Arthroscopic Management of Snapping Radiocapitellar Joint

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53.1 Introduction

Snapping lateral elbow is not common in a daily orthopedic practice. It is rather an unusual pathologic condition in which interposed tissue in the radiocapitellar joint clicks during range of motion. Such tissues as a synovial fold or a loose annular ligament in the radiocapitellar joint have been occasionally reported as causes of lateral sided snapping elbow [1] (Fig. 53.1). It is unclear whether the synovial fold, loose annular ligament, and the meniscus are different etiologies causing snapping elbow or are in fact different stages of the same thing. Another possible cause for this phenomenon is a hypertrophic synovial radiohumeral plica which may dislocate [2]. Due to its rarity, this condition is frequently misdiagnosed. Nevertheless, it could mimic symptoms of or occur concurrently with lateral epicondylitis.

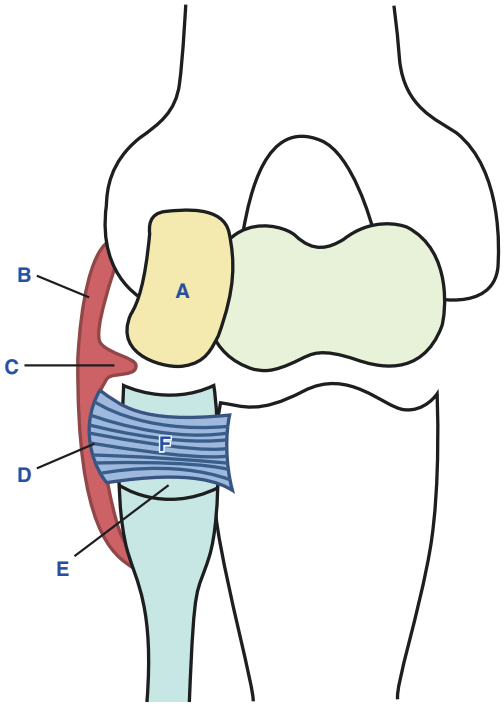

Fig. 53.1 Schematic illustration of the radiocapitellar capsular complex shows the (*A*) capitellum, (*B*) the capsule of the radiocapitellar portion of the elbow, (*C*) the radiocapitellar capsular complex with meniscal-like thickening or fold, (*D*) the capsule of the proximal radioulnar joint, (*E*) the radial head, and (*F*) annular ligament

53.2 Clinical Assessment

Careful and systematic clinical assessment is mandatory in order to differentiate the snapping

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etiology. One must be aware that many structures may cause snapping and pain. Snapping usually becomes evident during continuous pronosupination with the elbow flexed at 90° (Video 53.1). To differentiate intra-articular and extra-articular pain, we recommend to perform an intra-articular local anesthetic injection. Decrease in pain is indicative of an intra-articular pathology.

53.3 Indications

- Painful pop which failed with conservative treatment
- Tenderness over the radiocapitellar joint and lateral epicondyle
- Posterolateral pain in terminal extension
- The presence of interposed tissue related to synovitis which will lead to chondromalacia to the radial head [3]

53.4 Contraindication

- An asymptomatic plica does not require surgery (Video 53.2).

53.5 Surgical Technique

In agreement with the literature, we recommend arthroscopic evaluation of cases where lateral elbow impingement or clicking is clinically evident. Arthroscopic debridement of this plica requires specific portals that improve access to the lesion. A proximal anteromedial portal is key to viewing the radiocapitellar joint and assessing the plica. The plica is identified and classified according to Mullet (Fig. 53.2) [4]. A lateral working portal allows excision of the plica. Viewing from a posterolateral portal into the posterolateral gutter affords an excellent view of the plica when it is located posteriorly. It is then examined in flexion and extension to observe if there is any impingement in the radiocapitellar joint (Video 53.3). A posterolateral working portal and an anteromedial viewing portal are used to complete debridement of the plica to the equator of the radial head. The lateral ulnar collateral ligament (LUCL) is protected in all cases with a periosteal elevator as an internal retractor. The capsule is resected using an "L" hook tip arthroscopic radiofrequency ablator and a 4.5 mm arthroscopic shaver. The radial head should be inspected for chondromalacia due to the abrading plica.

53.6 Tips and Tricks

A 70° bevel scope may provide an improved arthroscopic view for limited maneuvering space in such a small joint (Fig. 53.3). "L" hook tip-type radiofrequency ablator will provide excellent precision for plica excision.

53.7 Pitfalls

The plica may appear normal during arthroscopic inspection. In this case other causes of lateral snapping need to be excluded.

Care should be taken to protect the cartilage of the radial head and the lateral collateral ligament complex.

53.8 Post-op Management, Rehabilitation, and Return to Work

Patients wear a sling for comfort for 2–3 days.

Arthroscopic excision of the synovial plica usually resolves symptoms within 2 weeks after surgery.

Patients are allowed to perform physical activities without any limitation, as pain allows.

53.9 Complications

- Potentially disruption of lateral collateral ligament complex which can lead to elbow instability.

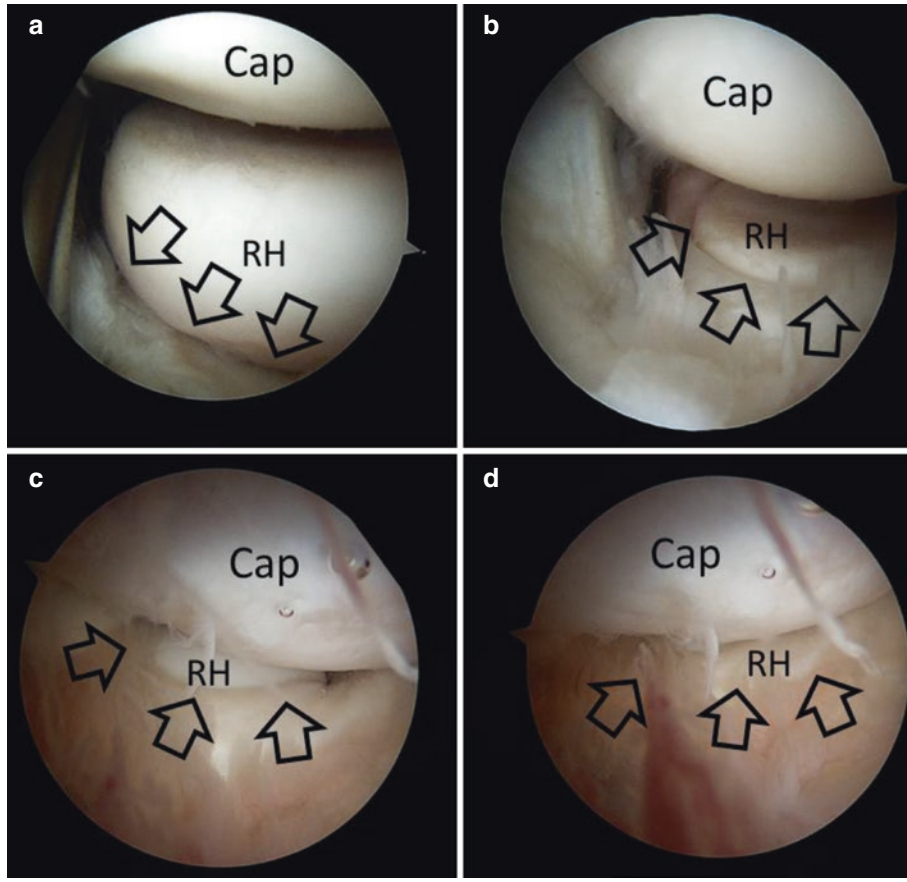

Fig. 53.2 Arthroscopic images of elbow showing the Mullet classification [4]. Type 1: no capsular impingement or coverage throughout ROM. (**a**) Type 2: there is partial coverage of the radial head when the elbow is extended. (**b**) Type 3: shrouding of the radial head in an elbow. There is subluxation of the capsular edge into the radiocapitellar joint. (**c**) Type 4: the radial head is completely obscured by the capsule in all positions of flexion and extension. (**d**). *Cap* capitellum, *RH* radial head

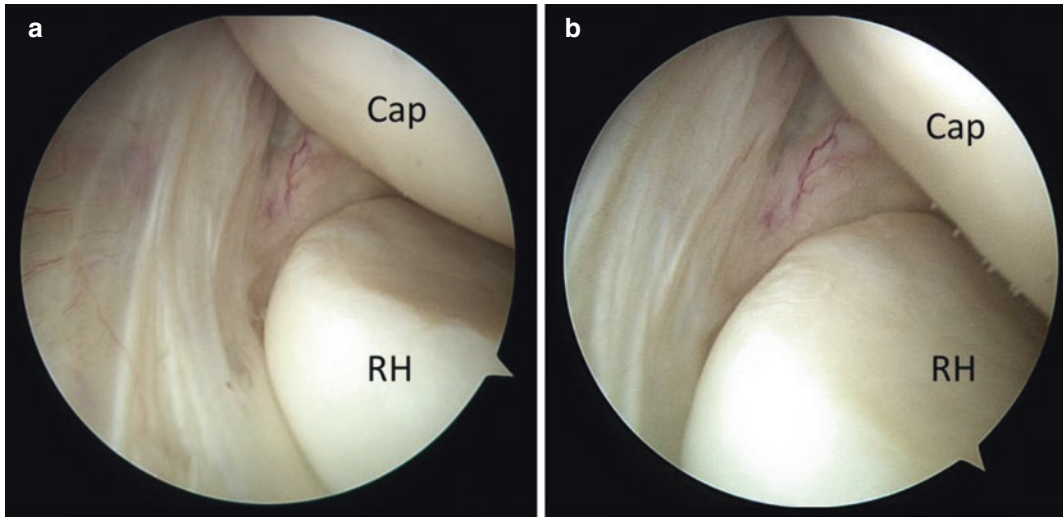

Fig. 53.3 Arthroscopy images of radiocapitellar joint using 30° (**a**) and 70° (**b**)

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