

IAS NEWSLETTER



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Indian Arthroscopy Society

In Association With

Arthroscopy Society Nagpur

360 Degree Knee Restoration

Date & Time: 29th May (9:00 to 5:00 PM)

Venue: Hotel Radisson Blu, Nagpur

On 29th May 2022, Arthroscopy Society Nagpur under the aegis of the Indian Arthroscopy Society successfully conducted one day CME - 360deg Knee Restoration.





- It was attended by 100 delegates from all around Central India like Nagpur, Ankola, Amaravati, Yavatmal, Chandrapur, Raipur, Bilaspur, Bhopal, Jhansi, etc.
- We had Two ACL live surgeries, one performed by Dr Mukesh Laddha - single tunnel rectangular ACL reconstruction and the other was done by Dr Shreyas Gajjar - All inside ACLR Reconstruction with an internal brace.
- It covered all aspects of knee preservation like meniscus repair, cartilage restoration, alignment correction and Multi ligament reconstruction. It was very interactive and it generated a lot of discussion from delegates.
- Dr Sachin Tapsavi, Dr SR Sundararajan, Dr Rajeev Raman, Dr Shreyas Gajjar and Dr Sandip Biraris were invited as guest faculties and the rest were regional faculties.

EXPERT TALK

PARTIAL CUFF TEAR - REHABILITATE/ OPERATE?



Dr K N Subramanian
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Velammal Medical College, Madurai

Highlights:

Asymptomatic partial-thickness cuff tears: No Surgery

Symptomatic partial-thickness tears, Partially decompensated- Surgery only if Rehab fails

Rehab:

Improvement in a good proportion of patients with a Risk of tear progression & muscle atrophy

Repair:

Good healing and outcome with risk of surgery-related complications.

Planning rehab is the key to a good outcome

Patient counselling explaining realistic outcomes in necessary

A RARE CASE SCENARIO- ASSOCIATION OF POSTEROLATERAL OSTEOCHONDRAL INJURY WITH PCL AVULSION, ACL TEAR AND LATERAL MENISCUS INJURY



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Dr. Sachin Saoji
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Consulting Orthopedic Surgeon

Abstract:

Association of posterolateral osteochondral (OCD) injury with multi-ligamentous knee injury (MLKI) can be a devastating injury which often results in long-term knee instability, loss of function and early osteoarthritis. For

such patients, paucity of literature persists on management of such injury for better outcome. This case critically demonstrates an attempt to manage the patient with such rare scenario with the best options for early recovery.

Introduction:

The osteochondral defects or injuries in knee dislocation are rare. Osteochondral defects are more commonly occurs in patellar dislocation rather than in knee dislocation. In patients with knee dislocation, multi-ligamentous injuries are most common without an evidence of osteochondral injury. However, there is paucity of literature available on occurrence of both- OCD and MLKI together.

OCD with multi-ligamentous knee injury (MLKI) with meniscus injury is a rare but serious injury of the knee. Mechanisms of injury often involve acute knee dislocation secondary to high velocity trauma (i.e., motor vehicle accident) (1). Early care management involves critical assessment of soft tissue integrity and patient neurovascular status as both peroneal nerve and popliteal artery are at risk (2).

Management of such patient includes pre-operative and operative management, and post-operative rehabilitation as to best restore function and articular mobility and strength. Operative timing and technique, staged surgeries with the aims of restoring patient function, knee range of motion, and stability are important factors to be taken under consideration.

Citation for this article: Shripad Joshi, Aniruddha Patil, Sachin Saoji. A rare case scenario-association of posterolateral osteochondral injury with PCL avulsion, ACL tear and lateral meniscus injury. IAS Newsletter-14,2022;2(6):5-8. doi:<https://doi.org/10.17613/sk81-2z85>

Case Report:

A 19 years old female named Kaveri Aher came to our hospital with chief complaints of pain and swelling over her left knee for 6 days with a history of knee dislocation following a road traffic accident (RTA).

Surgical technique:

The patient was primarily managed in an outside hospital with closed knee reduction and an above-knee slab was given as told by the patient herself. No documentation and x-rays were available with the patient. On local examination extensive swelling with posterior sag was present; tenderness was present over the posterolateral joint line. Contused lacerated wound (CLW) of size 2X1 cm was on the medial aspect of the knee sutured at outside hospital. The patellar tap was positive. Distal pulses were well felt without any neurovascular deficit. Special tests were avoided due to pain. Post reduction x-ray suggested a posterolateral tibial bony fragment. MRI suggested of PCL avulsion with complete ACL tear with lateral meniscus avulsion with a displaced posterolateral osteochondral fragment(Fig 1).

Discussion:

The indications for non-operative management, in this case, are very few, as most patients will require surgical management. Early reduction, followed by rehabilitation focused on optimizing range of motion and muscle strength yields the best outcomes.

Most orthopaedic surgeons would recommend surgical treatment in absence of significant contraindications.

Ligamentous repair is usually performed during the acute injury phase, typically defined as <3 weeks after injury, since tissue planes are more easily identified and are of sufficient integrity to allow re-approximation without retraction and holding of sutures (3). Reconstruction is preferred after 6 weeks.

After routine blood investigations and anaesthesia fitness, Diagnostic Left Knee Arthroscopy was performed in supine hanging leg position. On diagnostic arthroscopy large posterolateral tibial osteochondral defect was confirmed with lateral meniscus avulsion from menisco-capsular junction. Lateral meniscus avulsion repair was done with outside-in-technique using Vicryl 1-0 and 18 G spinal needle.

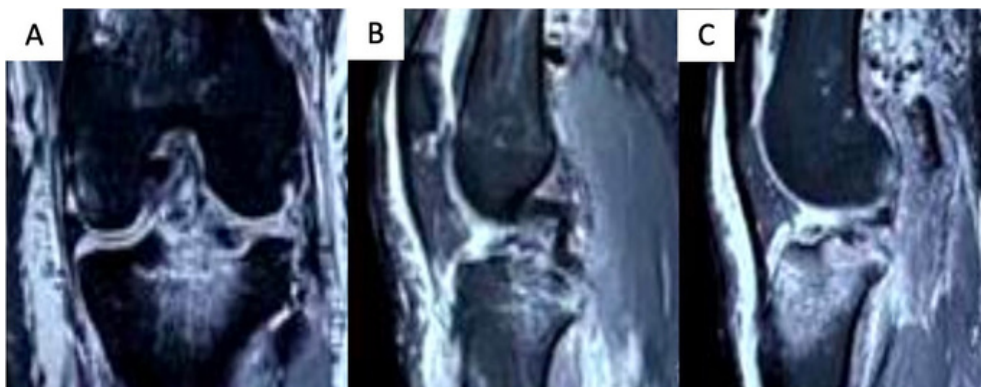


Fig 1: A: Avulsion of lateral meniscus posterior horn, B: ACL tear with PCL avulsion, C: Displaced large posterolateral osteochondral fragment in the gastrocnemius muscle

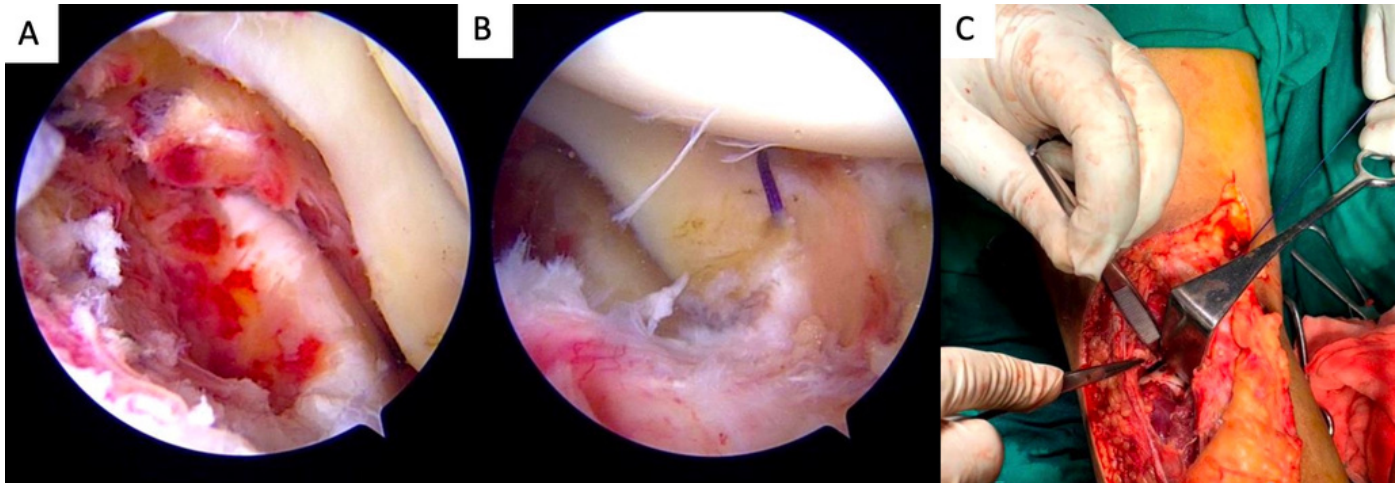


Figure 2: A: Posterolateral tibial osteochondral defect, B: Meniscal repair using Outside in technique, C: Open fixation of the posterolateral fragment.

Later, patient was made prone for open reduction internal fixation of posterolateral osteochondral defect using two cortical screws of size 2.5 and PCL avulsion repair using 5mm double loaded anchor suture via posterolateral approach. The patient was advised extensive physiotherapy for 6 weeks. Operative treatment and physiotherapy yielded higher Lysholm score (80)(Fig 2).

After 6 weeks, patient was re-evaluated. Patient was able to walk with complete weight bearing without pain. Patient was having flexion upto 110-120 degrees and complete extension and she was able to sit with cross legs. But still she had instability on rapid walking. Now second staged Arthroscopic ACL reconstruction was performed. Physiotherapy was initiated immediately

Patient had complete extension, cross leg sitting and ability to squat without support. Second stage surgery and physiotherapy yielded excellent Lysholm score (90)(Fig 3 & Fig 4).

In our case, there was a rare association of posterolateral osteochondral tibial defect with PCL avulsion with complete ACL tear with Lateral Meniscus tear in knee dislocation. In literature, thorough data is available on multi-ligamentous injury in a knee dislocation but without osteochondral injuries. In literature, data on posteromedial osteochondral injury of medial plateau with PCL tear is available but we have not come across a case posterolateral osteochondral injury of lateral tibial plateau with PCL avulsion with ACL tear with Lateral Meniscus tear .

Most of the techniques of open PCL avulsion fixation are based on screw fixation and suture pull out techniques with good outcome.



Figure 3: Post Operative Radiographs after two stage surgery



Figure 4: Post operative Range of movement at 3 months after two stage surgery

In our case we performed open PCL avulsion fixation using 5mm double loaded suture anchor. The outcome was equivalent to conventional techniques with an advantage of avoiding intra op complication such as crushing of avulsed PCL fragment in screw fixation, difficult and time consuming procedure of suture pull out technique. In our case, ACL femoral tunnel was more posterior than ideal position but patient did not have any major complication. In second staged arthroscopy, we found lateral meniscus was completely healed and stable with synovialization of vicryl suture.

Conclusion:

The most confident conclusion that can be made after careful analysis of our case is that optimal operative strategy is most likely closely dependent on injury characteristics. It appears that acute repair of PCL avulsion fracture and rigid fixation of osteochondral defect with staged ACL reconstruction has given stable, pain-free and mobile knee joint.

Optimal operative timing also depends on injury characteristics however it is not clear. There appear to be more evidences which support early and staged intervention. This may reflect the fact that the surgeon has more flexibility in the techniques he can use if an acute and staged intervention is incorporated.

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SNAPPING SCAPULAR SYNDROME DUE TO RECALCITRANT SCAPULA-THORACIC BURSITIS WITH SCAPULAR DYSKINESIA



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Abstract:

The Snapping Scapula Syndrome (SSS) characterized by palpable/audible crackling sensation over scapula during scapulothoracic movements. Etiology can be osseous lesions in and around scapula or scapulothoracic bursitis. Conservative treatment has to be tried initially in cases of symptomatic scapulothoracic bursitis for 3-6 months and surgical treatment is viable option in cases of refractory and recalcitrant bursitis either open or arthroscopically. This case report highlights on arthroscopic bursectomy of scapulothoracic bursitis after failed conservative treatment.

Introduction:

The Snapping Scapula Syndrome [SSS] is also known as washboard syndrome, scapulothoracic syndrome or scapulocostal syndrome is manifests as audible or palpable clicking of the scapula during movements of the scapulothoracic joint with pain. They are known to be underdiagnosed and hence probably underreported [1]. SSS is caused by either osseous lesions or soft tissue causes secondary to scapulothoracic bursitis where biomechanical abnormalities of the scapulothoracic joint may lead to symptomatic inflammation of these bursae in and around the scapula. Osseous causes include anatomical variations in scapular morphology involving superomedial angle of scapula angle ($<142^\circ$), scapular exostoses,

Luschka's tubercle, scapular malunion or healed rib fractures, Sprengel deformity or scapular dyskinesia which in turn can be due to various articular, musculoskeletal or neurological causes around the shoulder. Soft tissue causes of SSS include chronic inflammation of scapulothoracic bursae which include infraserratus or supraserratus or trapezoid bursae around the scapula[2,3]. This case report highlights on SSS causes by recalcitrant scapulothoracic bursitis and how the patient was treated successfully arthroscopically after failed conservative management.

Case:

26 year old male presented with crackling sensation/sound with pain along scapular border over 7 years on left side. Symptoms were insidious onset, gradually progressive and no obvious trauma. On examination there were multiple palpable swellings along the medial border of scapula[Fig 1A]. Tenderness was present at superomedial, spine and inferomedial margin of scapula.

There was crepitus on forward flexion of the shoulder and scapular rotations. There was pseudo-winging and scapular dyskinesia as well. However, there was no coracoid tenderness, shoulder instability or tenderness in any other part of the shoulder. There was no distal neurovascular deficit. Radiography was normal and Magnetic Resonance Imaging(MRI) showed inflammation of infraserratus bursa at superomedial and inferomedial angle of the scapula and trapezoid bursa at base of spine of scapula with inflammation all along medial border of scapula[Fig 1B-D].

Diagnosis of SSS made due to scapulothoracic bursitis with Scapular dyskinesia. Patient was given a conservative treatment for nearly six months which included non-steroidal inflammatory drugs, local ultrasound with short wave diathermy and physiotherapy of periscapular muscles particularly focussing on scapular retractors. However patient was unresponsive to the treatment and was planned for arthroscopic bursoscopy and bursectomy of inflamed bursae after six months of rehabilitation. In prone

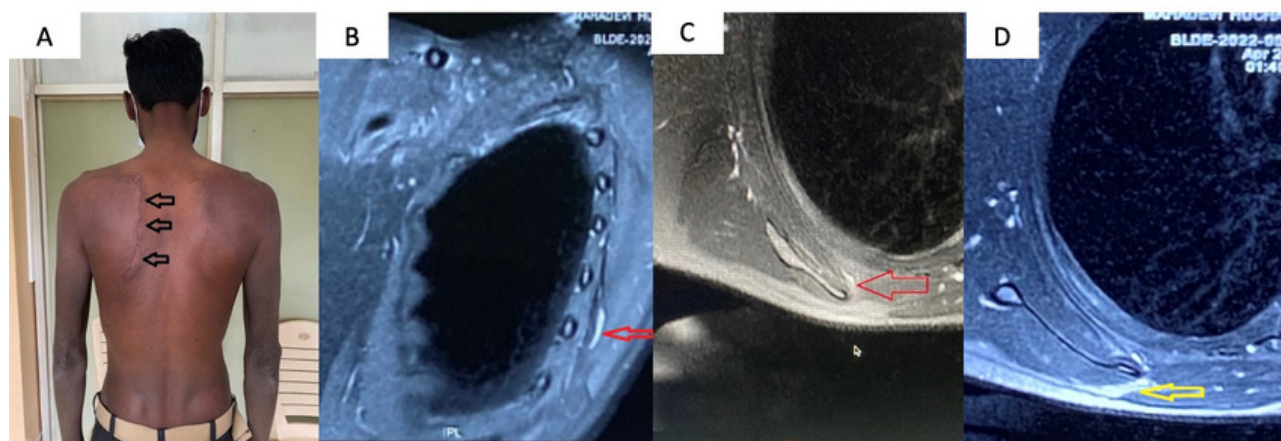


Fig 1: Clinical & MRI images depicting Snapping Scapular syndrome. A: Clinical image showing multiple palpable swellings along medial border of scapula(arrows) B, C & D: MRI showing infraserratus (red arrows) and trapezoid bursitis (yellow arrow)

with arm in chicken winged position, two portals were made 3 cm medial to medial border of scapula, one just below the level of spine of scapula for arthroscope and one 5 cm below to that for instrument [Fig 2A]. Using radiofrequency ablator and shaver, inflamed bursae was resected which was thick, fibrinous with lot of fibrin strands [Fig 2B, 2C]. Postoperatively patient was given sling for two weeks and started on rehabilitation 5 days after surgery. At six months postoperative, patient was completely relieved of snapping around the scapula with no palpable/audible clicking sounds with complete painfree movements of shoulder [Fig 2D].

Discussion:

SSS typically affects young active patients present with pain and palpable, audible crepitus during overhead activities including shrugging of shoulders. SSS may result in scapular dyskinesia or SSS may be a consequence of scapular dyskinesia and this constellation of similar pathologies may result in SICK scapula in severe cases (Scapular malposition, Inferomedial prominence of scapula, Corocoid.

tenderness and Scapular dyskinesia)[4]. However, clinically we also need to be differentiate pseudowinging of scapula from true winging wherein pseudowinging results from compensatory lifting of scapula from ribcage to avoid pain[5]. Also pathological snapping needs to be distinguished from physiological snapping where latter is painless crepitus during scapulothoracic movements and former is symptomatic bursitis with pain with or without crepitus[5]).

Management of SSS includes trial conservative treatment for 3-6 months duration.

Rehabilitation includes stretching out tighter muscles around the scapula which are pectoralis minor and major, levator scapulae, upper trapezius, latissimus dorsi, sternocleidomastoid, rectus capitis, and scalene muscles. Also weakened muscles have to be strengthened which includes rhomboids, mid and lower trapezius, serratus anterior, teres minor, infraspinatus, posterior deltoid, and longus colli or longus capitis.

Trial of corticosteroid injections too can be given if SSS is secondary to symptomatic scapulothoracic bursitis.

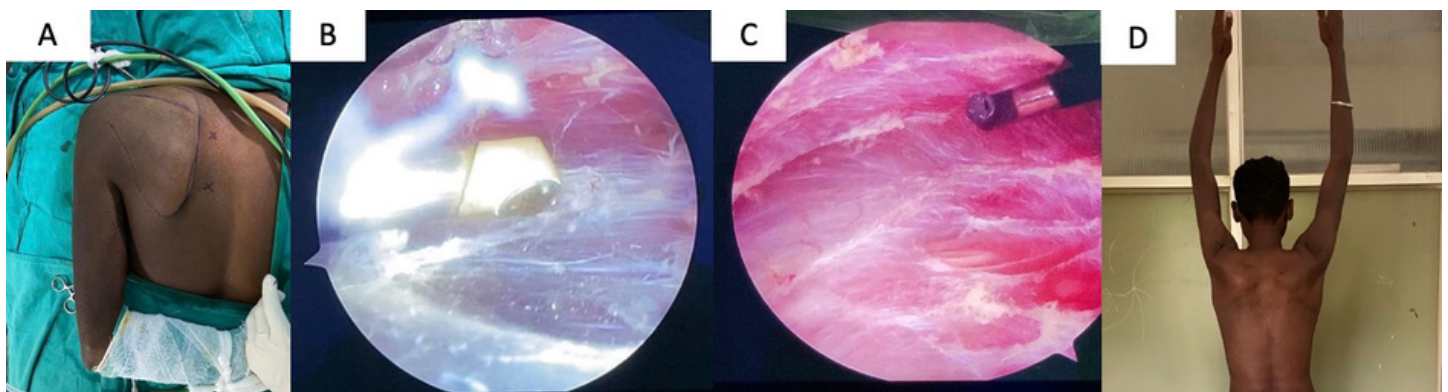


Fig 2: Intraoperative & Postoperative images. A: Patient positioned in prone position and limb in chicken wing position with portals marked (X).

B: Arthroscopic picture of thick fibrinous infraserratus bursa with fibrinous strands. C: Arthroscopic picture after complete resection of infraserratus bursa with clear space between muscle planes. D: Six-month postoperative image with no palpable/audible sounds on the left medial border of scapula with full shoulder movements.

In case of failed conservative treatment for 3-6 months surgical treatment is viable option in symptomatic scapulothoracic bursitis[6]. Surgical options include open or arthroscopic scapulothoracic bursectomy with or without resection of superomedial angle of scapula. Arthroscopic release of tighter pectoralis minor too has definitive role in cases of scapulothoracic abnormal motion or scapular dyskinesia resulting from tight pectoralis minor and weak serratus anterior[7]. However in our case, there was no pectoralis minor tightness as evidenced by absence of corocoid tenderness and therefore pectoralis minor release was not necessary.

Conclusion:

Arthroscopic Bursoscopy and bursectomy is a useful surgical procedure in recalcitrant scapulothoracic bursitis with failed conservative management.

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