Case 4
Shoulder Instability

Patient ID: #123456
Visit Type: Day Surgery
Anesthesia: Sedation, Interscalene Block
Procedure Date: 10/05/2024

Preoperative Diagnosis(es):

- Right recurrent anterior inferior shoulder instability
- Right anterior interior labral tear
- Small Hill-Sachs lesion right shoulder
- Large anterior inferior bony Bankart (20%)

Postoperative Diagnosis(es):

- Same
- Unstable bucket-handle SLAP tear involving the biceps tendon
- High-grade partial-thickness tear extending from the bucket-handle SLAP tear into the biceps

tendon

Operative Procedure(s):

1. Right shoulder arthroscopic synovectomy and debridement.
2. Right arthroscopic distal tibial allograft insertion (anterior inferior glenoid)
3. Right shoulder arthroscopic anterior labral repair and anterior inferior stabilization (inferior to superior capsular shift).
4. Mini open extra-articular suprapectoral biceps tenodesis

Plaster Room Note:

» revABR, Remplissage, Arthroscopic Tibial Bone graft – SN suture buttons, BTex

Implants:

» 2 smith and nephew double suture button fixation glenoid bone graft

» 3 1.8 mm knotless all suture fiber tack anchors (anterior labrum)

» 1 2.8 mm Y-Knot RC–biceps tenodesis

Description of Procedure:

» **Right shoulder arthroscopic synovectomy and debridement**

» The patient underwent a preoperative block and general anesthetic, and then positioned in the beachchair position. Preoperative antibiotics and TXA were provided. The patient was prepped and draped in a standard sterile fashion.

» The posterior portal was developed, and an anterior portal established using direct visualization from the posterior portal. Through the posterior portal, a diagnostic arthroscopy was performed. There was a larger degenerative labral tear extending from 2 to 6 o'clock. There was bone loss on the anterior inferior glenoid involving approximately 25% percent of the articular surface and a small Hill-Sachs or indentation of the humerus (approximately 10%). A remplissage procedure was not indicated or required.

» The rotator cuff was intact. There was a large bucket-handle tear of the superior labrum extending into the biceps tendon with a high-grade partial-thickness tear involving the biceps tendon. There is extensive degenerative fraying of the superior labrum and a mop like appearance of the torn aspect of the biceps tendon with significant tendinopathy extending far into the bicipital groove.

» Based on arthroscopic examination, we felt it was necessary to excise the partial-thickness bucket-handle component of the SLAP tear and perform a biceps tenodesis. There was also evidence of high-grade partial-thickness tearing and severe biceps tendinopathy with a strong indication to perform a biceps tenodesis.

» There was degenerative fraying of the labrum which was debrided back to a smooth stable base. A synovectomy and debridement were performed. The labrum was brought back to a smooth stable base.

» **Posterior lateral distal tibial bone graft to anterior inferior glenoid**

» A posterior viewing portal was established, and a lateral working portal was developed. The labrum was elevated off the medial aspect of the glenoid. A bur was used to decorticate the glenoid and develop a bleeding bed of bone to promote healing. A flat edge was established to match the flat surface of the graft.

» The bone graft was then prepared using a fresh frozen distal tibial allograft. We used an arthroscopic probe to determine the amount of glenoid bone loss. 2 drill holes were positioned in the center of the graft 5 mm from the articular surface. We then used a suture passer to shuttle the Smith & Nephew button through the superior drill hole. The button was compressed into the anterior drill hole and secured. The second button was placed in the inferior drill hole and pulled up against the anterior portion of the graft.

» Next though the lateral viewing portal a vapor ablator was used to completely release the anterior capsule and labrum off the glenoid. We also released adhesions between the glenoid and subscapularis. Care was taken to protect the medial neurovascular structures in the axillary nerve inferiorly.

» An arthroscopic bur was used to create a flat surface on the anterior aspect of the glenoid and to gently decorticate and create a bleeding bed of bone to promote healing. The hook was positioned in the center of the bony Bankart defect. Drills and sleeves were inserted from posterior to anterior and then removed leaving cannulas in place. A nitinol wire was then passed from posterior to anterior and was retrieved out of the anterior cannula. The Smith & Nephew button sutures were pulled through the rotator interval and cannulas into the glenoid. They were retrieved out of the posterior aspect of the shoulder. The cannulas were then carefully removed.

» The anterior portal was then dilated. The graft was carefully inserted through the rotator interval and gently manipulated into the appropriate position. The posterior button was loaded on the suture and a modified locking Nice knot was developed over the posterior buttons. The buttons were reduced down onto the posterior aspect of the glenoid. A suture tensioner was then used to tension the construct to 100 N. Excellent compression was obtained and an anatomic congruent reduction of the anterior-inferior bone graft was achieved. Multiple square knots were placed over the buttons posteriorly to reinforce the repair. A subscapularis split was not required.

» **Revision Anterior Stabilization Procedure (anterior/inferior labral repair and inferior to superior capsular shift)**

» Next a cannula was inserted through the rotator interval. I elevated the labrum off the inferior glenoid. A rasp and an arthroscopic bur were used to decorticate the glenoid and to remove a very small amount of the articular cartilage. A luggage strap traction suture was placed over the labrum before releasing it to allow reduction of the labrum and to facilitate repair.

» A 1.8 mm knotless fiber tack anchor was inserted at the 5:30 o'clock position on the native glenoid and a second at the 3 o'clock position. I used Spectrum suture passer to pass a suture at the 6:00 position through the capsule. The capsule was then lifted approximate centimeter and a half superiorly and placed over the graft onto the face of the native glenoid. The self-locking mechanism was tensioned, and secure repair was achieved. This process was repeated with a second anchor at the 4 o'clock position and a third at the 2 o'clock position.

» **Mini-open extraarticular biceps tenodesis**

» Next, a 3 cm incision at the deltopectoral interval developed just distal to the bicipital groove and proximal to the pectoralis major insertion. We identified the cephalic vein and retracted it medially. A combination of Mets and blunt dissection was used to and dissect down to bone and to the bicipital sheath. The sheath was then incised.

» The biceps tendon was released and mobilized carefully. There was some fraying and evidence of flattening and significant tendinopathy at the level of the groove. The tendon was lifted off the bone and we used a curette to create a 3 cm trough and decorticate the anterior aspect of the humerus to promote bone tendon healing. I inserted a 2.8 mm Y-Knot anchor which was loaded with a #2 Hi-Fi suture. A green towel was placed over the arm to avoid contact between the sutures and the skin. This suture was placed through the tendon using a locking Krakow suture and an additional 4 locking sutures. I then passed the other stitch end behind the last stitch loop, to act as a modified Mason- Allen suture. We then used a knot pusher to securely tie multiple half hitches in square knots.

» We achieved excellent fixation of the anchor and excellent fixation of the proximal biceps tendon under the appropriate tension. The stitch ends were then cut, as well as the residual biceps tendon stump. The area was then copiously irrigated. Number 2-0 undyed sutures were used for the subcutaneous layer and Monocryl was used for the subcuticular layer of the biceps incision and the portal sites. Steri-Strips, Bactigras, and gauze were applied. The patient's arm was placed in a sling. He was transferred to recovery room in stable condition.

Upper Extremity Block

Block Type:

- Upper Extremity: **Interscalene**
- Patient Location: **Block Room - Holding Area**
- Laterality: **Right**
- Reason for Block: **Anesthesia in operating room**

Preparation:

- Beachchair Position: **Supine**
- Monitoring: **Blood pressure, continuous pulse oximetry and EKG**
- Prep: **Cap, mask and sterile gloves**
- Provider Prep: **Cap, mask and sterile gloves**
- Supplemental Oxygen: **Face mask**

Needle Selection:

- Needle Type: **Echogenic**

Nerve Location:

- Ultrasound: **Dynamic**

Catheter:

Medications:

- Medications: **Rop.5%, Epi 2.5 mcg/ml (Nerve Block) - Nerve Block 20 mL**
- Insertion Attempts: **1**

Dosing:

- Test Dose: **No**
- Perineural Spread: **Yes**
- Complications: **No**

Progress Notes

Date: 10/05/2024

- **Vital Signs:** Stable
- **Pain Level:** 3/10, manageable with prescribed analgesics
- **Assessment:** Surgical sites dry, intact, no signs of infection
- **Plan:**
  - Continue sling immobilization
  - Prescribe pain management and anti-inflammatory medication
  - Follow-up in 1 week for wound check

Discharge Instructions

- **Activity:** Maintain sling as instructed; avoid lifting with the right arm
- **Pain Management:** Prescribed pain medications, ice as needed
- **Follow-Up:** Clinic visit in one week for wound inspection and evaluation