



ANNULAR LIGAMENT INSTABILITY: A DISTINCTIVE CONSIDERATION FOR LATERAL ELBOW PAIN MANAGEMENT

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RESEARCH QUESTION

PECO: What are the main differential diagnoses for lateral elbow pain associated with annular ligament instability?

INTRODUCTION

Elbow stability hinges on an array of anatomical components, including ligaments and joints, with the annular ligament playing a pivotal role in governing movement [1,2]. While lateral elbow pain (LEP) is commonly attributed to epicondylalgia, instances refractory to conventional therapies prompt exploration of alternative diagnoses [3,4].

OBJECTIVES

This investigation aims to elucidate the diagnostic significance of annular ligament instability as a potential differential diagnosis for LEP.

MATERIALS AND METHODS

A retrospective observational study was conducted on patients undergoing arthroscopically assisted elbow surgery from January 2015 to December 2018. Included were patients initially diagnosed with epicondylalgia experiencing lateral elbow pain. Arthroscopic assessment focused on annular ligament anatomy, tension, and associated lesions.

Statistical analysis, performed using SPSS software (IBM® 28, USA), involved patient demographics, joint hypermobility, occupational activity, adjunctive studies, preoperative infiltrations, and return-to-work parameters. Descriptive statistics, including mean, median, and range for age, were employed. The Chi-square test (X²) and Student's t-test analyzed dichotomous and quantitative variables, respectively, with analysis of variance applied for combined analyses.

RESULTS

The study encompassed 82 patients (48 males, 34 females; mean age: 44.6 ± 5.3 years). Arthroscopic exploration revealed diverse annular ligament morphologies and associated pathologies. Ten patients demonstrated joint hypermobility, with only one exhibiting elbow subluxation.

MRI depicted mild thickening and signal alteration at the posterior annular ligament insertion. Chondral lesions were identified in 39 cases (47.6%) while 11 patients (13.4%) displayed ulnar insertion lesions of the annular ligament, and 29 patients (35.4%) exhibited plicas. Significant correlations emerged between annular ligament, as well as with recurrent lateral elbow pain.

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Table 1. Main findings

Variables	
Gender	
Male	n=48
Female	n=34
Age	44.6 (5.3) yrs.
Diagnosis	
Joint hypermobility	n=10
Elbow subluxation	n=1
MRI findings	
Mild thickening Of Ulnar ligament insertion	n=11 (13.4 %)
Chondral injuries In Capitellum, Radial head or Trochlea	n=39 (47.6 %)
Plicas	n= 29 (35.4 %)

CONCLUSION

Annular ligament instability emerges as a clinically relevant differential diagnosis for lateral elbow pain, extending diagnostic considerations beyond epicondylalgia. Comprehensive evaluations and acknowledgment of associated pathologies are indispensable for effective management.

KEYWORDS

annular ligament instability, lateral elbow pain, epicondylalgia, arthroscopic surgery, joint hypermobility, condral lesions, synovial folds, radiocapitellar displacement