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A Progressive Physiotherapy Rehabilitation Approach For A Grade I Subscapularis Muscle Tear In A Recreational Tennis Player: A Case Report

Dr.Y.Nissee Neelima Raj

Associate professor

Shadan college of Physiotherapy

Abstract

A 41-year-old male an IT Professional and a recreational tennis player presented with acute onset right-shoulder pain, associated with difficulty in lifting his arm and placing his hand into his back pocket. He reported severe night pain affecting sleep. The patient had no history of diabetes, hypertension, or thyroid disorders. Clinical examination and special tests revealed a positive Lift-Off Test, indicating involvement of the subscapularis muscle. Findings were consistent with a Grade I subscapularis muscle tear. Pain severity was rated 9/10 on the Numeric Rating Scale (NRS). Baseline shoulder range of motion (ROM) showed abduction at 90°, flexion at 90°, internal rotation at 30°, and external rotation at 50°.

A structured 4-week physiotherapy rehabilitation program was implemented with weekly progression. Week 1 focused on isometric exercises and basic strength training. Week 2 included continued isometrics combined with scapular muscle stretching, massage therapy, and TENS for pain relief. Week 3 emphasized stretching and mobilization of the scapular and rotator cuff muscles. Week 4 progressed to resisted strengthening exercises using dumbbells and barbells.

Following the intervention, the patient demonstrated significant clinical improvement. Shoulder ROM increased to 180° abduction, 180° flexion, 70° internal rotation, and 70° external rotation. Pain intensity reduced to 2/10 on the NPRS, and the patient reported restored sleep quality and functional ease with daily activities. This case highlights the effectiveness of a progressive, structured physiotherapy protocol in managing Grade I subscapularis muscle tears in active individuals.

Introduction

Rotator cuff-related shoulder pain is a common musculoskeletal condition, particularly among individuals participating in overhead sports such as tennis. While supraspinatus and infraspinatus injuries are frequently reported, subscapularis muscle tears—especially isolated low-grade tears—are less common but can significantly impair internal rotation strength and functional activities such as reaching behind the back.

The subscapularis, being the largest and strongest rotator cuff muscle, plays a key role in glenohumeral stability and internal rotation. Minor tears can lead to substantial pain, weakness, and sleep disturbance. Early diagnosis and structured physiotherapy rehabilitation are essential for optimizing recovery and reducing the risk of chronic dysfunction.

This case report describes the clinical presentation, management, and outcome of a 41-year-old recreational tennis player with a Grade I subscapularis muscle tear, emphasizing the role of a progressive, targeted physiotherapy program.

Case Presentation

Patient History

A 41-year-old male recreational tennis player presented with acute right-shoulder pain following a forceful overhead serve. He reported difficulty lifting the arm and performing functional tasks requiring internal rotation, such as placing his hand into his back pocket. Night pain was severe, interrupting sleep. The patient denied systemic conditions such as diabetes, hypertension, or thyroid disorders.

Clinical Examination

On observation, mild swelling and guarding were noted around the anterior aspect of the shoulder. Palpation revealed localized tenderness near the lesser tuberosity.

Special Tests:

- **Lift-Off Test:** Positive
- **Bear Hug Test:** Mild pain but no significant weakness
- **External Rotation Lag Sign:** Negative
- **Neer and Hawkins Tests:** Mild discomfort but not indicative of impingement

Findings were consistent with a **Grade I subscapularis tear**.

Functional and Pain Assessment

- **Pain (NRS):** 9/10
- **Shoulder ROM:**
  - Abduction: 90°
  - Flexion: 90°
  - Internal Rotation: 30°
  - External Rotation: 50°

Intervention

A **4-week graded physiotherapy rehabilitation protocol** was implemented:

Week 1: Acute Phase

Goals: Reduce pain, maintain mobility, initiate gentle muscle activation

- Subscapularis isometric holds
- Gentle isometrics for rotator cuff and deltoid
- Pendulum and pain-free active-assisted ROM exercises
- Cryotherapy post-session

Week 2: Early Strengthening and Pain Modulation

Goals: Improve muscle activation, address pain, enhance scapular mobility

- Continued isometrics for internal rotation and adduction
- Scapular muscle stretching (pectoralis minor, upper trapezius)
- Soft tissue massage to subscapularis insertion and anterior shoulder
- **TENS therapy** for pain relief

Week 3: Stretching and Mobilization Phase

Goals: Restore full ROM, improve tissue extensibility, enhance neuromuscular control

- Passive and active internal rotation and flexion stretches
- Glenohumeral joint mobilizations (Grade II–III)
- Progressive concentric/eccentric exercises for rotator cuff
- Closed-chain scapular stability work

Week 4: Strength Progression and Functional Training

Goals: Rebuild strength, reintegrate sport-specific movements

- Resisted dumbbell training: internal rotation, external rotation, scaption
- Barbell-controlled lifts for shoulder stability
- Sport-specific drills: shadow serving, controlled overhead motions
- Home exercise program emphasizing rotator cuff endurance

Outcomes

After 4 weeks of intervention, the patient demonstrated **marked clinical improvement**:

Pain and Function

- **NRS pain decreased from 9/10 to 2/10**
- Night pain resolved, improving sleep quality
- Functional tasks involving internal rotation became pain-free

Range of Motion Improvements

- Abduction: **from 90° → 180°**
- Flexion: **from 90° → 180°**
- Internal Rotation: **from 30° → 70°**
- External Rotation: **from 50° → 70°**

The progress allowed the patient to resume light tennis drills without exacerbation.

Discussion

This case demonstrates the effectiveness of a structured, progressive physiotherapy protocol in treating a Grade I subscapularis tear. The patient's rapid improvement aligns with literature suggesting that early activation combined with gradual strengthening supports tendon healing and neuromuscular restoration.

The focus on scapular stabilization, alongside targeted strengthening of the rotator cuff, was critical due to the scapula's role in generating efficient shoulder mechanics. Additionally, TENS, manual therapy and massage gun provided symptom relief, enabling better participation in exercise therapy.

Given that subscapularis tears can easily be missed without specific clinical testing, the positive Lift-Off Test was essential for rapid identification and appropriate treatment planning.

Conclusion

A carefully structured 4-week physiotherapy rehabilitation program resulted in significant improvements in shoulder ROM, pain reduction, function, and return to activity in a recreational tennis player with a Grade I subscapularis tear. This case reinforces the value of targeted isometrics, progressive strengthening, and scapular-focused interventions in managing mild rotator cuff injuries.

References

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