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POSTER #:21565: Evaluated The Effective of Tendon Healing After Rotator Cuff Repair Used Modified Mason-Allen Suture Technique Combined with Microfracture Procedure

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Introduction

Postoperative tendon healing is still a matter of concern after rotator cuff repair. Several techniques have been introduced to help improve this healing process. Among them, the bone marrow is commonly used source and a research subject for methods using stem cells to promote wound healing process. A number of studies have shown that bone marrow stem cells can travel up through the holes on the rotator cuff insertion sites, contributing into the rotator cuff repair process, increasing the efficiency of tendon healing and improving clinical results

Patients and methods

Cross-sectional descriptive study was performed on 41 rotator cuff tear patients. The microfractures for these patients were calculated beforehand, which have great depth but small diameter, based on the anatomical characteristic of the rotator cuff tear insertions of Vietnamese people. Patients' rotator cuff tendon healing processes were evaluated using ultrasound after surgery. Final tendon healing and clinical results ultimately rely on MRI assessments, classified according to Sugaya's classification, UCLA and ASES scale

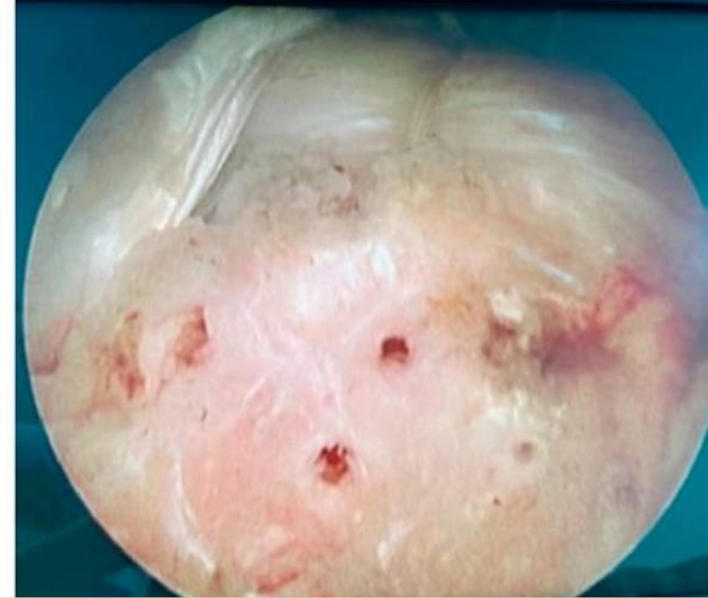
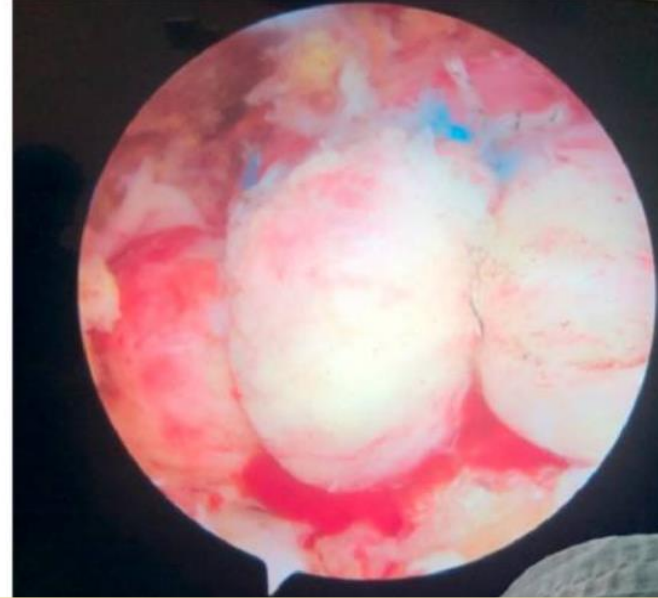
Results

No cases of rupture and fracture of the greater tubercle was recorded. There was a clear progression of tendon healing on ultrasound according to postoperative follow-up time-stamps (1 month, 3 months). MRI images evaluation also reveals at the latest follow-up time, according to Sugaya classification, the ratio of tendon healing was 87.8%, while the percentage of re-rupture was 12.2%. ASES and average UCLA scale were collected at the end of the study, respectively as 95.41 ± 5.45 and 32.36 ± 2.53

Conclusion

The technique's microfractures characteristics based on the rotator cuff tear insertion anatomy ensures a secure, straightforward approach along with promising results in terms of tendon healing rate and postoperative functional outcomes.





Creating additional microfractures after tying RC sutures

Use of tools to create microfractures on insertion

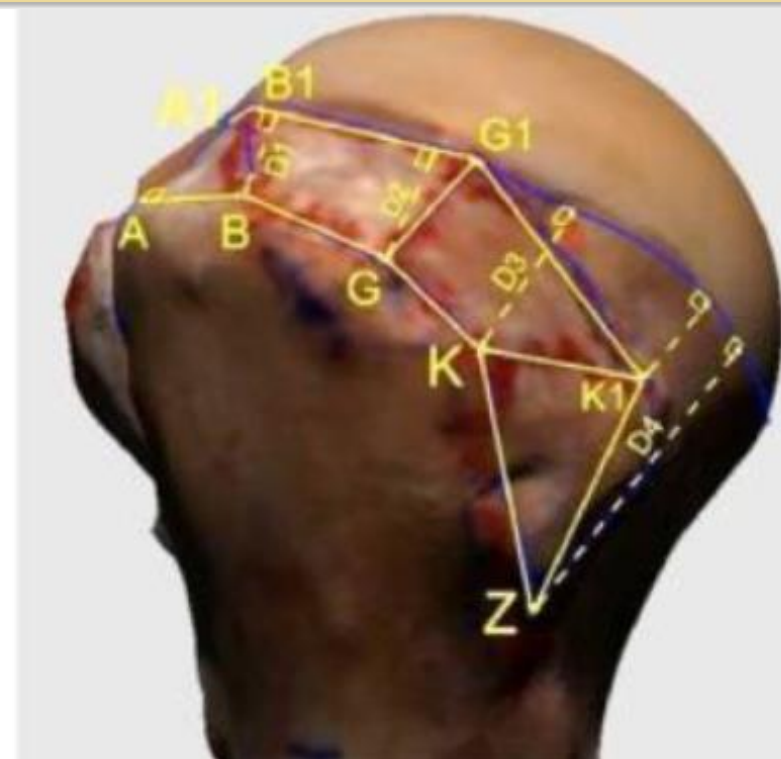
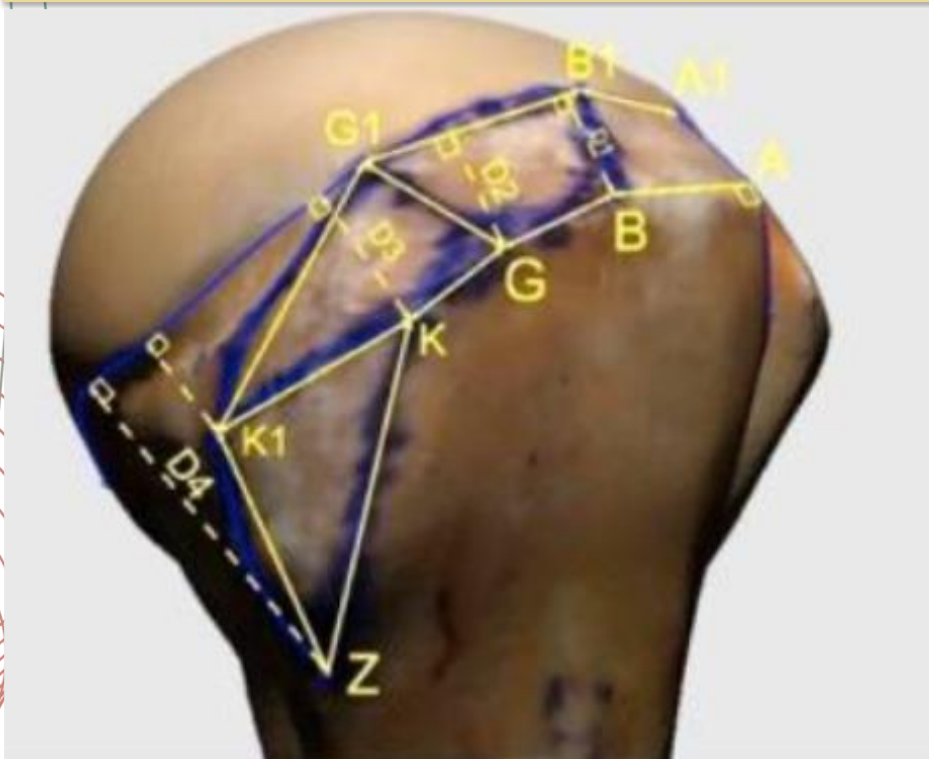
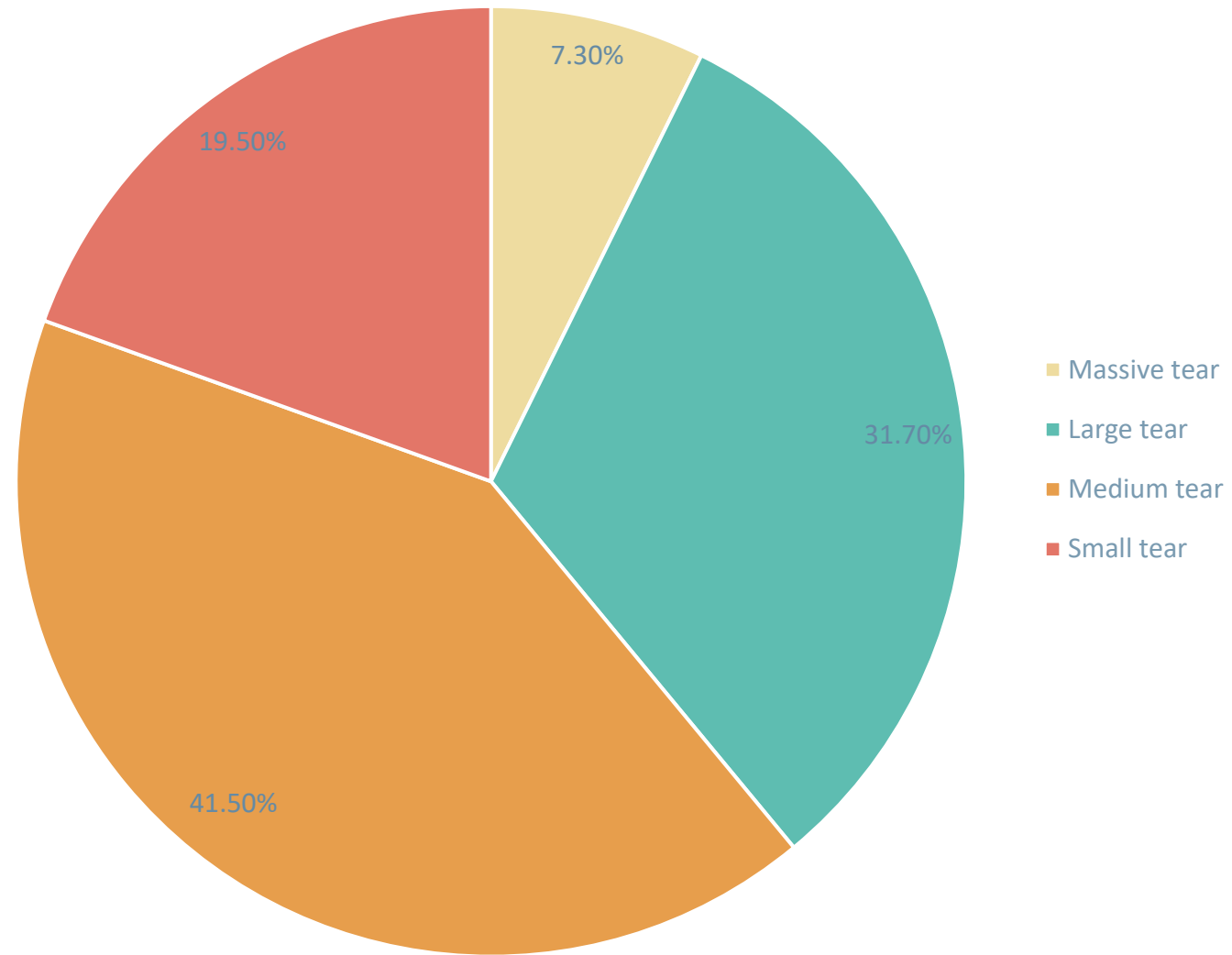


Illustration of the rotator cuff insertion sites and anatomical landmarks on the lateral border of the rotator cuff tendon measured on a cadaver (these points are determined by following the boundaries between the supraspinatus, infraspinatus, teres minor tendons and the outer border of the insertion on the greater tubercles: B, G, K)

Tear classification

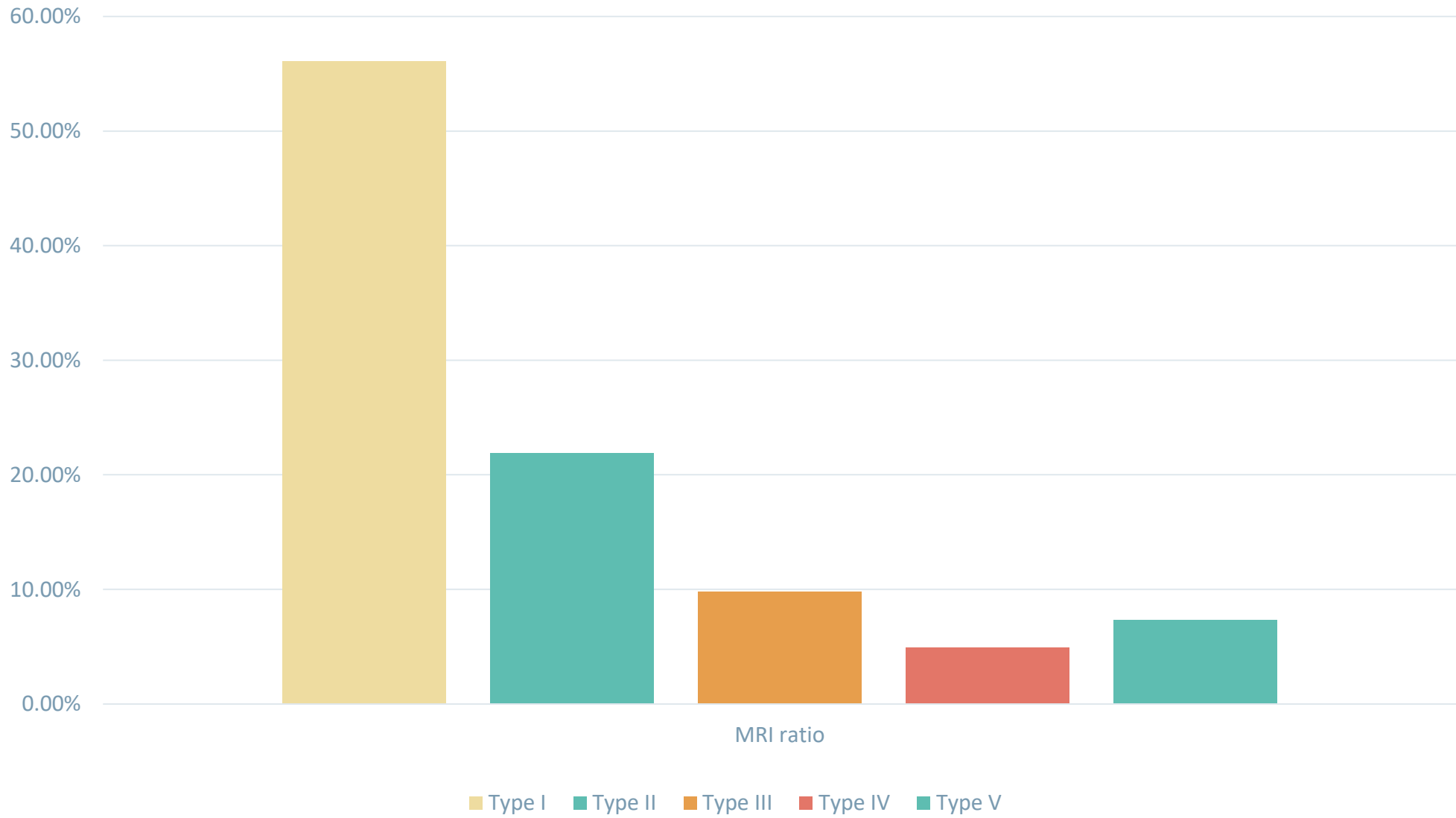


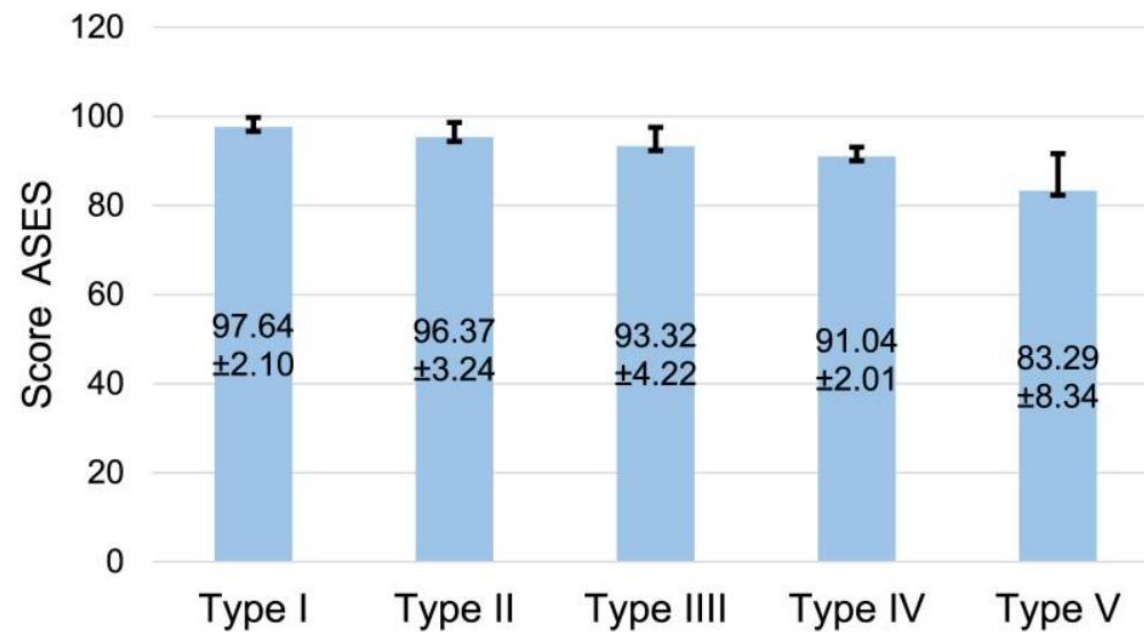
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Post-operative MRI classification





Relationship between postoperative ASES score and tendon healing degree

Average ASES Score	Mean ± SD	Min-max	p
ASES before surgery	30.05 ± 12.26	8.33-70	<0.01
ASES after surgery	95.41 ± 5.45	76.67-100	

ASES score before – after surgery

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