

Study on risk factor for recurrent lumbar disk herniation

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Background

Recurrent lumbar disk herniation, one of the major causes of surgical failure, has been reported in 5% to 15% of patients.

There have been many studies suggesting various risk factors for recurrent lumbar disk herniation.

Purpose

We investigated the risk factors for recurrent lumbar disk herniation in our facility .

Materials and methods

Objects

535 patients who underwent surgery, microscopic discectomy (**MD**) or micro endoscopic discectomy (**MED**), for lumbar disk herniation (**L4/5 or L5/S**) from January 2005 to September 2009.

Age:**12~81**(average:**44**)

MD:**242**,MED:**293**

Recurrent lumbar disk herniation

Recurrent back and/or leg pain after a definite pain-free period lasting at least 6 months from initial surgery

Clinical parameters

Age, Sex, Body-mass index, diabetes, smoking

Radiologic parameters

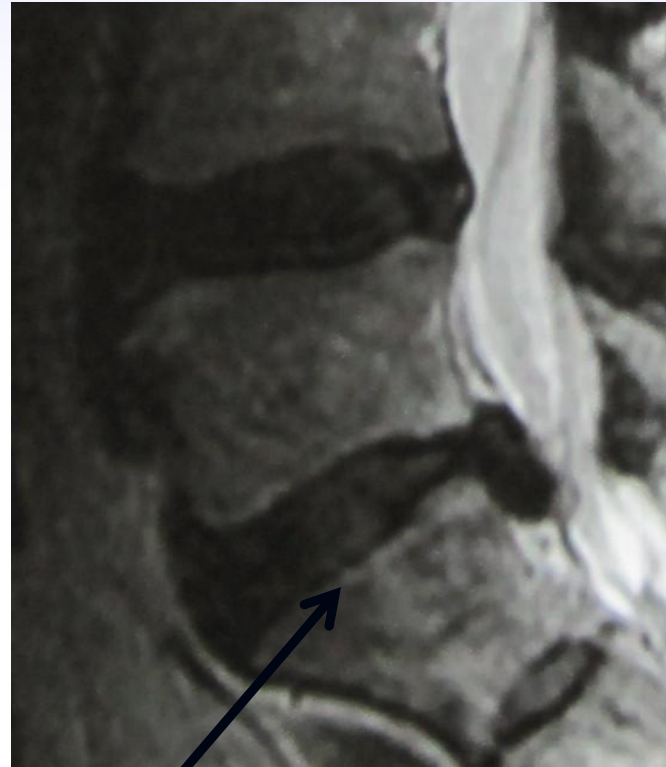
The narrowness of disk height

MRI parameters

signal alteration of the cartilage endplate



T1

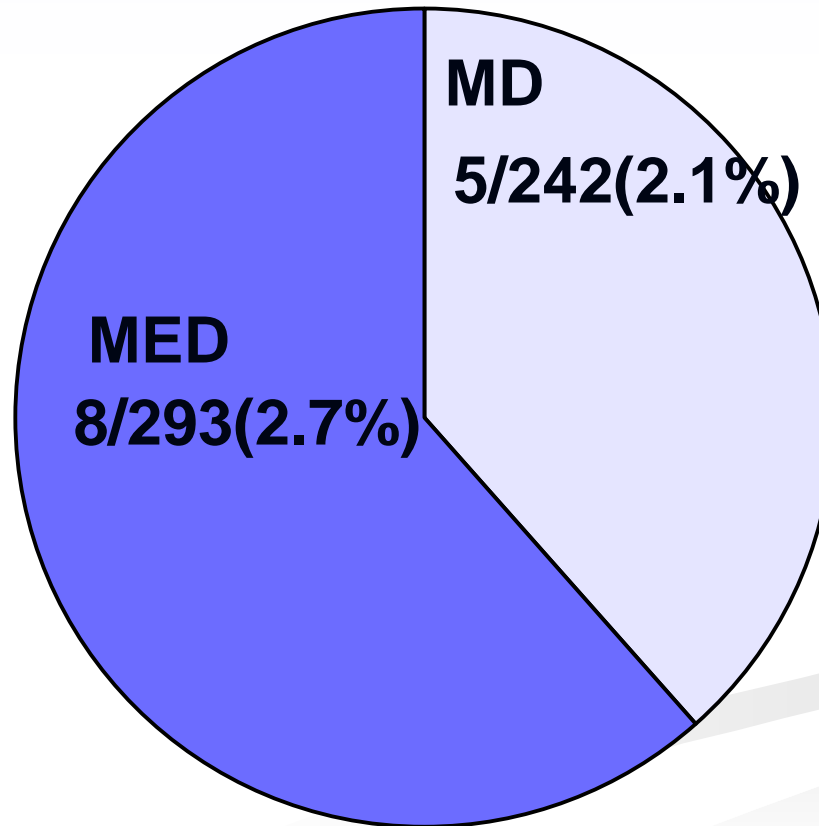


T2

signal alteration of the cartilage endplate

Results

Recurrent lumbar disk herniation occurred in 13 cases (2.4%).



Results

Statistical comparison of potential risk factors for LDH recurrence

Potential Risk Factors	Recurrence	Nonrecurrence	p Value
mean age (years)	51.4±13.2	44.5±16.5	0.143
male sex (%)	69.2%	68.4%	0.95
mean BMI	22.45±2.19	22.99±3.36	0.57
diabetes (%)	15.4%	3.9%	0.052
smoking (%)	77%	43%	0.016
The narrowness of disk height (%)	69%	45%	0.087
signal alteration of the cartilage endplate (MRI)	85%	40%	0.001

Discussion

The risk factors recurrent lumbar disk herniation

	smoking	BMI	Disk height	signal alteration of the cartilage endplate (MRI)
Kim KT et al (Spine 2009;34:2674-78)	R		R	
Suk KS et al (Spine 2001;26:672-6)	R			
Kim JM et al (Neurosurg 2007;50:82-5)		R		R
In this study (Euro Spine 2010)	R			R

R:risk factor

Discussion

In our data, smoking and signal alteration of the cartilage endplate showed a significant correlation with recurrent lumbar disk herniation.

We suggested that preoperative evaluation of risk factors can be an important factor in the site of lumbar disk surgery.

Conclusion

In this study, smoking and signal alteration of the cartilage endplate showed a significant correlation with the incidence of recurrent lumbar disk herniation.