

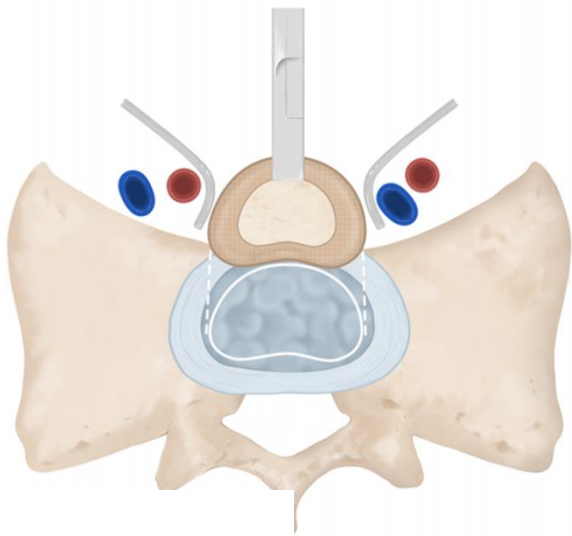
**Preoperative evaluation of left common iliac vein  
using L-MRI in OLIF at L5-S1**

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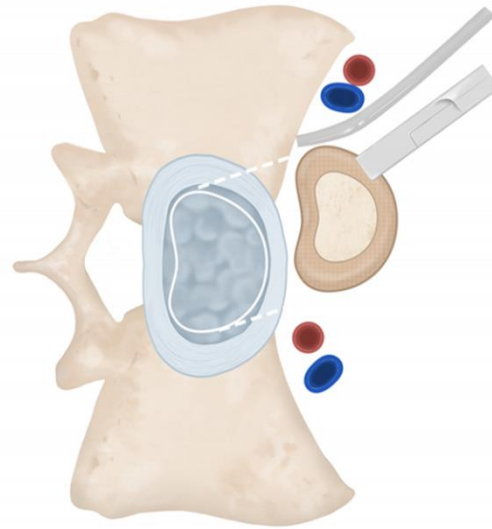
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# Study background

- OLIF L5-S1 is essentially to perform ALIF in the DLIF position.



**ALIF 51**



**OLIF 51**

# Study background

- OLIF 51 has all advantages in ALIF 51.
- moreover,
  - : avoid rectus abdominis muscle injury,
  - involve less mobilization of peritoneal content,
  - be extended to DLIF/OLIF 25 in one position,
  - advantageous in obese patient,
  - less postop morbidity,
  - complete MIS lateral surgery

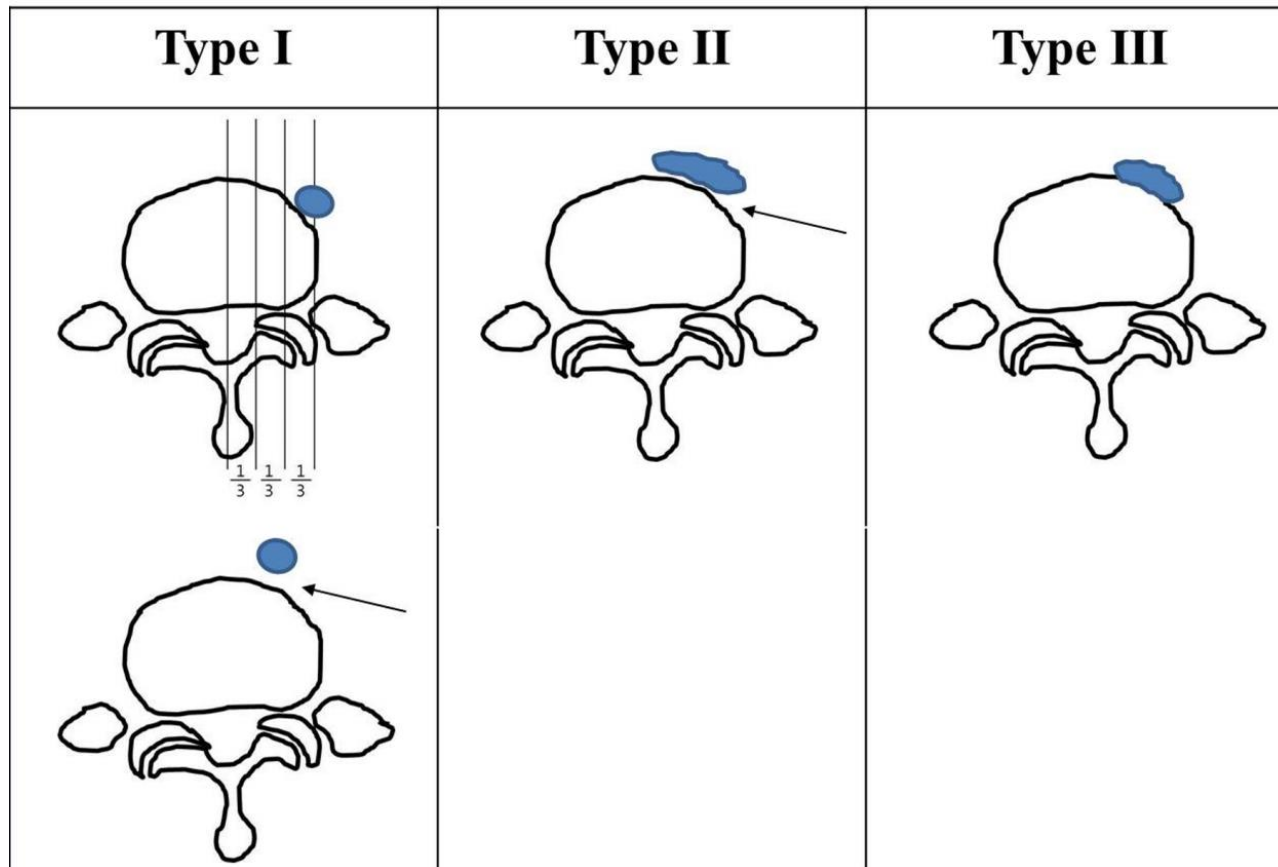


# Study objective

- We aimed to evaluate the configuration of LCIV and its risk of mobilization during anterior L5-S1 fusion.

# Study hypothesis

- Evaluation of LCIV configuration using preoperative L-MRI



# Materials and Methods

- Sample:

65 consecutive anterior L5-S1 fusion (ALIF, n=39 + OLIF, n=28)

- Outcome measure:

- 1) LCIV type on L-MRI

- 2) intraoperative vascular events

┌ major vascular injury: direct repair or EBL >300 mL

└ minor vascular injury: compression/hemostatic agents

with EBL < 300 mL

# Results

- 23 men and 44 women with a mean age of  $64.1 \pm 12.4$  years
- LCIV type I: 34 (50.7%)  
LCIV type II: 18 (26.9%)  
LCIV type III: 15 (22.4%)
- There were no differences in age, sex, BMI, medical disease status, or diagnosis among the three LCIV groups (all  $P > 0.05$ ).

# Results

- Intraop vascular events were seven: 5 (7.3%) major, 2 (3.1%) minor

	Type I (n = 34)	Type II (n = 18)	Type III (n = 15)
Major LCIV injury ALIF/OLIF	0 -	1 0/1	4 2/2
Minor vascular injury ALIF/OLIF	0 -	1 1/0	1 0/1
Overall	0	2 (11.1%)	5 (33.3%)

- All of the vascular injuries were LCIV injuries.
- The mean EBL was 595 ± 267 mL in major LCIV injury  
228 ± 98 mL in minor LCIV injury ( $P = 0.000$ ).



# Results

- Intra- and interobserver reliability of the LCIV classification

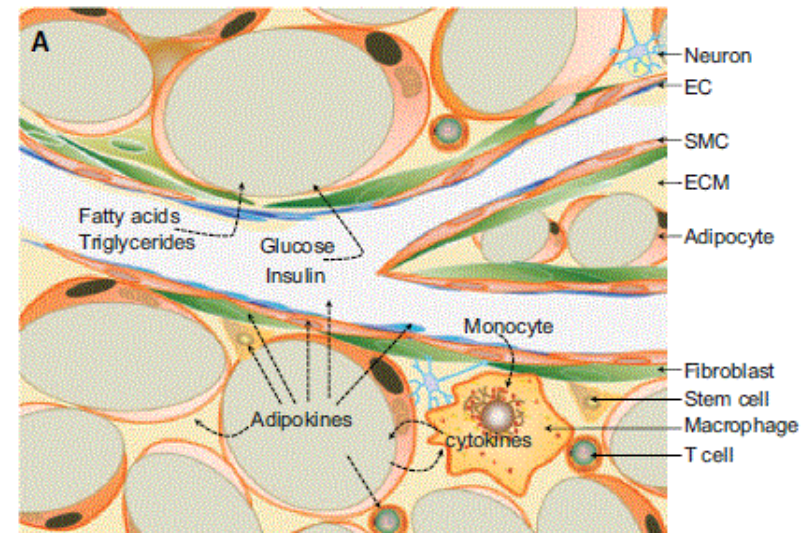
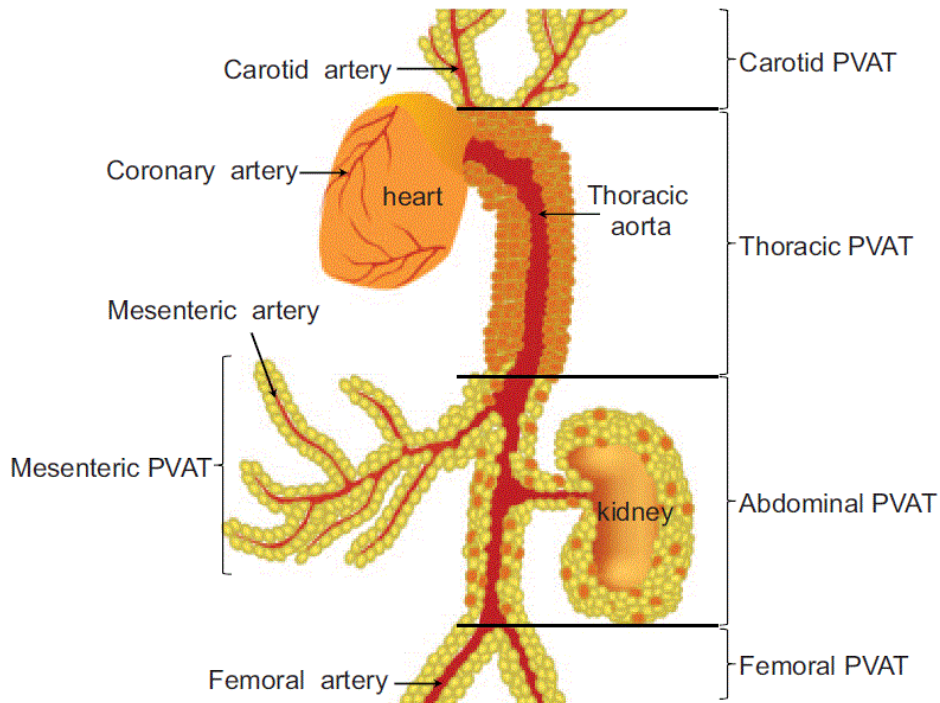
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	kappa	Number of agreement (%)	Agreement
Intraobserver			
S1-S2	0.829	58 (89.2%)	Excellent
F1-F2	0.809	57 (87.7%)	Excellent
R1-R2	0.766	56 (86.2%)	Substantial
Interobserver			
S1-F1	0.803	57 (87.7%)	Excellent
S1-R1	0.547	47 (72.3%)	Moderate
F1-R1	0.529	46 (70.8%)	Moderate

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# Discussion

- Perivascular adipose tissue



# Conclusions

- In this study, the LCIV was categorized into 3 types according to the difficulty of mobilization using L-MRI.
- LCIV type III (no perivascular adipose tissue under the vein) showed a high rate of vascular injury.
- LCIV classification in this study was simple, valid, and reliable for preoperative vascular evaluation in OLIF at L5-S1.

# Disclosure

- Nothing to disclose