Clinical characteristics of intraspinal facet cysts following microsurgical bilateral decompression via a unilateral approach for treatment of degenerative lumbar disease

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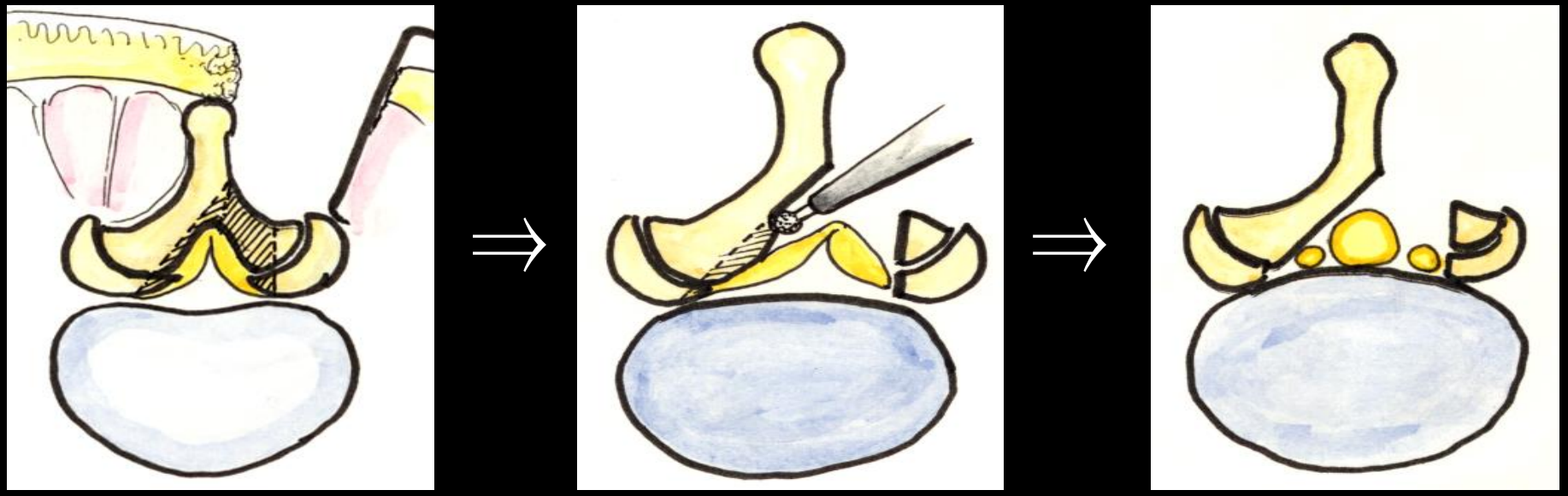
Microsurgical bilateral decompression via unilateral approach (MBDU)

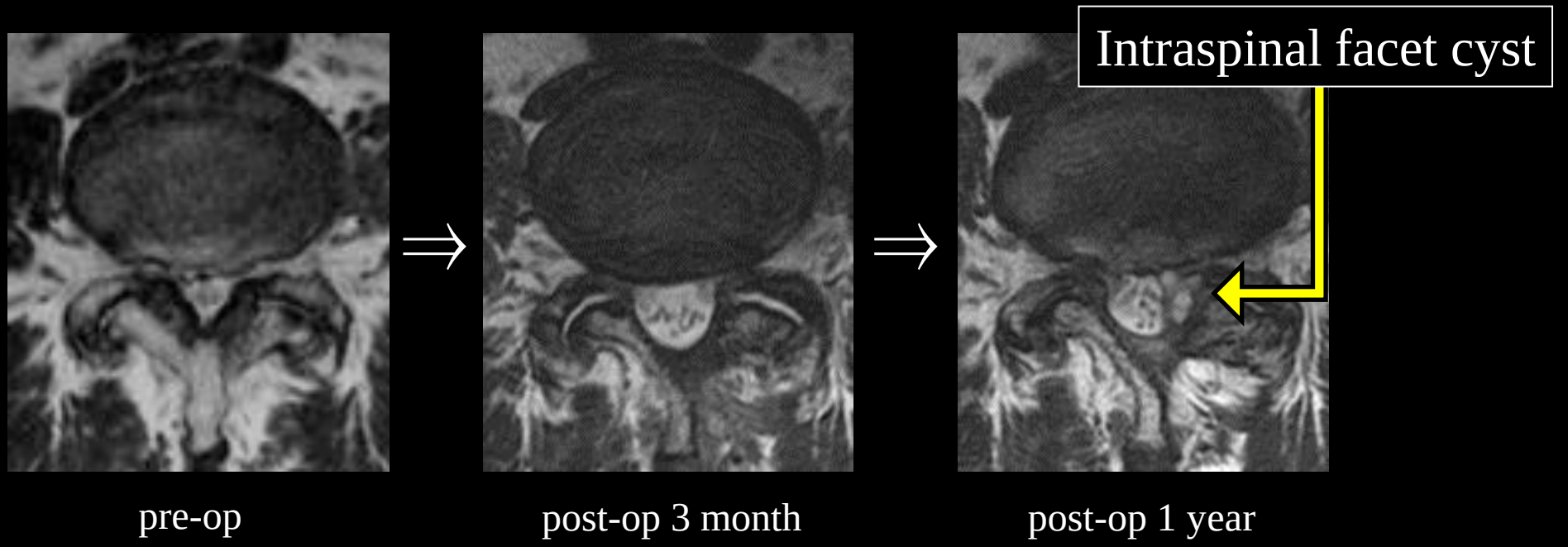


Toyoda H, Kato M, et al. Spine 2011 (36) 410-415

Recently, good clinical outcome of microscopic unilateral approach with bilateral decompression for lumbar spine has been widely recognized.

Intraspinal facet cysts

Intraspinal facet cysts in the lumbar spine are often noted as an uncommon cause of painful radiculopathy.
However, there have only been a few reports on the development of postoperative intraspinal facet cysts after lumbar decompression surgery.



PURPOSE

The purpose of this study was to evaluate the prevalence and clinical features of postoperative intraspinal facet cysts after lumbar decompression surgery.

MATERIALS

2006~2010 in Osaka City General Hospital

230 patients

133men, 97 women, 70 yo (34-92)

Diagnosis

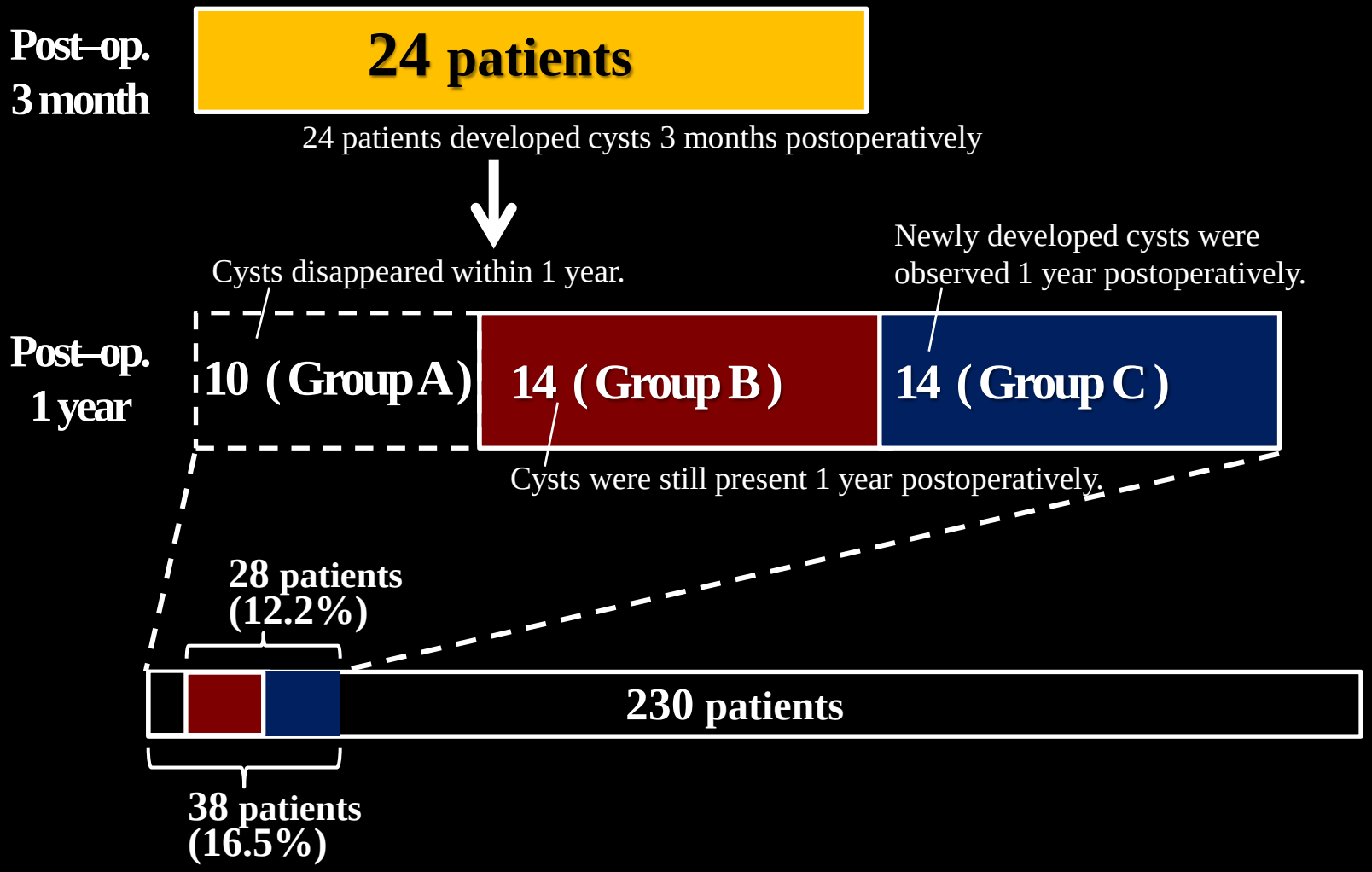
- Lumbar canal stenosis (LCS): 129
- Degenerative lumbar spondylolisthesis (DO): 48
- Degenerative lumbar scoliosis (DLS): 54

EVALUATION

- Prevalence of postoperative intraspinal facet cysts
- Recovery ratio of the JOA score
- Factors related with the cyst development
  (instability, scoliosis, disc wedging, sagittal imbalance)

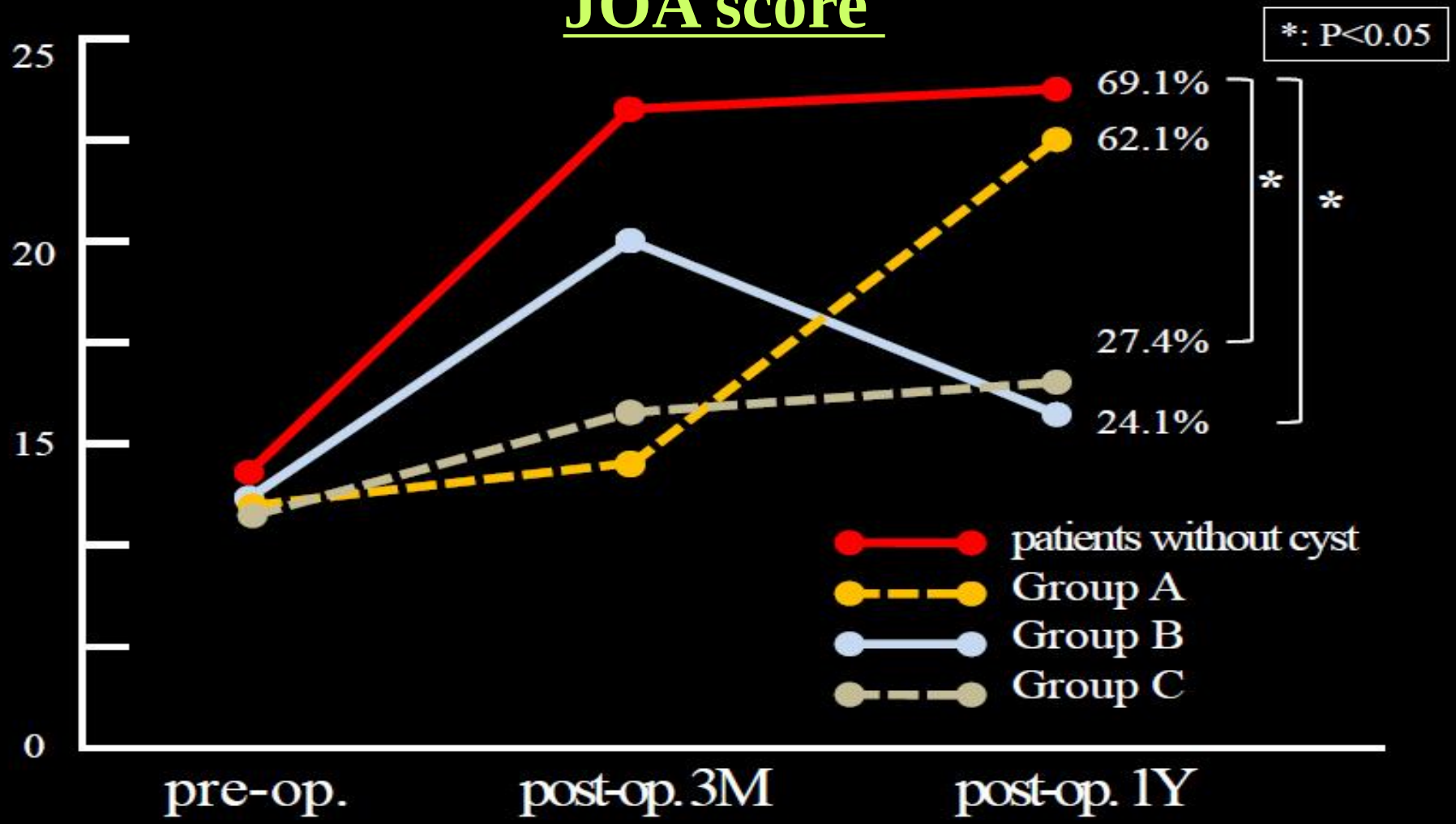
RESULTS

Prevalence of intraspinal facet cysts



Prevalence of intraspinal facet cysts. Thirty-eight patients (16.5%) developed postoperative intraspinal facet cysts developed at some point during the first postoperative year. In 28 patients, the facet cysts persisted 1 year after surgery (12.2%).

JOA score



Graph showing clinical outcome according to the Japanese Orthopedic Association scoring system (JOA score). * The recovery ratio of JOA score in Groups B and C were significantly lower than that in Group N (P <0.05).

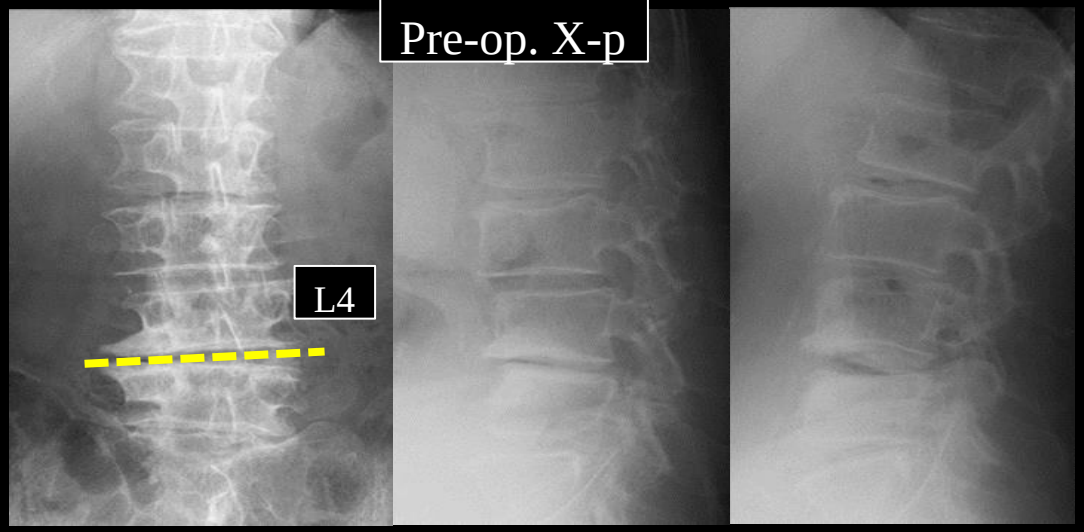
Radiographic factors related to cyst development

	Cyst –	Cyst +	OR	P value
Instability（－）	155 case	16	1	
Instability（+）	47	12	2.47	0.026
Scoliosis（－）	157	22		
Scoliosis（+）	45	6		
Disc wedging（－）	139	14	1	
Disc wedging（+）	63	14	2.23	0.048
Sagittal imbalance（－）	133	13	1	
Sagittal imbalance（+）	69	15	2.22	0.045

Scoliosis：＞10°、Disc wedging ：＞3°　Sagittal imbalance：＞50 mm（SVA）

There was an association between preoperative instability and postoperative cyst formation (OR:2.47, P=0.26). Preoperative scoliotic disc wedging (OR:2.23, P=0.048) and preoperative sagittal imbalance (OR:2.22, P=0.045) were significantly associated with postoperative cyst formation.

Representative case 68yo, M



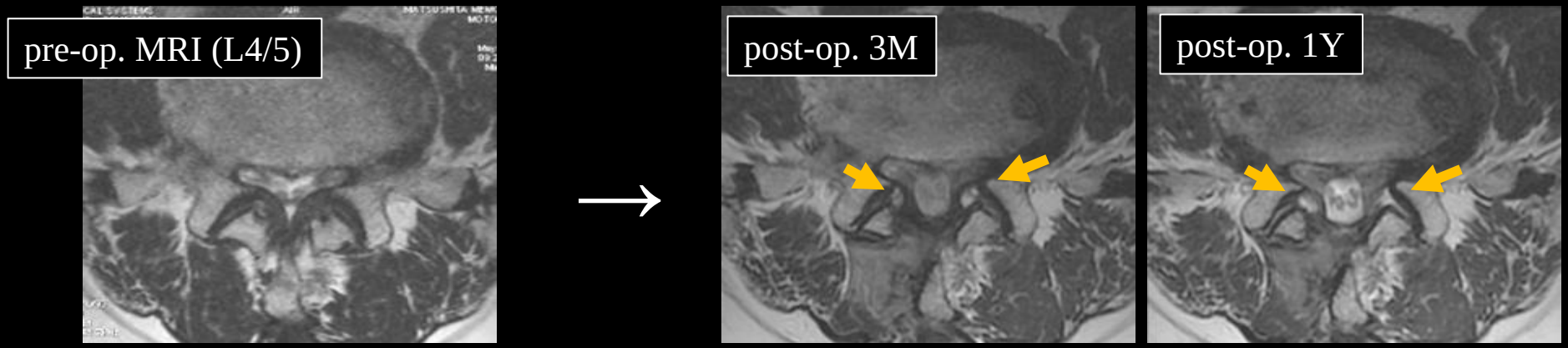
JOA score

pre-op. : 12 points

post-op. 3m ： 14 points

post-op. 1y : 13 points

（improvement ratio 6%）



Representative case. A 68-year-old man with L4–5 degenerative lumbar spondylolisthesis and disc wedging reported intermitted claudication due to leg pain. After MBDU, intermitted claudication disappeared, but disabling lower back pain appeared 2 months postoperatively that resisted conservative treatment 1 year after operation, (arrow heads indicate intraspinal facet cysts).

DISCUSSION 1

Prevalence of postoperative intraspinal facet cysts

Ikuta et, al. (**J Neurosurg Spine 2009**)

8.6 % (7/81) after microendoscopic decompression

Present study

16.5% (38/230) after microscopic decompression

⇩

Postoperative intra spinal facet cysts are not an uncommon pathological condition.

DISCUSSION 2

Risk factors for cyst development

Instability
Disc wedging
Sagittal imbalance

⇩

The postoperative cysts development induces poor clinical outcome.

⇩

It should be cautious to indicate MBDU to the case with these risk factors.

CONCLUSIONS

1. Juxtafacet cysts developed in 16.5% of these patients in the follow up period after the operation.
2. Instability, disc wedging, and sagittal imbalance were related with postoperative intraspinal facet cyst development.

Our presentation has no potential conflict of interest disclosure.