

## The Effect of Type II Slap Lesions Repair Technique on the Length of Intratendinous Vascular Supply in Long Head of Biceps Tendon: A Cadaveric Injection Study

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### Summary:

Repairing techniques of SLAP lesion effect the vascular supply of long head of biceps tendon

### Abstract:

Background: Type II superior labrum anterior and posterior (SLAP) lesions are usually treated with arthroscopic SLAP repair. A vascular supply of proximal long head of biceps tendon (LHBT) passes through soft tissue nearby SLAP repair site.

Objectives: To evaluate intratendinous vascular supply of proximal LHBT resulting from SLAP repair and compare between each SLAP repair techniques.

Methods: Forty-five fresh cadaveric shoulders were divided into 3 major groups: normal, created SLAP and repaired SLAP group. SLAP lesions were repaired using 3 common techniques: two-anchors with simple sutures, one-anchor with double sutures and one-anchor with horizontal mattress suture. Each group had 9 shoulders. India-ink was injected into acromial branch of thoracoacromial artery. Proximal LHBT was resected for histological cross-sectional study. Intratendinous vascular distance was measured and compared between each groups.

Results: The vascular supply of proximal LHBT was seen macroscopically at anterodorsal surface. It derived from soft tissue lying anterior to LHBT origin. In normal shoulder, intratendinous vascular distance was  $16.92 \pm 1.49$  mm (95% CI: 15.78-18.06). There was no significant difference between normal shoulder and created SLAP group ( $P=0.503$ ). By comparing non-repaired SLAP to each repair technique, the technique using two-anchors with simple sutures showed no significant difference ( $P=0.716$ ), while the others showed significant difference disruption of blood supply ( $P=0.0002$ ). There was significant difference between each techniques ( $P=0.0001$ ).

Conclusion: Main vascular supply of proximal LHBT comes from anterior direction. Some techniques of SLAP repair might disrupt the vascularization. The technique using two-anchors with simple sutures, one anchor at 3-mm anterior to anterior boarder and one at posterior boarder of tendon, can preserve vascularization of LHBT.