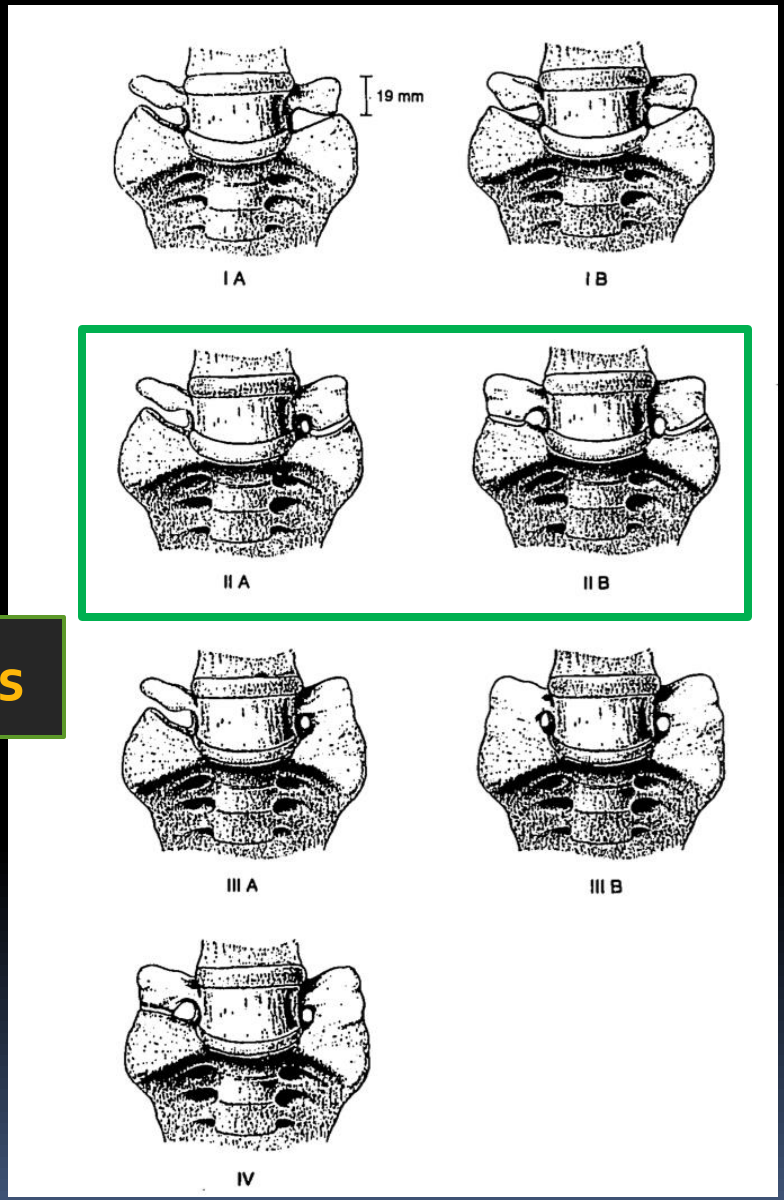
Jancuska JM, Bertolotti's syndrome. Int J Spine Surg 2015;9:42.



#LSTV 4 types

- Type I: Dysplastic TP, measuring at least 19mm
- Type II: **In**complete lumbarization/sacralization with an enlarged TP & Ala
- Type III: Lumbarization/sacralization with complete osseous fusion of the TP to the sacrum.
- Type IV: Unilateral type II transition with a type III on the contralateral side

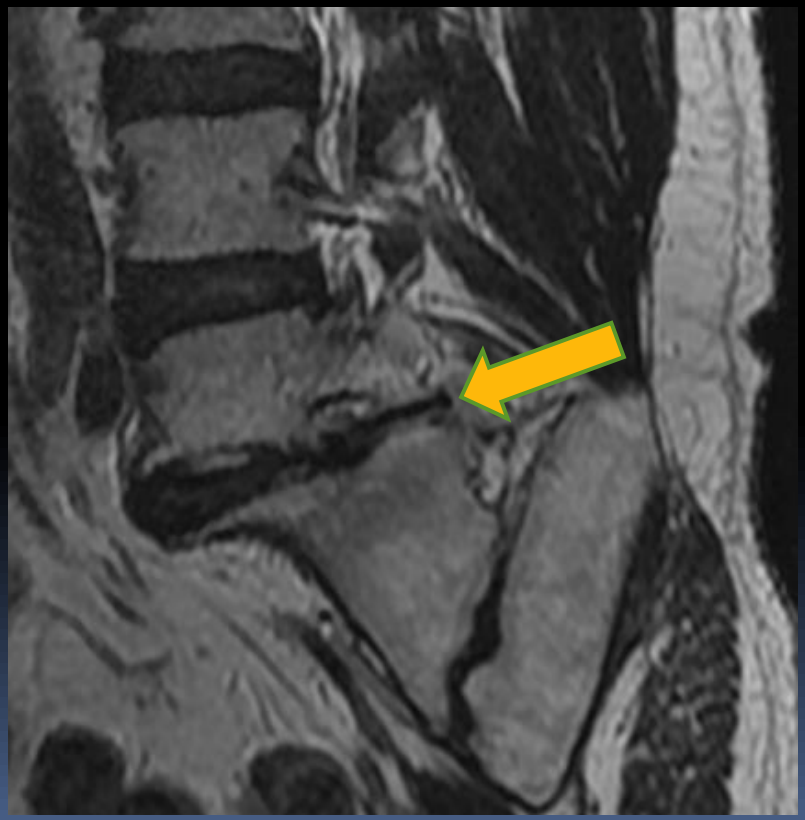
Pseudo-arthrosis

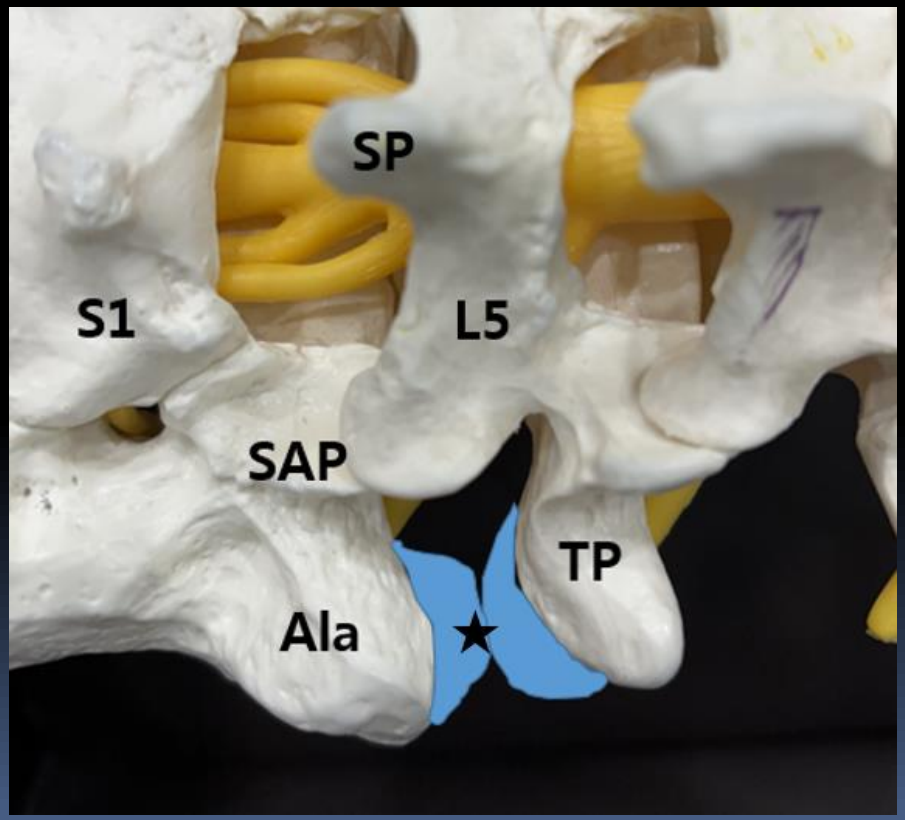


Castellvi AE, Spine. 1984;9(5):493-5

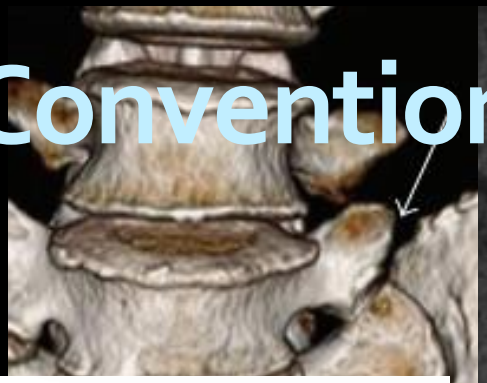
Goal of surgery is to remove the "pseudo-articulation"

- It is located between the **L5 transverse process** and the **sacral ala**





Conventional surgery



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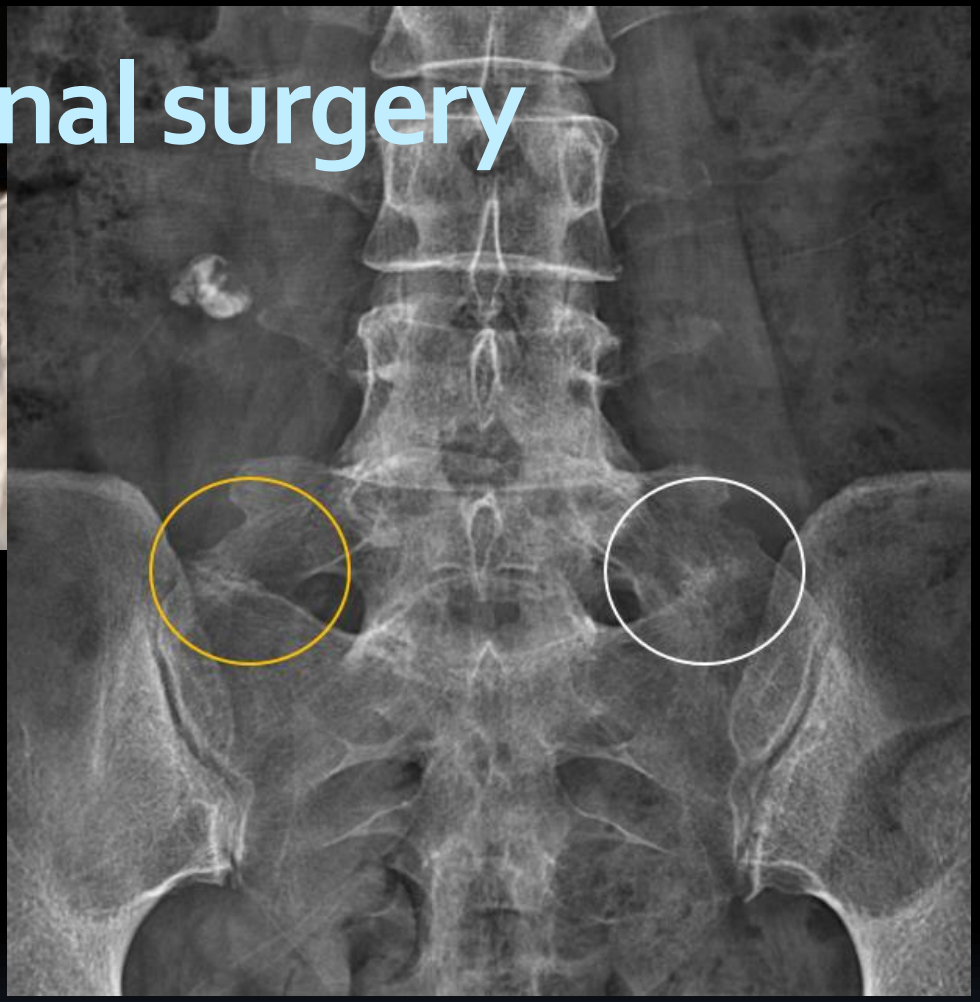
Minimally invasive tubular resection of the anomalous transverse process in patients with Bertolotti's syndrome

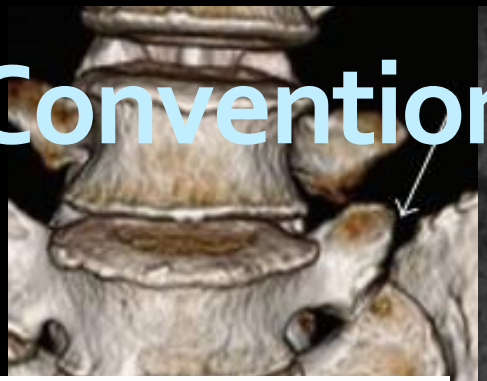
Presented at the 2013 Joint Spine Section Meeting

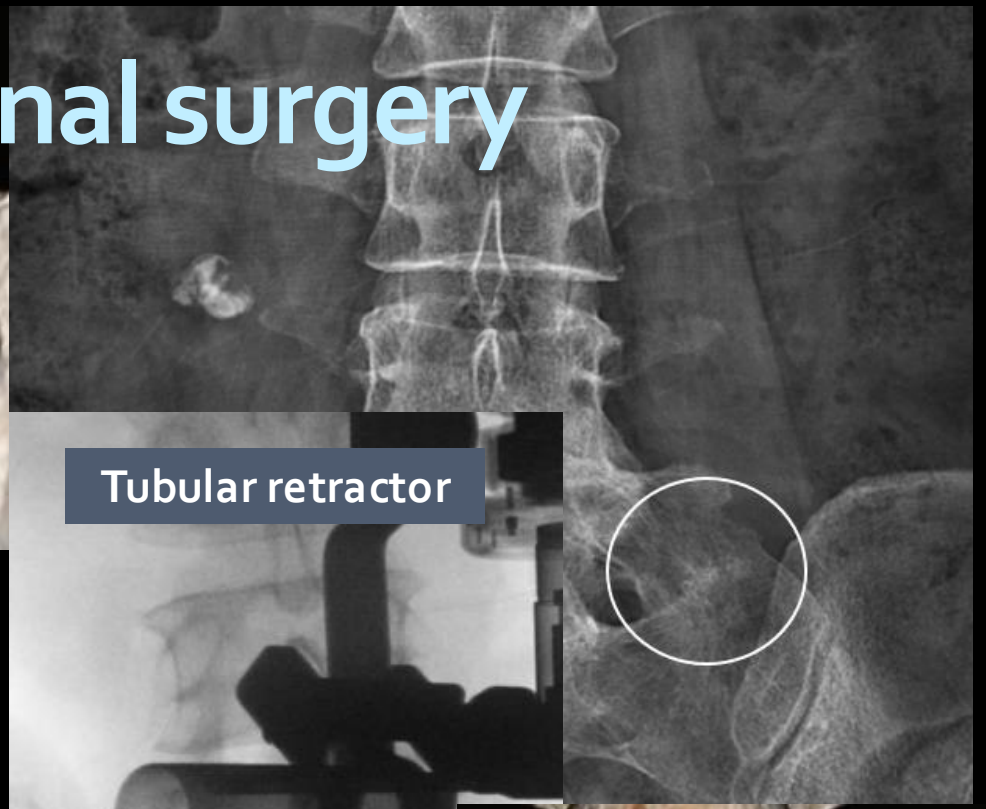
Yumeng Li B.S.[1,2,3], Daniel Lubelski B.A.[1,2,3], Kalil G. Abdullah M.... View More +

Management of patients with Bertolotti's syndrome should be carefully considered. Adequate interventions may be required to elucidate the pain source. In cases of insufficient pain relief, surgical treatment such as resection of the transverse process or spinal fusion should be considered. The present case is a successful example of minimally invasive resection of the transverse process.



Conventional surgery





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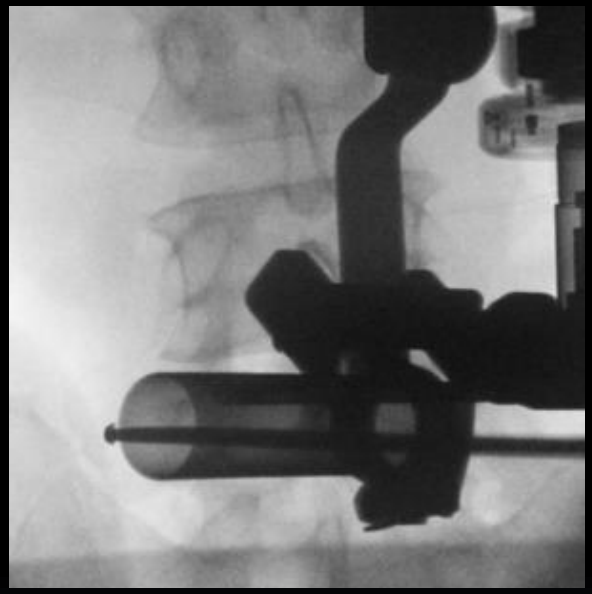
Tubular retractor

Conventional → Novel technique



The goal is to perform this surgery with a dual portal

Bertolotti's surgery sequence

Position /Portal making (incision)

Identify land mark (SAP lateral surface)

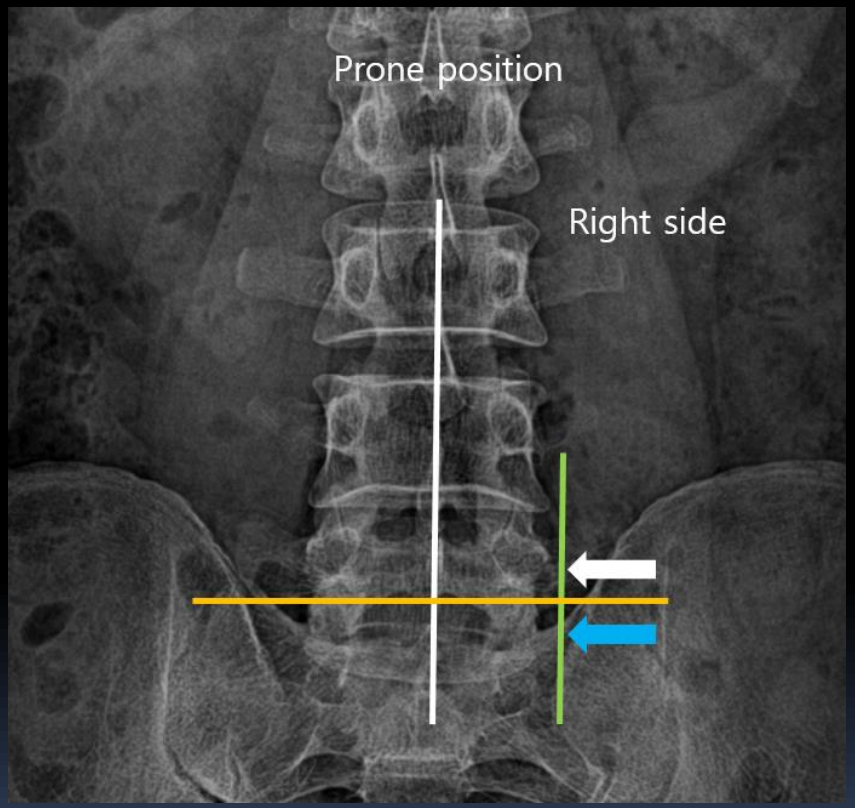
Removal of bony structure and foramen ligament

Resection of pseudo-articulation

Identify distal part of L5 nerve root

Drain insertion/ Finish

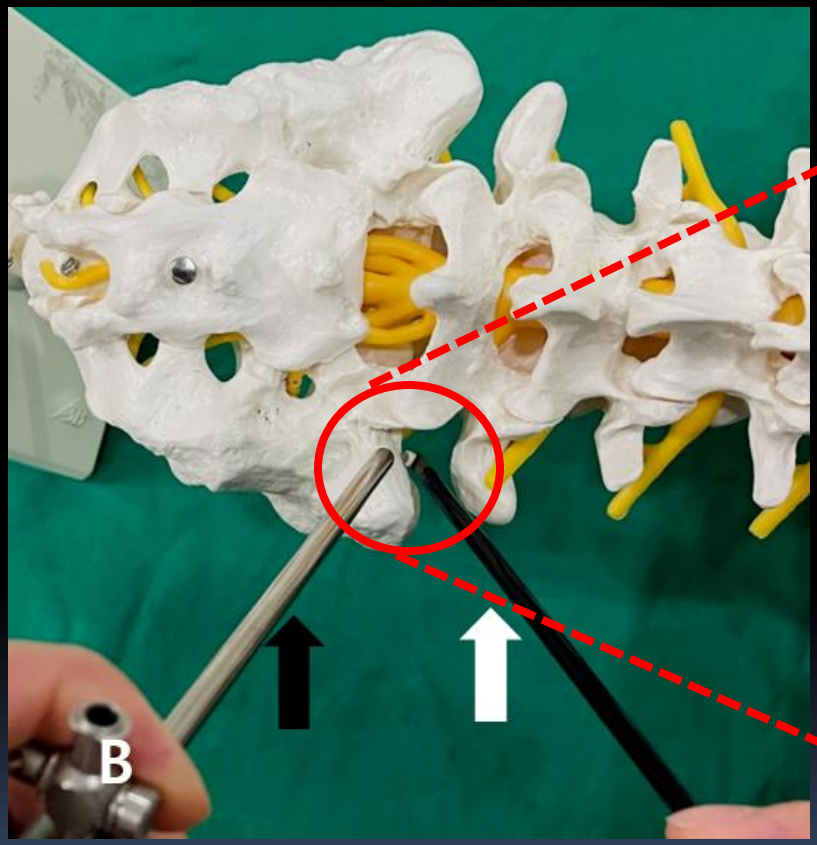
Position - prone
Portal making (incision)

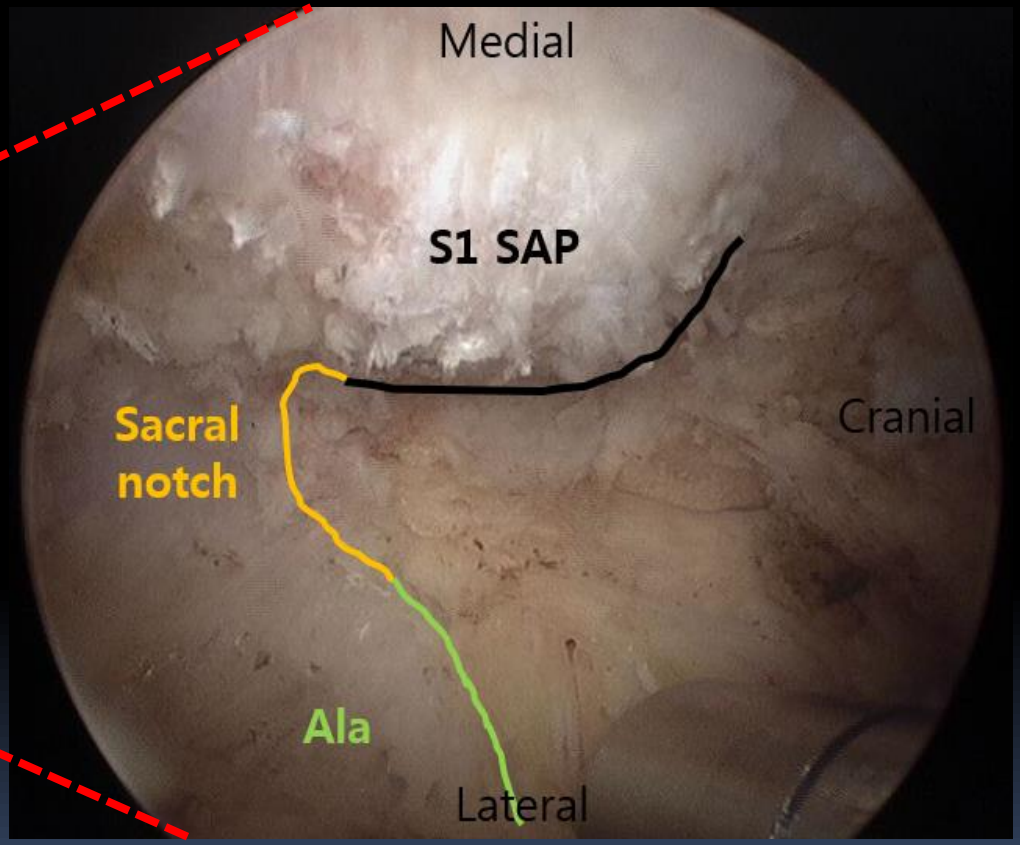


White arrow : Instrument portal

Blue arrow : Scope portal

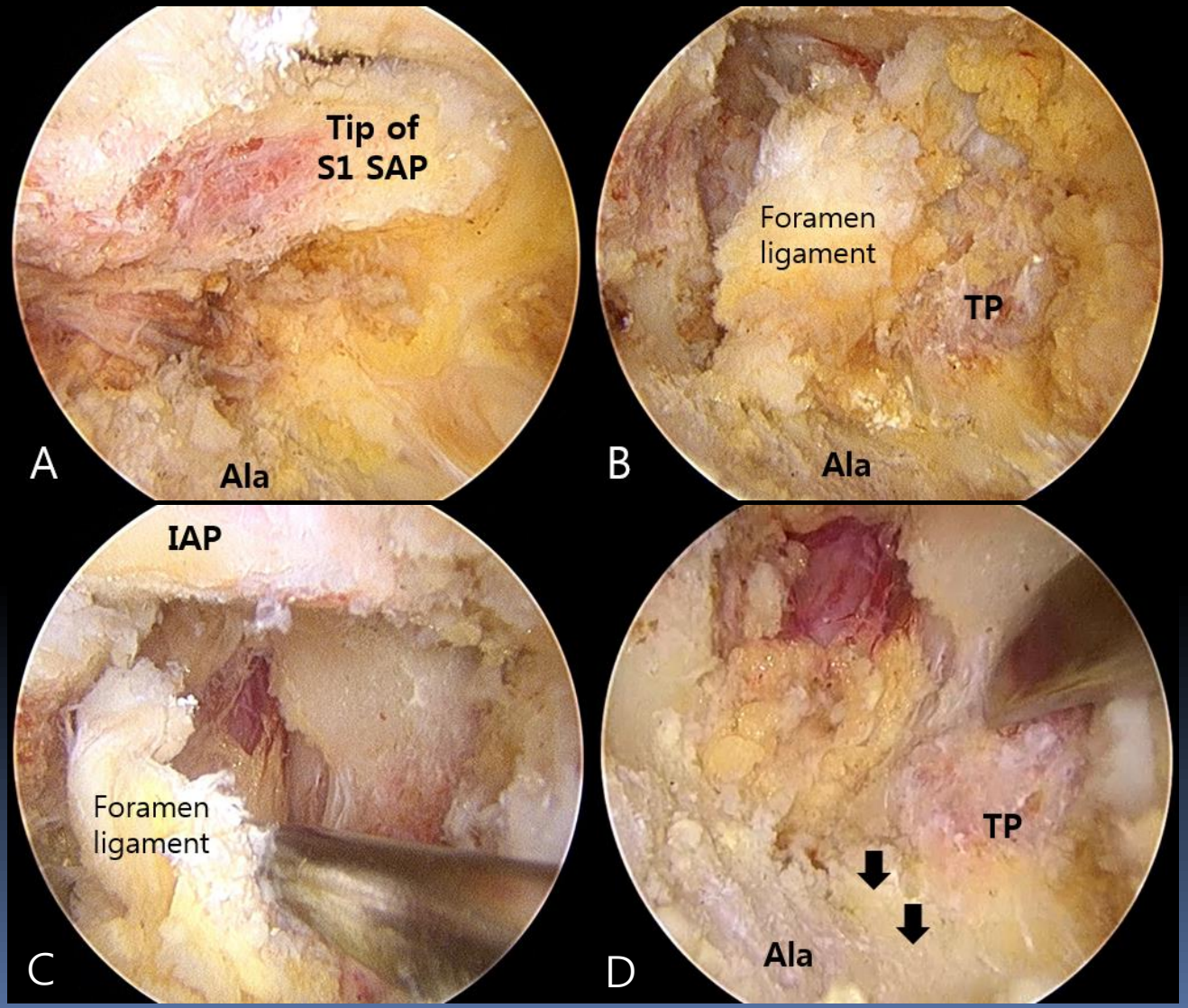
Identify the land mark (SAP lateral surface)



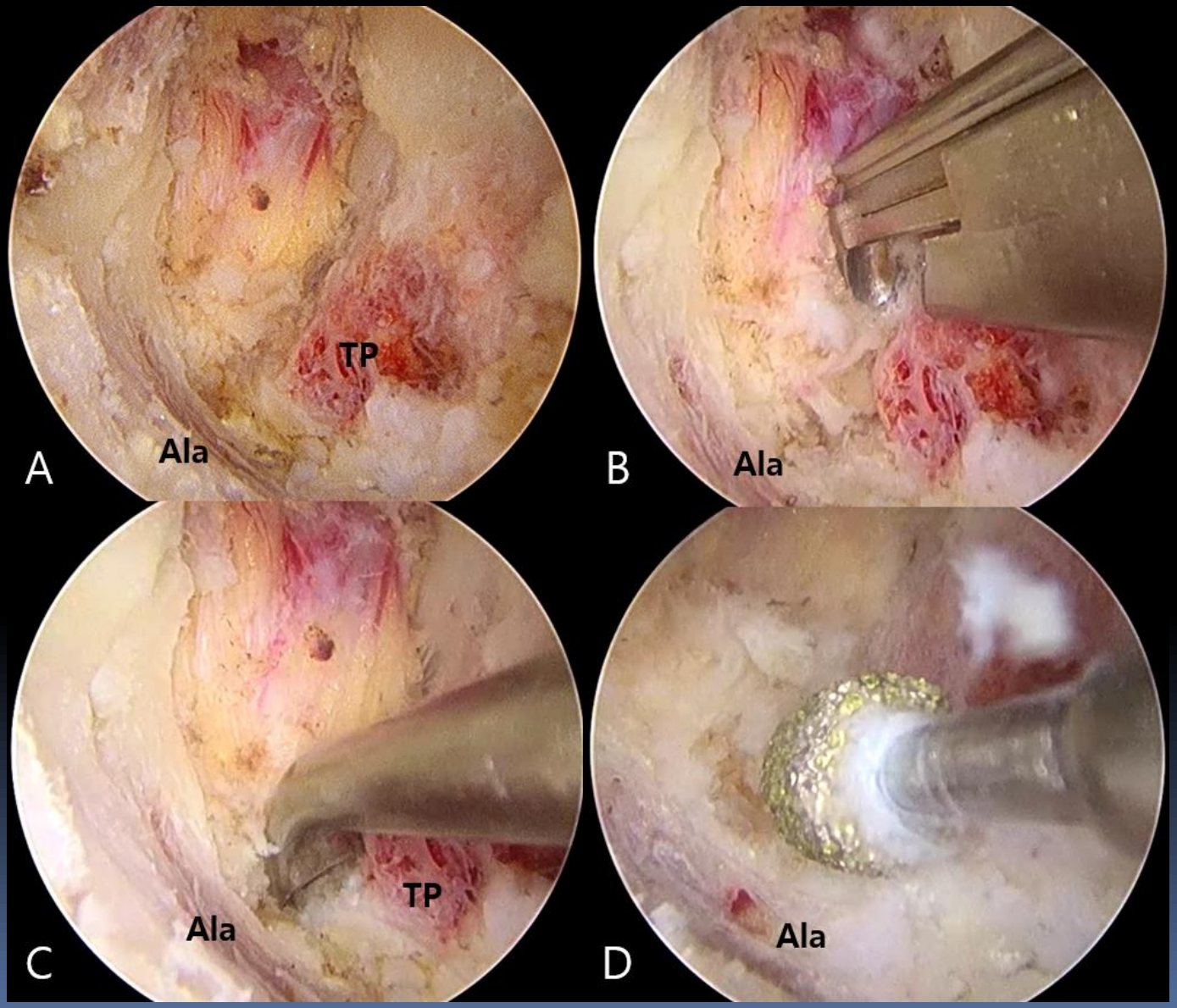


White arrow : Instrument (RF)
Black arrow : Scope

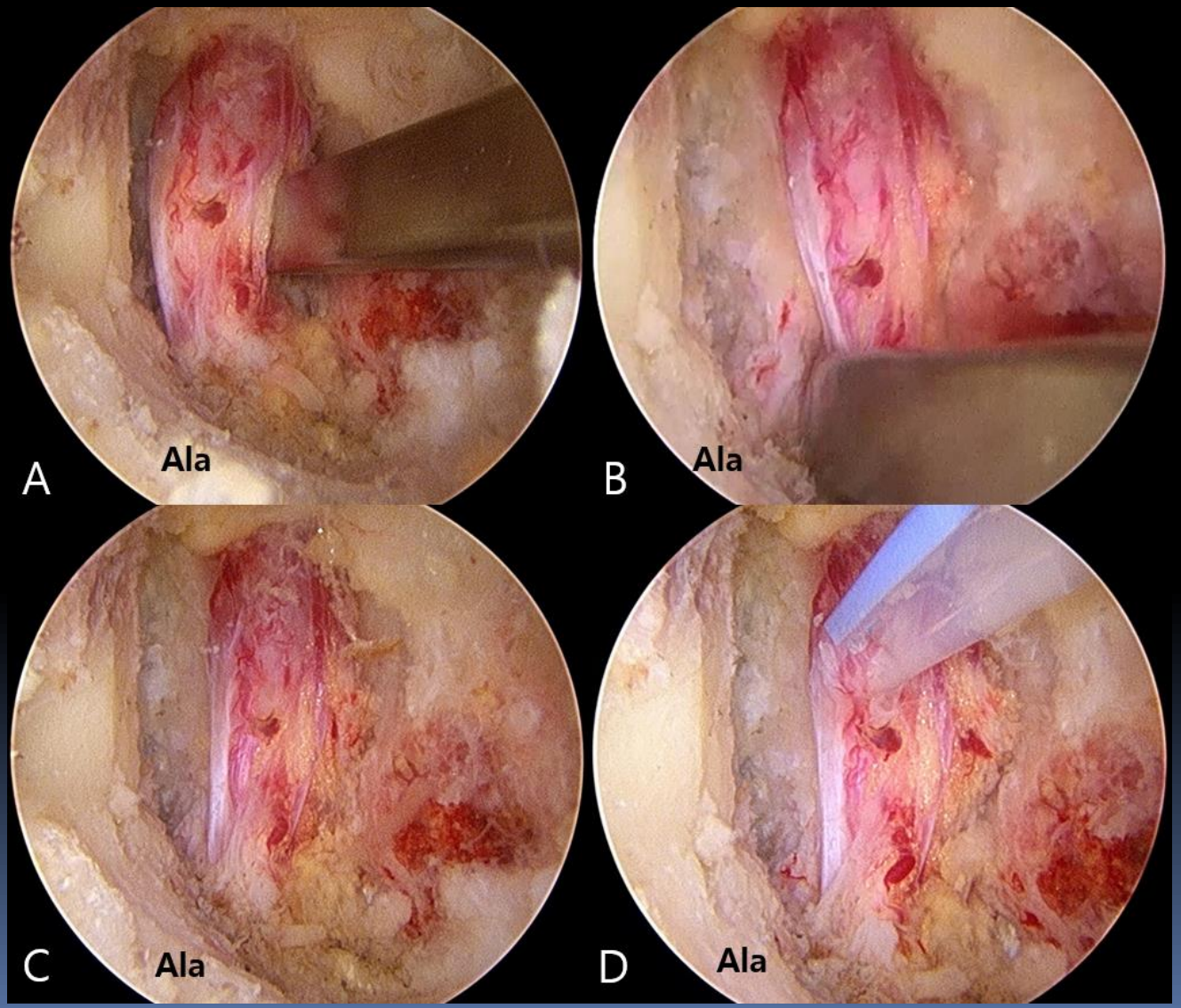
Removal of bony structure And foramen ligament



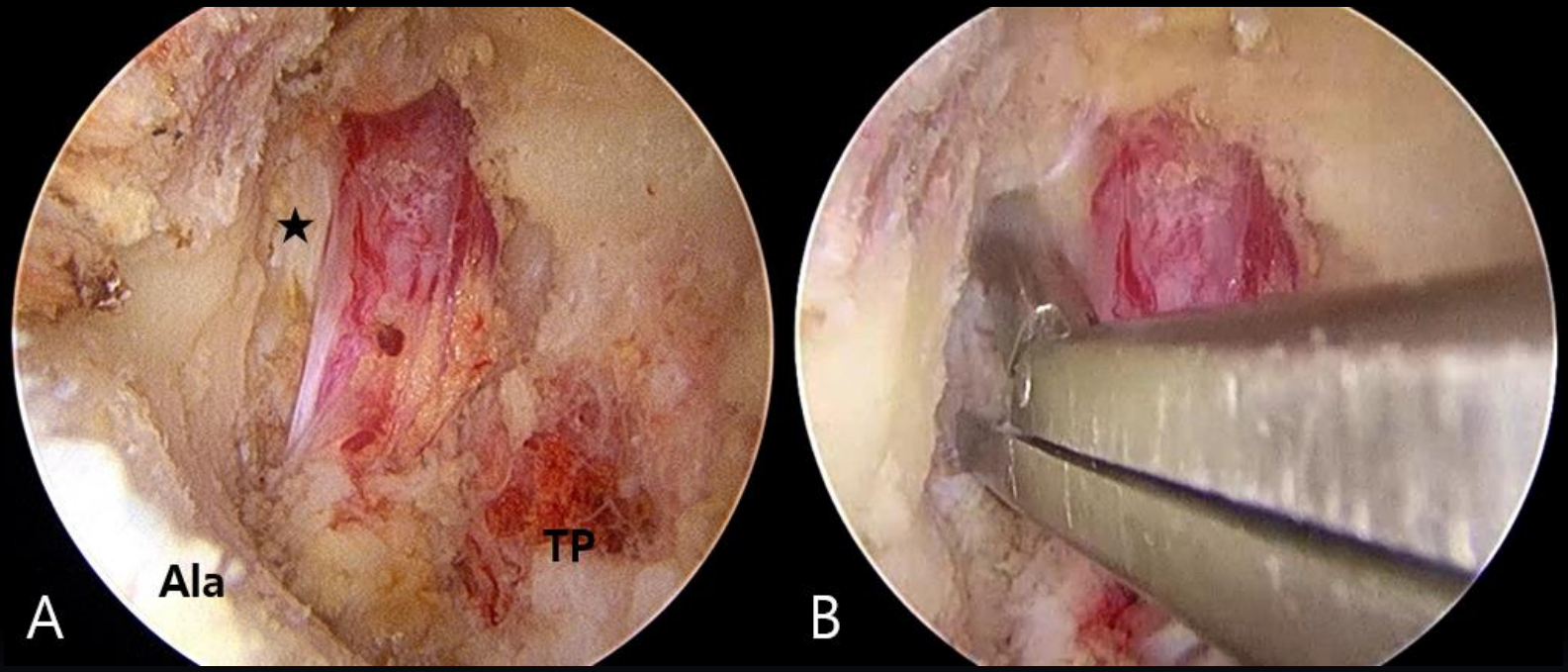
Resection of pseudo-articulation



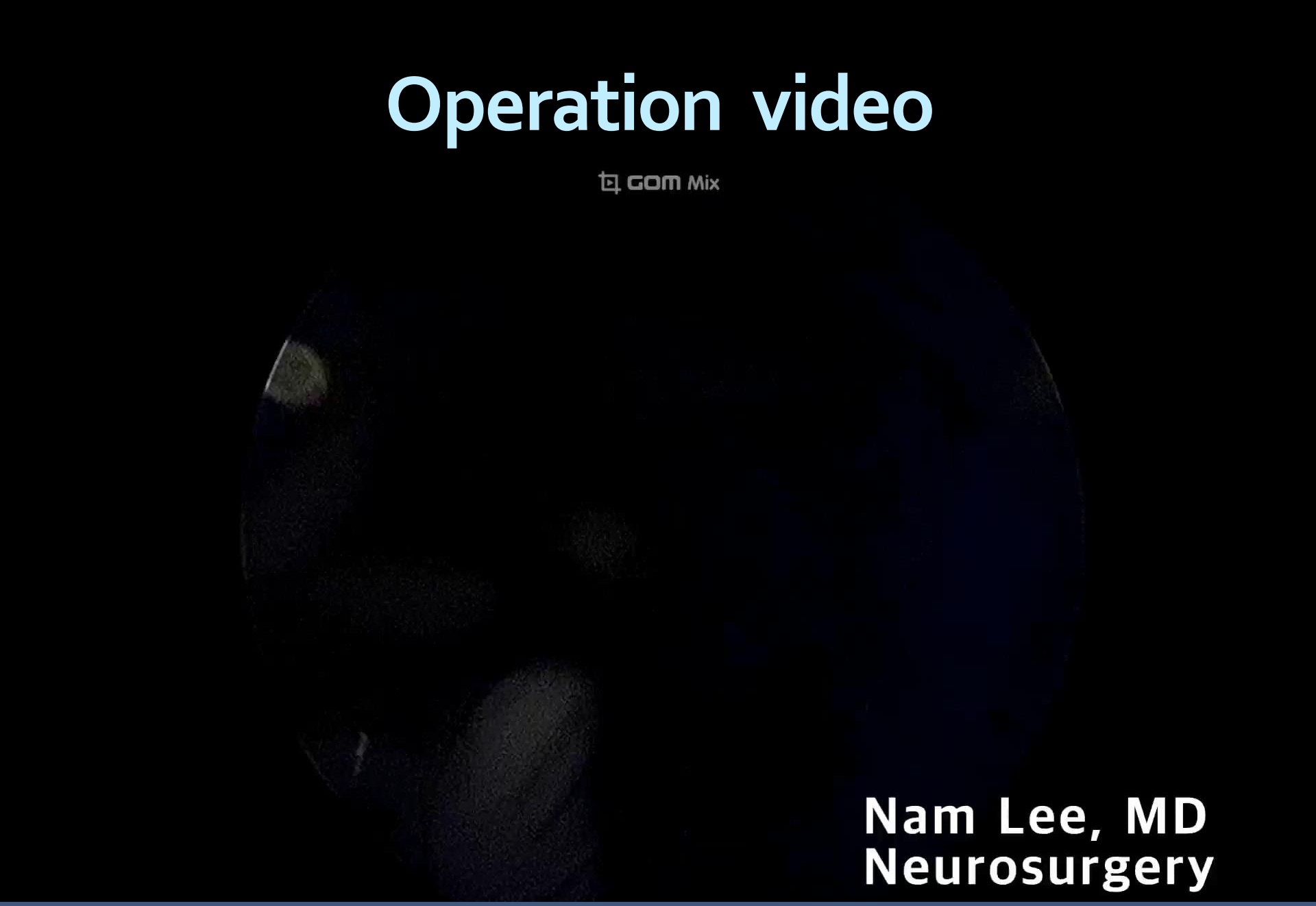
Identify distal L5 nerve root / Drain insertion



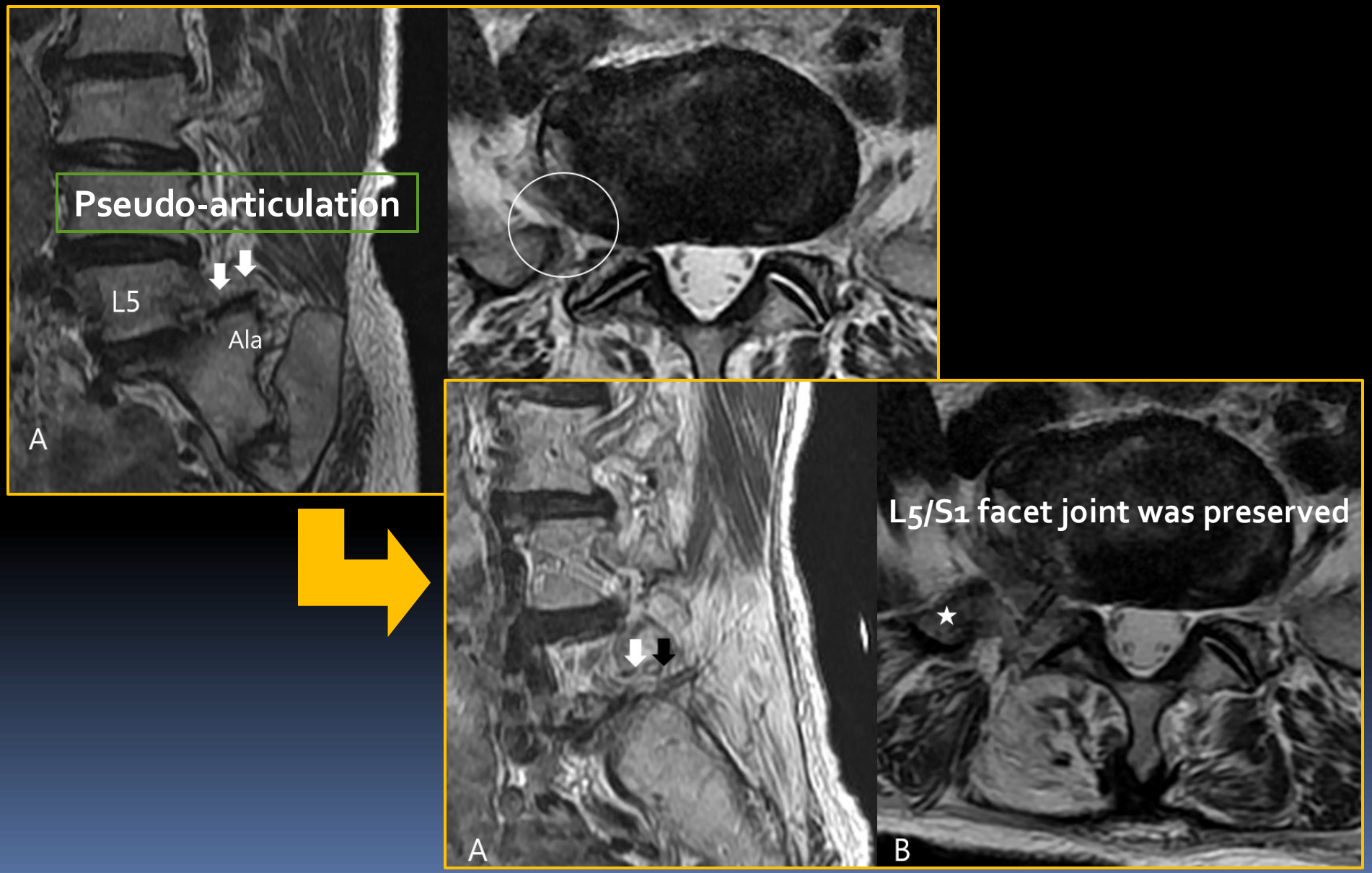
Option: you can add a discectomy



Operation video



Post-operative MRI images



Literature outcomes review

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Original Article

Endoscopic Treatment of Extraforaminal Entrapment of L5 Nerve Root (Far Out Syndrome) by Unilateral Biportal Endoscopic Approach: Technical Report and Preliminary Clinical Results

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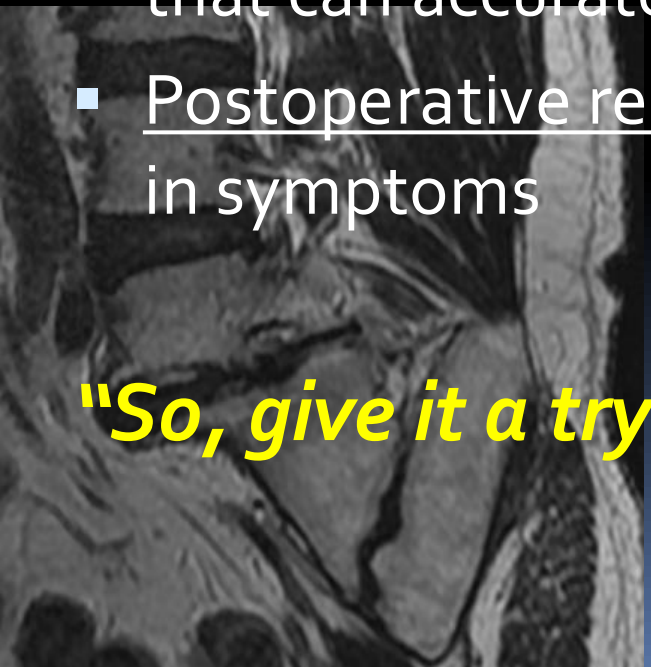
The mean leg VAS and the ODI were significantly improved after dual portal endoscopic surgery

Table 1. Clinical parameters of patients

Characteristic	Value
Sex, male:female	4:10
Age (yr)	59.5±7.2
Follow-up period (mo)	11.0±5.0
Estimated blood loss (mL)	85.0±29.5
Operation time (min)	72.8±15.5
VAS of leg	
Preoperative	8.4±1.1
Postoperative	2.8±1.4
ODI	
Preoperative	60.2±5.5
Postoperative	22.1±3.4
MacNab criteria	
Excellent	3
Good	7
Fair	3
Poor	1
Complication	
Abdominal pain (perirenal fluid collection)	2 (1)

Lecture summary

- Bertolotti's syndrome is caused by a pseudo-arthrosis (transverse pro. and ala)
- The **goal** of this surgery is to **remove it sufficiently**
- **Dual portal surgery** is a minimally invasive surgery that can accurately reach the lesion and decompress it
- Postoperative results also show **notable improvement** in symptoms

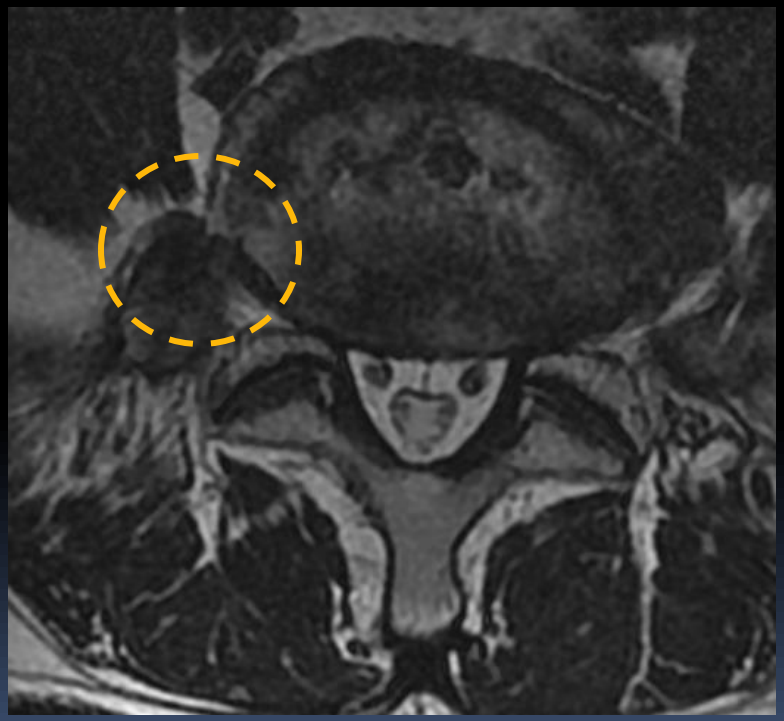


"So, give it a try and I hope you get good results"

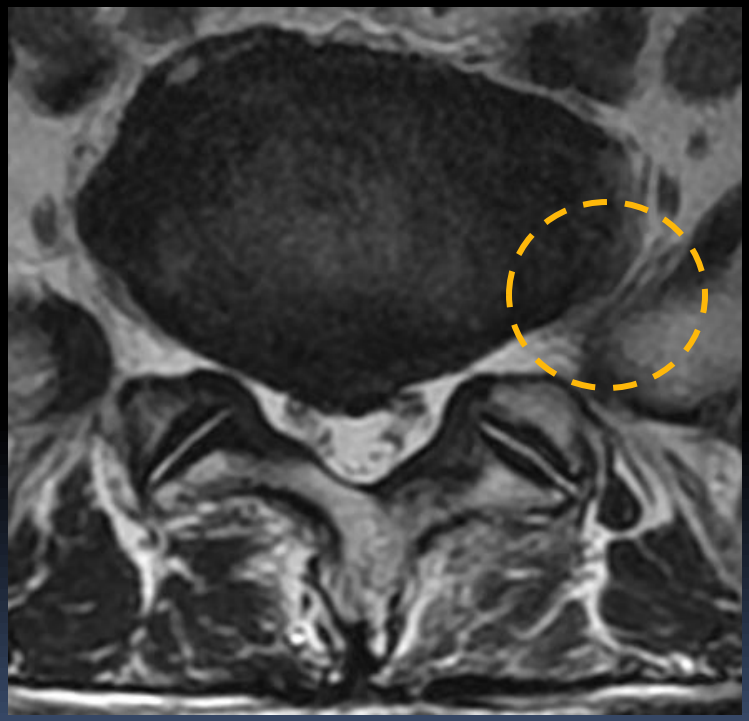
Thank you for attention!!

Another cases

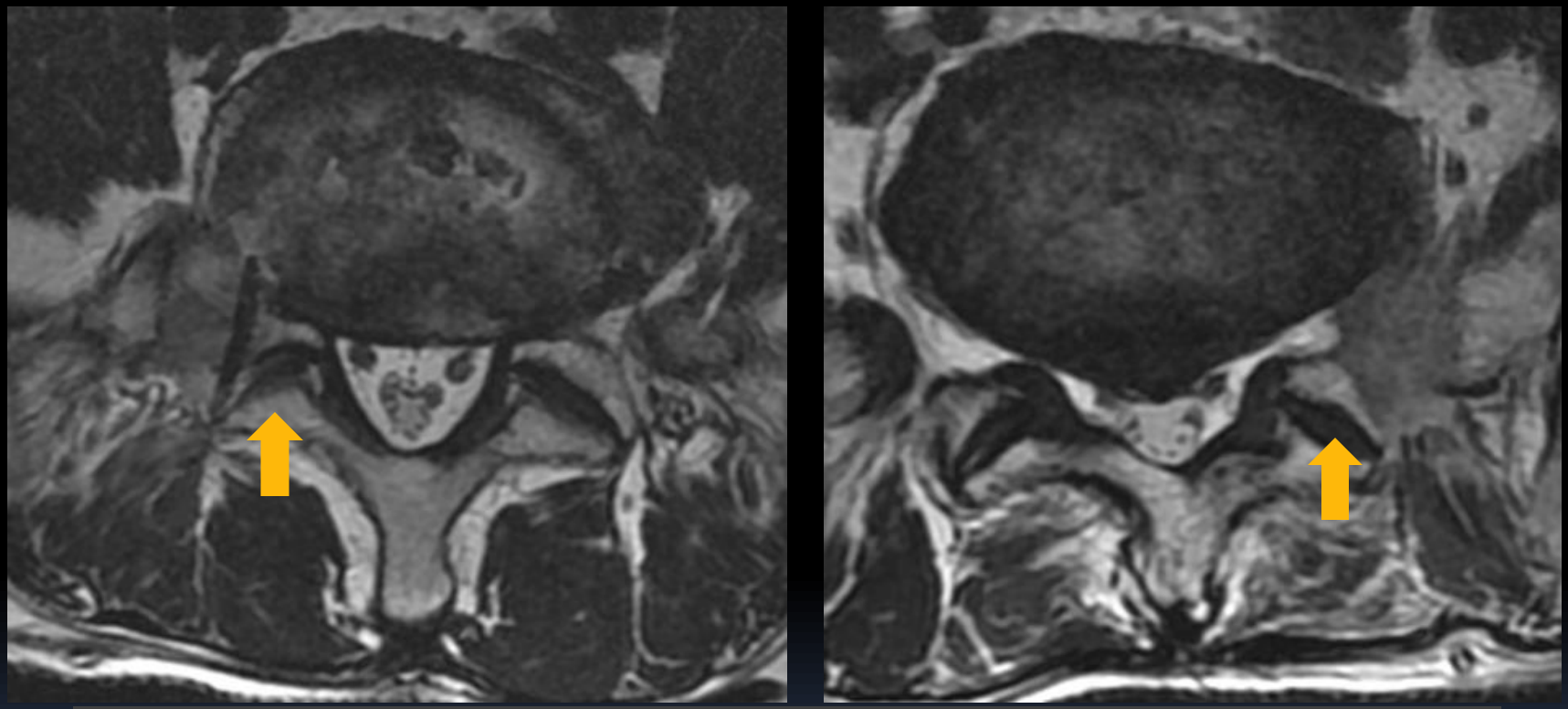
Rt side FOS



Lt side FOS

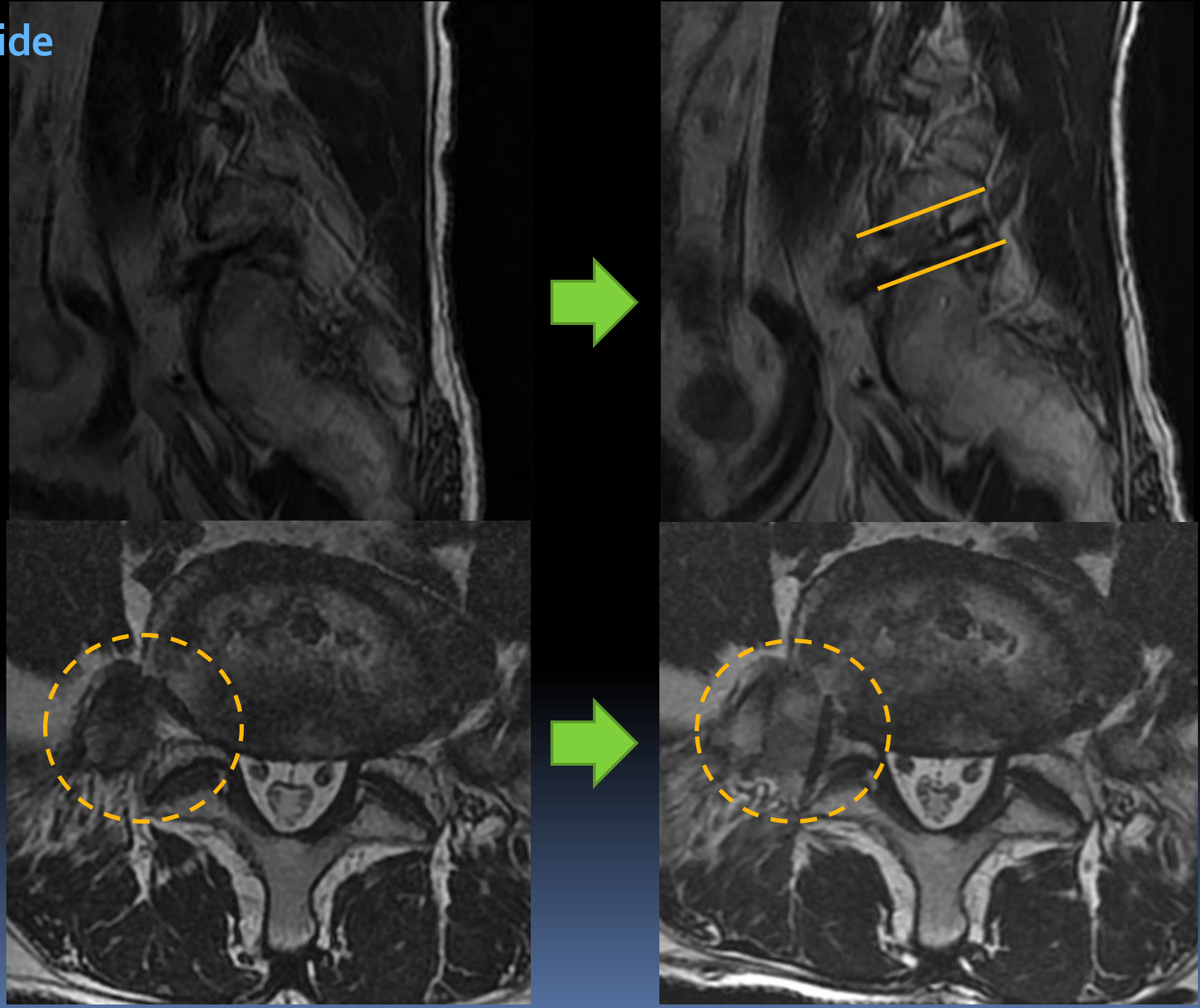


After FOS decompression

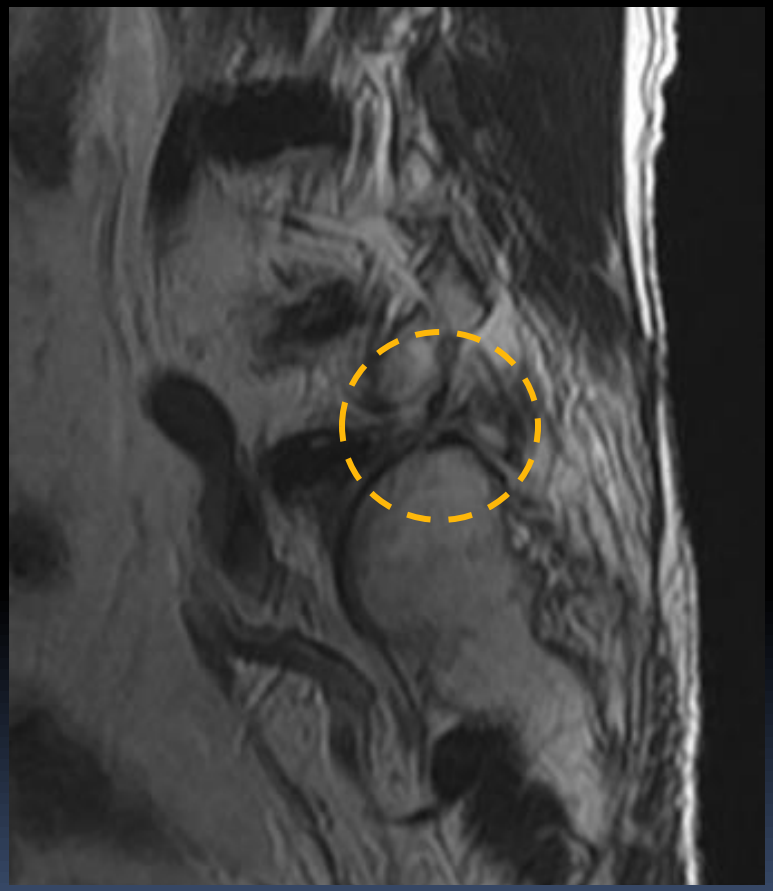


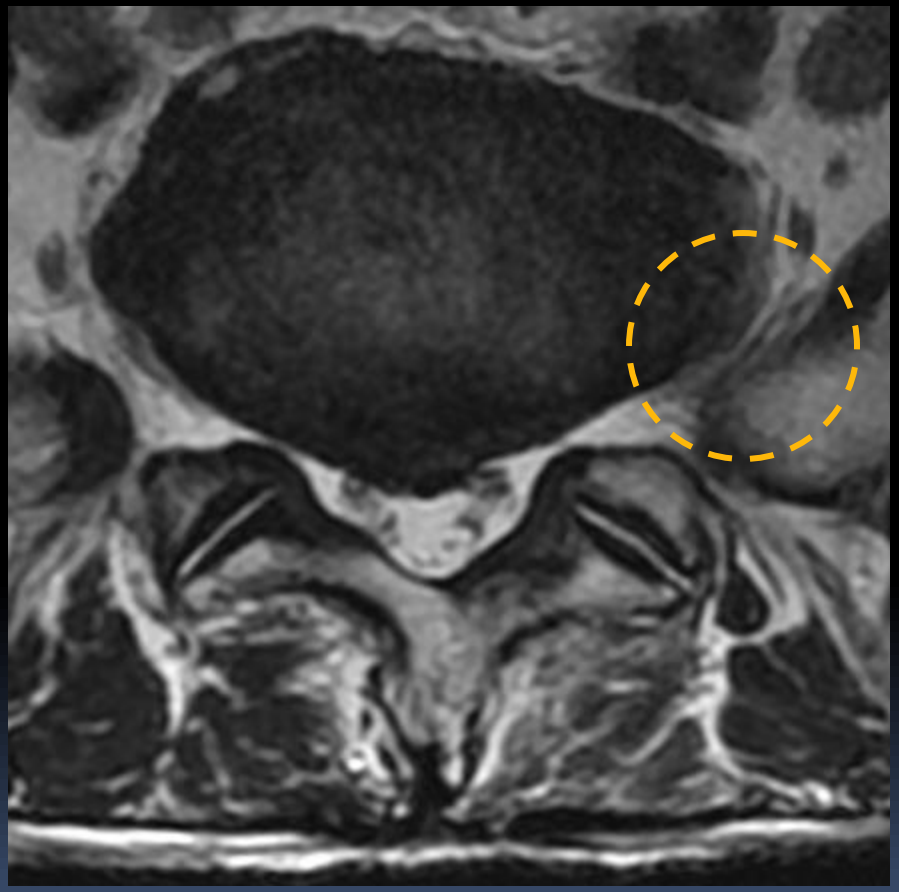
Preserve the facet joint as much as possible

Rt side



Lt side case





Lt side