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IAS NEWSLETTER

In this issue

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Message from the President

Dear Colleagues,

It gives me great pleasure to welcome you to the relaunch of our vibrant monthly newsletter!

Amidst this dynamic phase of growth and transformation, it became clear that our Society needed a powerful and regular platform to share, educate, and inspire. This initiative aligns perfectly with our theme of "Bridging the Boundaries."

We are proud to be led by our newly elected office bearers, who bring fresh energy, innovative ideas, and a unified vision. As we move ahead, it is evident that the collective efforts of our members and leadership can take us farther than ever before.

The year 2025 marks an exciting chapter for us on the international front. Our collaborations with ESSKA and ESSMA are gaining momentum, offering new opportunities for global exposure and meaningful academic exchange—connecting Indian arthroscopy to the world stage.

This newsletter will be much more than just updates. It will be a dynamic platform:

- A chronicle of our achievements
- A voice for our aspirations
- A vibrant resource for education, inspiration, and growth

On behalf of the Indian Arthroscopy Society, I warmly invite each one of you to be an active part of this new journey. Let's make this newsletter a true reflection of the extraordinary energy, expertise, and enthusiasm that defines IAS.

Jai Hind!

Warm regards,

Prof. Arumugam S.

President, Indian Arthroscopy Society

It is not what it seems: Discoid lateral Meniscus with menisco-capsular separation masquerading as a Bucket Handle tear.

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Introduction

The discoid meniscus is a congenital morphological variant of the knee, most frequently involving the lateral meniscus. Unlike the normal semilunar, crescent-shaped meniscus, a discoid meniscus is thicker and more disk-like in shape, often covering a greater portion of the tibial plateau. This abnormality is believed to arise from incomplete resorption of the central meniscal tissue during fetal development.

Clinically, a discoid meniscus can remain asymptomatic and be discovered incidentally during imaging or surgery. However, due to its abnormal shape and biomechanical properties, it is more prone to degeneration, instability, and tearing, particularly in the absence of trauma. Patients with symptomatic discoid meniscus often present with knee pain, joint line tenderness, audible clicking or snapping, and episodes of locking or giving way. The instability may be further compounded by deficient peripheral attachments, particularly in the posterior horn.

Discoid lateral meniscus (DLM) is the more frequently observed variant, with reported prevalence rates spanning from 0.4% to as high as 17%, whereas discoid morphology involving the medial meniscus is extremely uncommon, with its prevalence estimated to fall between 0.06% and 0.3%. Notably, this condition appears more commonly in Asian populations than in their Western counterparts. 15-25% of the population have bilateral involvement.

Case presentation

This is a case of a 21-year-old female patient who presented with pain in the left knee following a history of a slip and fall a month before presentation. She also complained of difficulty walking on that leg and frequent episodes of locking in the left knee. There was no history of any snapping or clicking sounds before the incident.

On examination patient had mild effusion in the suprapatellar pouch and restricted range of motion of the left knee (0°-90°). McMurray's test was positive, with pain localized to the lateral joint line in mid and deep flexion. Other tests for instability (Lachman's, Posterior Sag, Anterior drawer test, and valgus varus stress tests) were all negative.

The MRI of her left knee revealed a loss of the normal bow tie configuration of the lateral meniscus, suggestive of a bucket handle lateral meniscal tear **(Figure 1)**. The patient was planned for diagnostic arthroscopy and meniscal repair.

Figure 1: MRI appearance of the DLM tear.

Diagnostic arthroscopy was performed during which an enlarged lateral meniscus was observed that covered the entire lateral tibial plateau. It was confirmed to be a discoid lateral

meniscus **(Figure 2.a)** Saucerization of the discoid meniscus was performed till a peripheral rim of 8-10 mm was obtained **(Figure 3 a)**. The probe was used to test the integrity of the lateral meniscus, and it was found to have a meniscocapsular separation involving the entire body and the posterior horn **(Figure 2 b & c)**. The posterior and anterior roots were well attached.

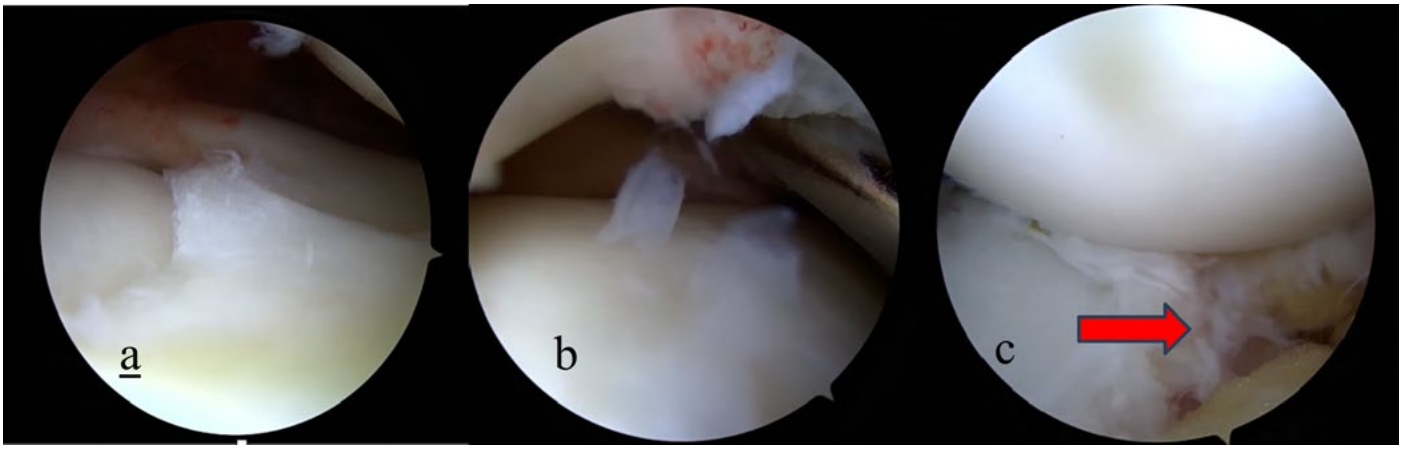

Figure 2: (a) Discoid Lateral meniscus (b) Posterior menisco capsular separation (c) Anterior menisco capsular separation

The meniscocapsular separation was stabilized first with a outside-in sutures (Fibrewire) in a vertical mattress fashion for the meniscal body, one outside in suture using a scorpion device for the anterior horn and an all-inside FiberStitch (Arthrex) implants for the posterior horn. As there was very little substance left in the anterior horn, two outside in sutures were taken using a Knee Scorpion (Arthrex) and tied on anterior aspect of tibia using a Push lock anchor(Arthrex). Two more outside-in sutures were then taken in the middle third and securely tied just outside the capsule by using a safety incision on the lateral aspect of the knee. Two more all inside implants were used to stabilize the posterior third. **(Figure 3 b-h)** The rest of the diagnostic exam did not find any other structural abnormalities.

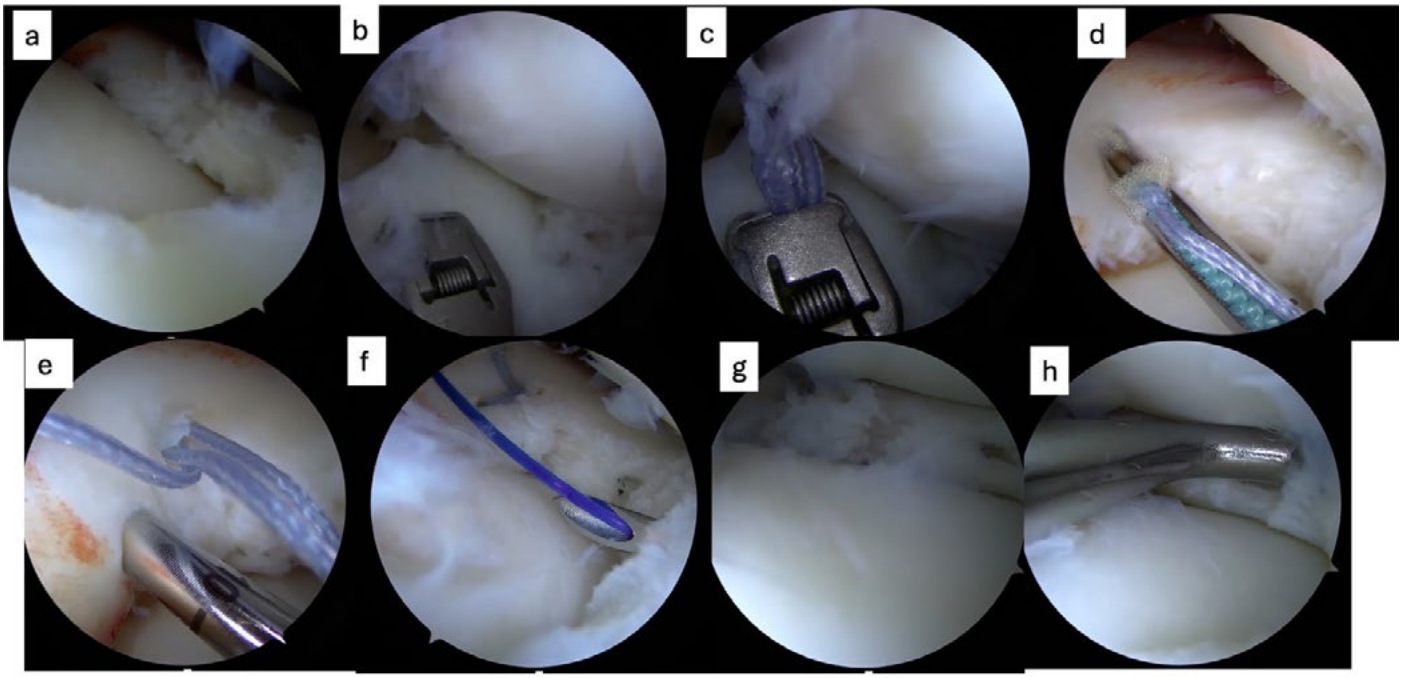

Figure 3: (a) Saucerization (b,c) Anterior horn stabilization with outside in sutures (d,e) Posterior horn stabilization with all inside device (f) outside in sutures for middle third (g,h) Final appearance and stability

Postoperatively, the patient was started on knee range of motion exercises using a knee ROM brace from 0°-60° for the initial 2 weeks. She was advised non-weight-bearing walking and other strengthening exercises. The knee range of motion was gradually increased over the next 6

weeks. Partial weight bearing was started at 4 weeks and transitioned to full weight bearing without brace at 6 weeks postoperatively. At the last follow-up of 3 months patient had a full range of motion and had resumed all her routine activities and was planning to restart her Yoga practice **(Figure 4)**

Figure 4. Full Knee ROM at 3 months follow up

Discussion

Discoid lateral meniscus (DLM) continues to challenge clinicians with its varied presentations and propensity for mechanical symptoms, especially in younger patients. While often asymptomatic, trauma can unmask latent structural vulnerabilities, resulting in symptomatic tears or instability. This case adds to the growing body of evidence emphasizing the need for heightened suspicion and precise intraoperative assessment in atypical presentations of lateral meniscal pathology.

DLMs can undergo degenerative changes or develop peripheral detachment due to chronic micro instability. Kim et al. in their study on the peripheral rim instability in both normal and discoid lateral menisci (DLM) discovered that DLMs exhibited significantly greater instability at the anterior and posterior horns compared to normal lateral menisci. This increased instability at the horns may contribute to the higher susceptibility of DLMs to meniscal tears.

One of the notable complications associated with the discoid meniscus is the peripheral detachment or meniscocapsular separation—a condition where the meniscus becomes detached from the joint capsule, typically involving the posterior horn. It is an important yet potentially underrecognized pathology, especially in the setting of a discoid meniscus, where the aberrant shape can obscure clinical and radiological assessment.

Once the discoid meniscus and the peripheral detachment is identified, the meniscus should first be reduced, then saucerization performed to reduce the bulk and obtain a peripheral rim of adequate width. This is followed by the repair for the meniscal tear. Repair can be performed using inside-out, outside-in, or all-inside techniques tailored to the location and extent of the tear.

Keywords: Discoid meniscus, Meniscocapsular separation, Arthroscopic meniscal repair, Saucerization

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Muscle Advancement can convert an Irreparable rotator cuff tear to a reparable one: a case report

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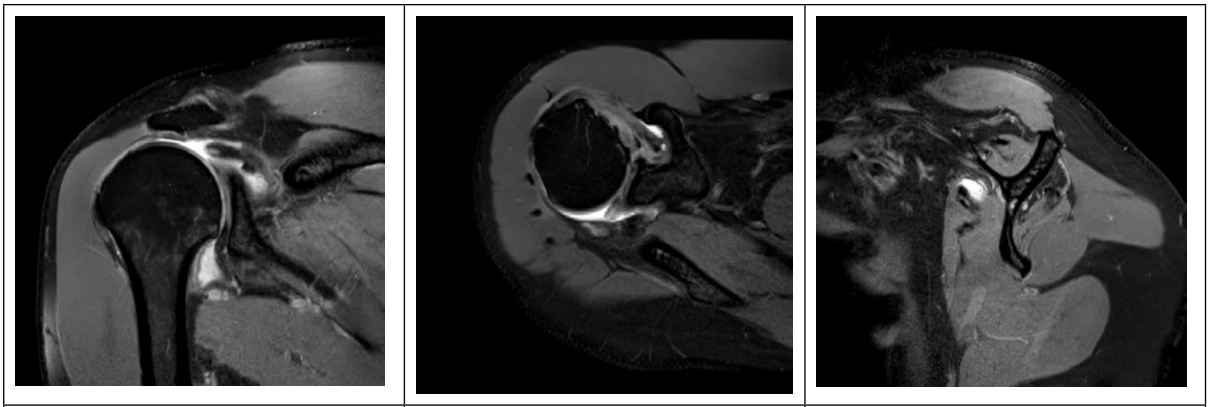
Posterosuperior massive retracted cuff tears are associated compromised results after repair. This is due to multiple factors including chronicity of tear leading to contraction of the muscle bellies producing tension in the repair, fatty infiltration and neurological weaknesses. Medial retraction increases re-tear rates1 and when the retraction is up to glenoid (Patte' 3) alternative techniques are advocated like partial or medialized repairs, superior capsular reconstruction or tendon transfers. There is a subset of patients where the chronicity produces contraction of the posterosuperior cuff muscles and repair is difficult, but there isn't significant fatty infiltration of the cuff muscles (Goutallier 3 or less).

Muscle advancement was proposed Debeyre J et al2 in 1965 but it was a massive open surgery requiring acromial osteotomy. In the modern world of minimally invasive techniques surgeons like Morihara and A Gupta3,4 modified this to an arthroscopic technique which allows the muscle slide procedure through minimally invasive portals.

Case Presentation

The cased discussed is a 53 year old Bank employee who had weakness of the right shoulder joint for 18 months, which had aggravated in the last 3 months before presentation to us. Clinical examination revealed a drop arm sign and reduced external rotation power. The subscapularis power was maintained. Passive range of motion was retained to near normal in all directions. The radiographs revealed reduced subacromial space, but with no significant subacromial degenerative findings. MRI scans showed the supraspinatus and infraspinatus to be detached from their original footprints and retracted to the level of the glenoid. The tendons of supraspinatus and infraspinatus were found to be preserved and longer than 2cm. There was no significant fatty infiltration of the supraspinatus and infraspinatus (Fig. 1) as demonstrated in the T1 sagittal MRI images, and there was not significant cartilage lesion in the glenohumeral joint.

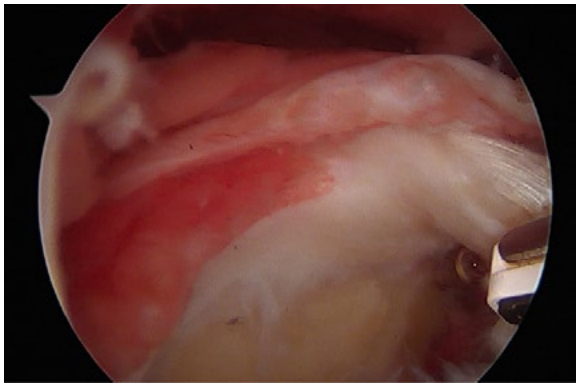


1A: Coronal image showing Patte' 3 chronic retraction of supraspinatus	1B: Infraspinatus tear demonstrated on the Axial image	1C: Goutallier 1 fatty infiltration and occupancy of 80% in Sagittal T1 image

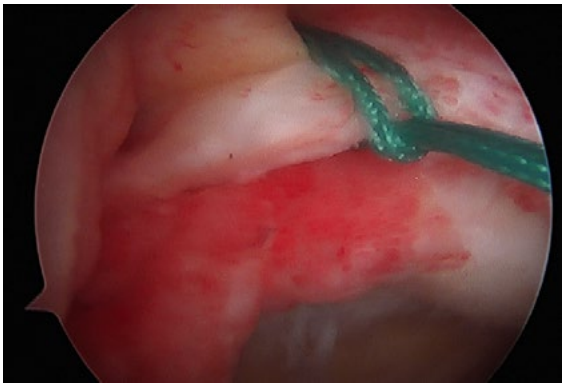
Fig. 1: MRI images in the pre-operative period

The patient is positioned in beach chair orientation, with the posterior aspect of the shoulder joint exposed up to 2 cm medial to the medial border of scapula. The bony landmarks are marked to delineate the borders of the scapula including the scapular spine (Fig 4).

A diagnostic arthroscopy confirmed the MRI findings of the retracted supraspinatus and infraspinatus tears, and preserved tendons of the cuff muscles. Even after application of traction sutures (Fig 2), the tendons were not translating more than a few millimeters laterally. Thorough release of the tendons was done on their upper and lower surfaces, in an attempt to mobilize them. Although this yielded some translation, the tendons were just reaching the medial end of the footprint over the greater tuberosity. The option now was either to do a compromised medialized single row repair of supraspinatus and infraspinatus or resort to a muscle advancement. The upper subscapularis showed a Lafosse 2 type tear which was repaired using a suture anchor.



2A: Massive retracted supraspinatus and Infraspinatus

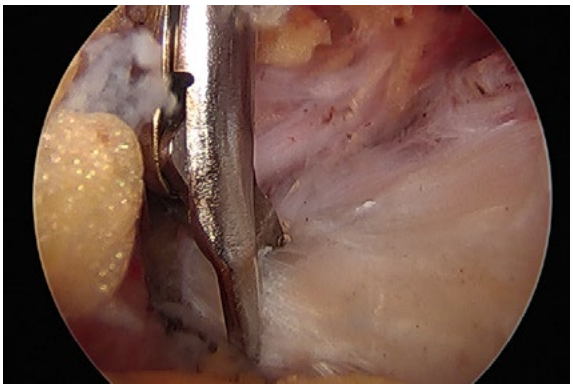


2B: The rotator cuff tendon not moving from their supraglenoid position even after application of traction sutures (No.2 polyester sutures used)

Fig. 2: Arthroscopy Images of the Massive Retracted cuff

The suprascapular nerve release was done (Fig 3) viewing from the posterolateral portal and using the suprascapular nerve portal which is 2cm medial to the Neviaser portal on the superior aspect of the shoulder joint. This an important step to prevent kinking and compression of the suprascapular nerve in the suprascapular notch (under the transverse scapular ligament), when the contracted supraspinatus and infraspinatus muscle bellies are translated laterally [2,4]

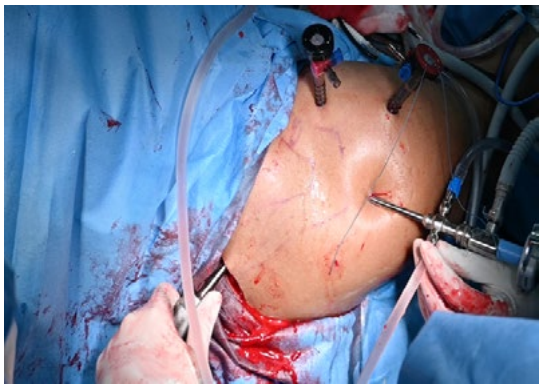
Instrument in Suprascapular nerve portal for nerve release



Release of the Transverse scapular ligament

Fig. 3: Suprascapular nerve release

The muscle advancement incision is made 2cm medial to the base of the scapular spine, about 2 cm long vertically, large enough to allow passage of a finger (Fig. 4). The accessory nerve passes 4cm medial to the medial border of scapula and it is prudent not to make the incision more medially. Longitudinal incisions 10mm long are made on the fasciae over the supraspinatus and infraspinatus adjacent to the area where the scapular spine meets the body, on the medial border of the scapula. An A Cobb's elevator is introduced through the incision into the supraspinatus and infraspinatus fossae, to elevate the respective muscle bellies from their anterior attachments to the scapula. Care is taken to complete this elevation from the superior and inferior surfaces of the spine of scapula to complete the muscle release and facilitate the slide.

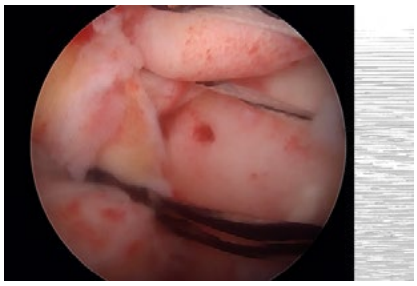


4A: Incision over medial border of scapular for the elevation of the supraspinatus and infraspinatus from their respective fossae. Cobb elevator inserted

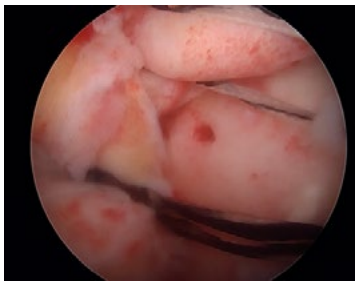
4B: Sutured incisions

Fig. 4

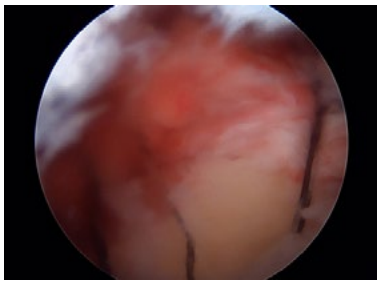
Arthroscopic examination following the muscle slide demonstrates an adequate lateral translation of the rotator cuff tendons (Fig. 5A) and a near full coverage of the rotator cuff footprint. This facilitated a double row repair using suture anchors (Fig. 5B) with excellent footprint compression to enable an anatomical healing of the posterosuperior rotator cuff. The portals are closed using No. 2-0 nylon sutures (Fig. 5C).



5A: Rotator cuff covering the foot print after muscle advancement releases



5B: Double row repair of the Rotator cuff



5C: Completed double row fixation with complete footprint coverage

Fig. 5

Post-operatively the shoulder joint is kept in an arm sling for a period of 6 weeks, facilitating healing of the translated supraspinatus and infraspinatus muscles to their respective fossae, allowing passive movement as per the protocol for after-treatment of a massive rotator cuff repair. Rotator cuff strengthening is initiated at 12 weeks and heavy lifting only after 6 months, after adequate strengthening is completed.

MRI scan at 6 months showed good footprint healing of the rotator cuff tendons, with increased subacromial distance compared to preoperative status (Fig. 6).

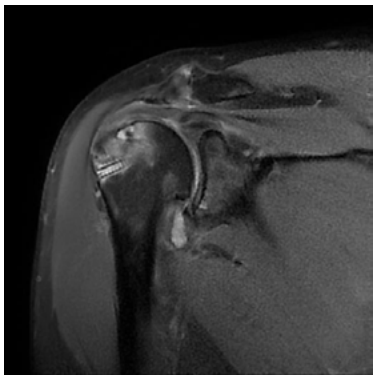
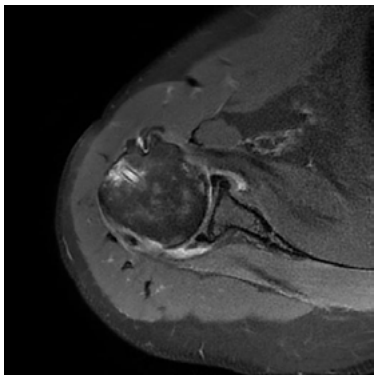
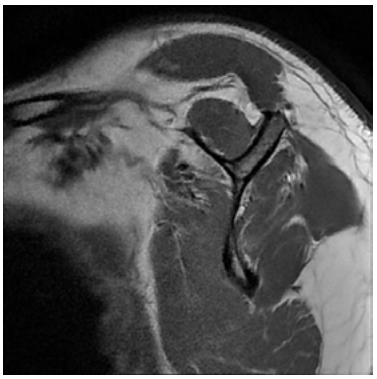
		
6A: Coronal view showing good footprint healing of the supraspinatus	6B: Infraspinatus healed to lesser tuberosity	6C: Good occupancy of the rotator cuff tendons without any significant fatty infiltration

Fig. 6

The patient showed good functional outcome with Constant score improving from 29 pre-operatively to 92 at 6 months and the ASES (American Shoulder and Elbow Surgeons) score improving from 13.34 pre-operatively to 93.3 at 6 months post-operatively (Fig. 7)

		
7A: Forward flexion	7B: Internal rotation	7C: External rotation
		
7D: Muscle advancement scar on the posterior aspect of scapula	7E: Deltoid bulk maintained	7F: Empty can power

Fig. 7

Discussion

The muscle advancement can convert a massive retracted irreparable rotator cuff tear with good tendon and muscle bellies into a reparable one. A compromised medialized repair of the supraspinatus tendon is often required in such scenarios and this could have been related to a high re-tear rate and inadequate functional improvement. After the muscle advancement a translation of the tendons by 4-5 cm is possible and this allows a good double row repair and good footprint compression and optimal healing of the rotator cuff tendons.

As this is a few decades old procedure there are proven long term results and functional outcome studies2. The modern arthroscopic technique of muscle advancement has allowed more accurate visualization of the suprascapular nerve and muscle bellies, thereby making this a safe and reproducible technique.

Although the attachments of the supraspinatus and infraspinatus are released from the scapular blade, the dorsal fascial attachment are retained. This allows a controlled lateral translation checking the footprint coverage in a step-wise fashion.

The potential complications are injury to suprascapular nerve and accessory nerve, but careful adherence to anatomy and good arthroscopic skills will negate this concern allowing a good tension free double row repair of a massive retracted posterosuperior rotator cuff tear.

Conclusiont

Arthroscopic muscle advancement can produce an excursion of 4-5cm of a chronic retracted rotator cuff tear and convert a massive retracted irreparable rotator cuff tears, with good muscle mass and good tendon, to a reparable one.

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