

Clinical and radiological outcomes of arthroscopic repair for delaminated rotator cuff tear vs non-delaminated tear

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COI Disclosure Information

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I have no financial relationship to disclose.

Purpose



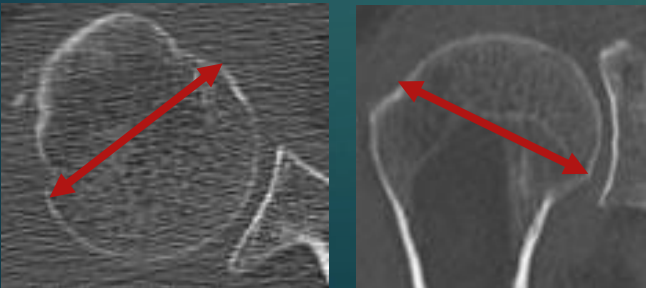
In this study, we investigated the influence of delamination and anteroposterior length (AP length) of rotator cuff tear on postoperative rotator cuff retear.

Material & Methods

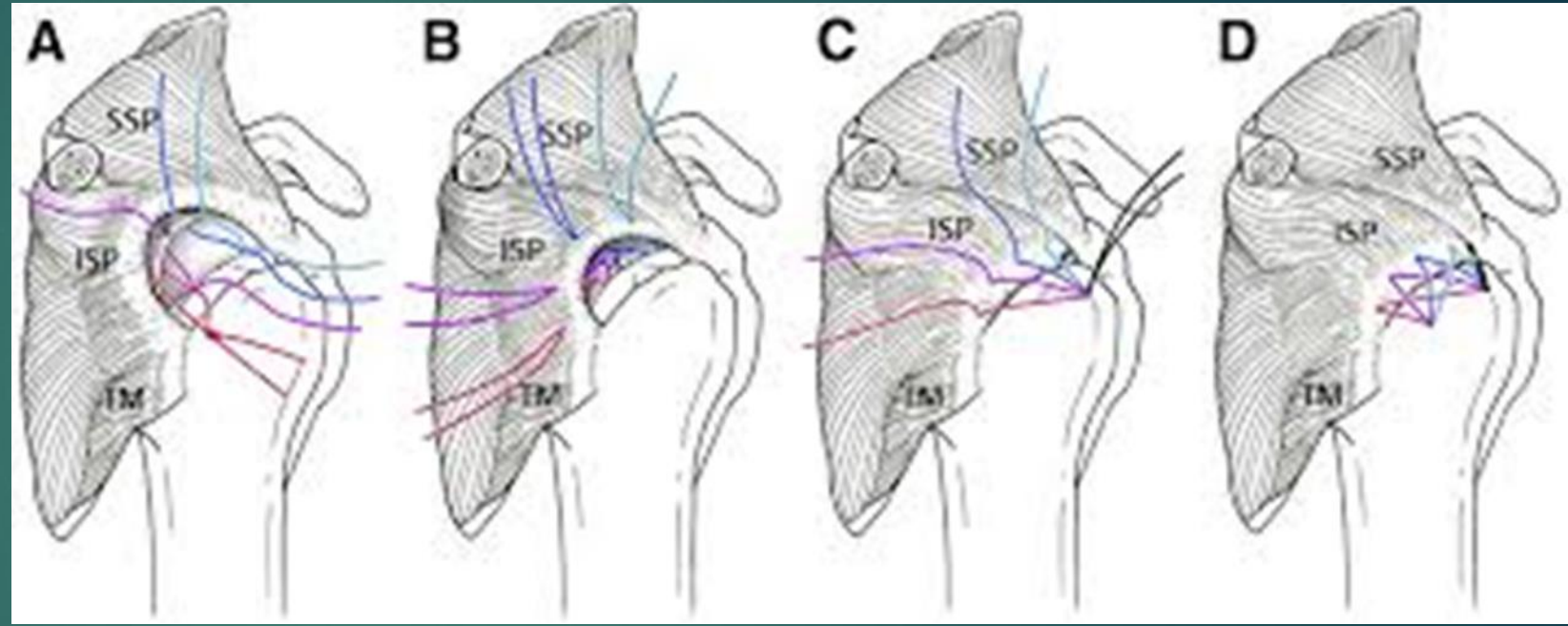
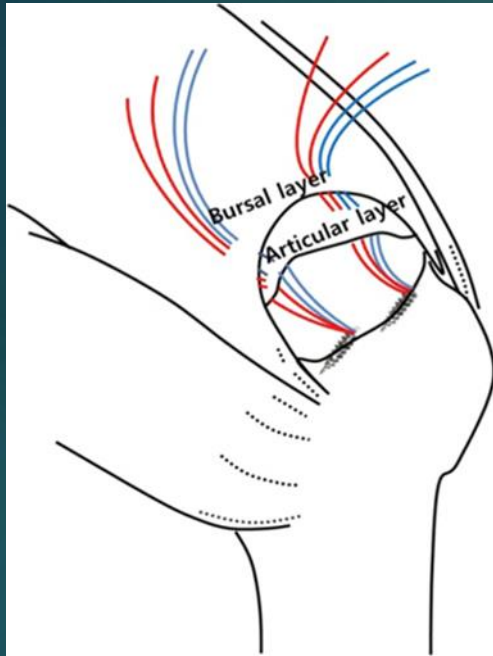
- ▶ 71 patients with 72 full-thickness rotator cuff tears
- ▶ cuff tear size > medium size
- ▶ Male 47 shoulders Female 25 shoulders mean age:64.6y
- ▶ Non delamination group 24 shoulders
Delamination group 48 shoulders

Humeral head size	Non-delamination	Delamination
Maximum axial length	40.5±8.4mm	40.7±3.8mm
Maximum coronal length	44.4±3.6mm	44.0±3.8mm

No difference between two groups



Repair type



En masse repair
10 shoulders

Separate double layer repair
38 shoulders



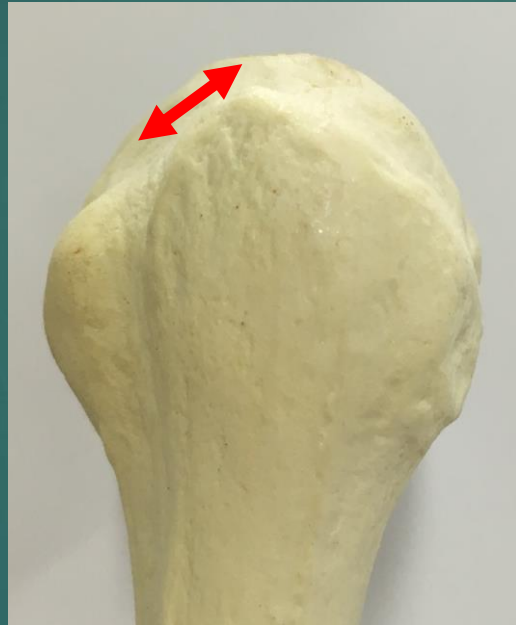
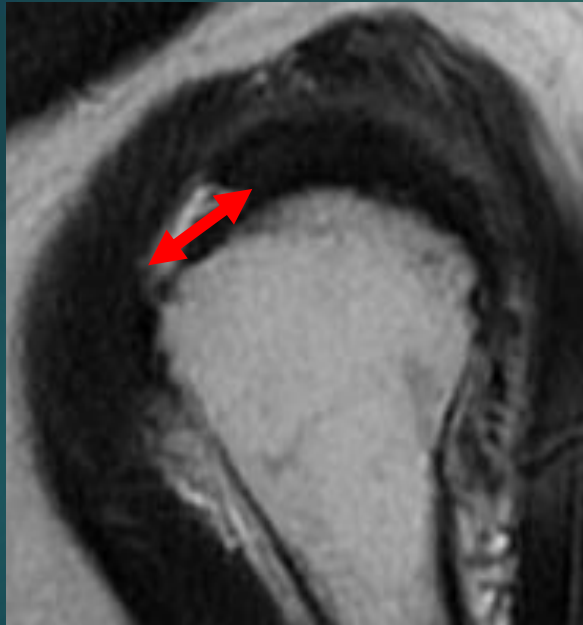
▶ Clinical assessments

- Japanese Orthopaedic Association (JOA)score

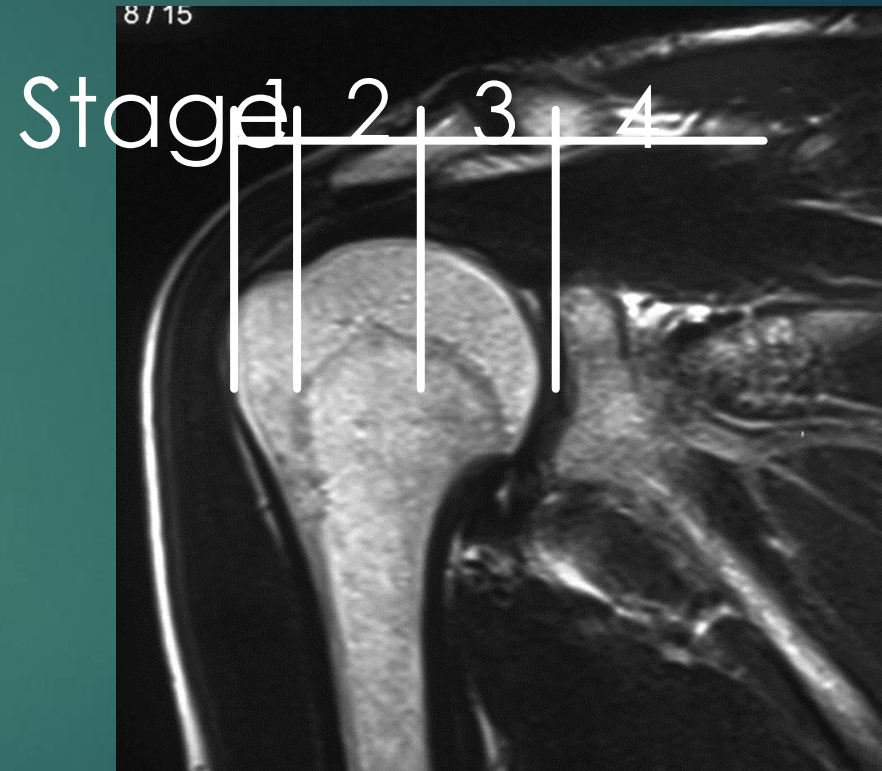
▶ Radiographic assessments

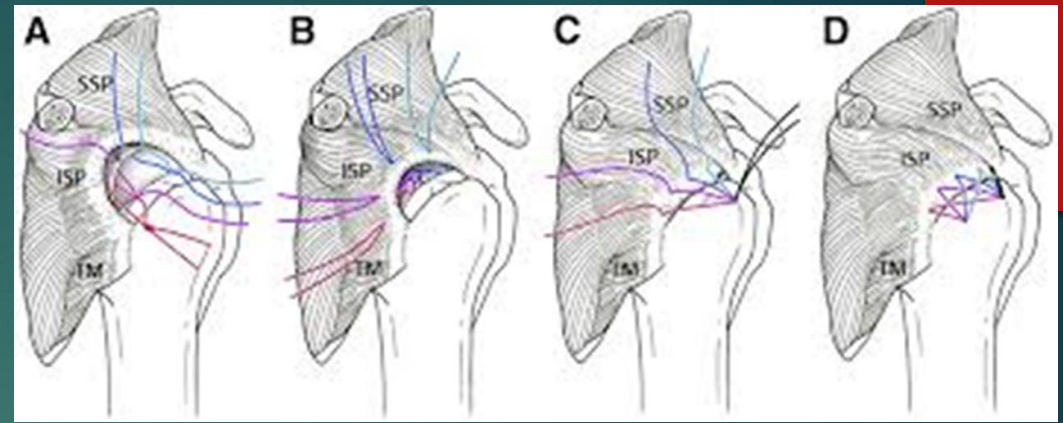
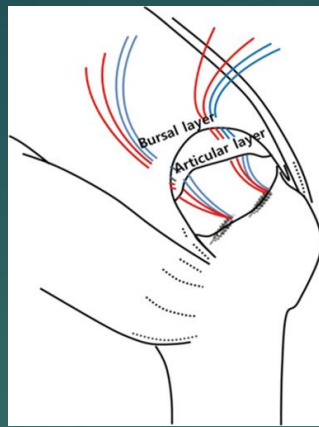
- Cuff re-tear on postoperative MRI (1Y after surgery)
- The rotator cuff tear size of antero-posterior(AP) length of greater tuberosity (GT) on preoperative MRI (Sugaya classification 4 or 5)
- Cuff retraction

Cuff tear size of AP length of GT(mm)



Cuff retraction





	En masse repair (n=9)	Separate double layer repair(n=39)	P value
Re-tear	2	5	0.601
tear size AP(mm)	30.0 ± 10.0	26.5 ± 6.7	0.198
Retraction	3[2-3]	3[3-3]	0.482

Results

	Re-tear (-)	Re-tear (+)
Non-delamination	19	5
Delamination(+)	41	7
P value		0.518

Fisher's exact test

Non delamination group

	Re-tear (-) (n=19)	Re-tear(+) (n=5)	P value
Tear size AP (mm)	25.8 ± 5.9	35.6 ± 8.4	0.006
Cuff retraction	2[2-3] (19)	3[3-3] (5)	0.03
JOA(pre-surgery)	66.1 ± 15.0	66.6 ± 11.7	0.945
JOA(post-surgery)	95.7 ± 3.9	92.5 ± 5.8	0.297

Delamination group

	Re-tear (-) (n=41)	Re-tear(+) (n=7)	P value
Tear size AP (mm)	26.2 ± 7.1	32.6 ± 7.1	0.033
Cuff retraction	3[2-3] (41)	3[3-3] (7)	0.147
JOA(pre-surgery)	70.6 ± 13.8	70.7 ± 14.6	0.954
JOA(post-surgery)	95.5 ± 4.5	94.4 ± 2.2	0.109

Unpaired t-test, Mann-Whitney's U test

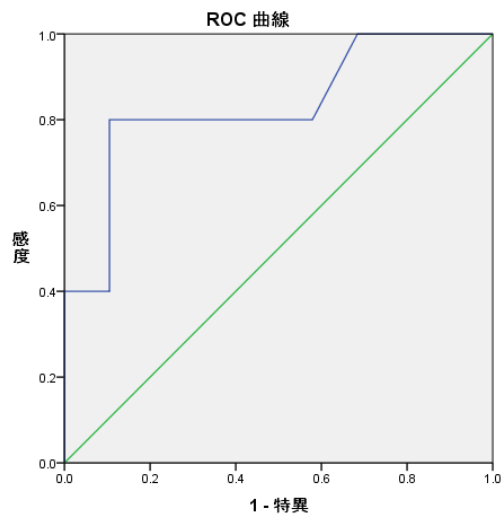
Cut off value of cuff tear of AP length

Non delamination

Cut off value 33mm

Delamination

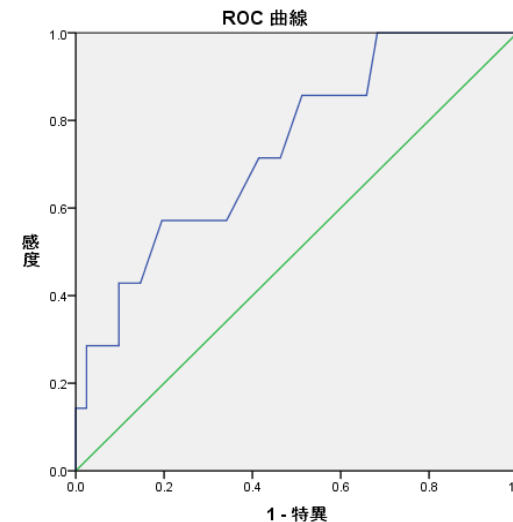
Cut off value 34mm



対角セグメントは同一値により生成されます。

Sensitivity 0.8
Specificity 0.9

AUC = 0.832



対角セグメントは同一値により生成されます。

Sensitivity 0.57
Specificity 0.81

AUC = 0.739

Conclusion



Delamination is not associated with rotator cuff re-tear. Preoperative anteroposterior length of rotator cuff tear affects postoperative rotator cuff retear with or without delamination.

Reference

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