Arthroscopic debridement of osteochondral lesions of the talus: A systematic review

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The authors have no conflicts of interest to declare
BACKGROUND

Arthroscopic debridement (AD) for the osteochondral lesions of the talar dome (OLT) was widely documented in the nineties with satisfactory results.

However, in modern treatment algorithms, its role is not described. The present systematic review aims to evaluate the current evidence on the clinical outcomes of AD in the management of OLT.
OBJECTIVES

To evaluate the available evidence on AD outcomes in OLT management. The review hypothesizes that AD may provide better outcomes than MF in the treatment of OLT dome.
ARTHROSCOPIC DEBRIDEMENT DEFINITION

• Smoothening of partial-thickness cartilage injuries.
• Excision of chondral and/or osteochondral flaps and/or fragments with motorized shaver and/or curette until stable and firm cartilage injury edges are achieved, and debridement of the base of the lesion without performing drilling, MF or abrasion in it.
METHODOLOGY

This systematic review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.

Eligible articles were identified through searches of PubMed, EMBASE, Scopus, and Virtual Health Library databases from January 1st, 2000 to June 14th, 2020, by two independent reviewers.
INCLUSION AND EXCLUSION CRITERIA

Clinical studies evaluating the outcome of AD of OLT were considered eligible for this systematic review if the following predefined criteria were fulfilled:

INCLUSION CRITERIA

- Written in English or Spanish.
- Conducted in patients with OLT with/without concomitant injuries.
- Reported clinical outcome.
- A minimum 6-month follow-up.

EXCLUSION CRITERIA

- Surgical technique was not described.
- An additional procedure was performed after debridement.
- Outcomes were not reported separately when more than one technique was implemented.
PRISMA flow diagram of the study selection process.

- Records identified through database searching: PubMed = 199, Scopus = 181, EMBASE = 220, VHL = 150, Total (n = 750)

- Records after duplicates removed (n = 352)

  - Records screened (n = 352)

    - Full-text articles assessed for eligibility (n = 12)

      - Full-text articles excluded, with reasons (n = 8)
        - Involved debridement and an additional procedure = 5
        - Did not report outcome separately = 2
        - Did not describe the surgical technique = 1

      - Studies included in the review (n = 4)
RESULTS

• There is a paucity of evidence evaluating arthroscopic debridement alone for the talar dome’s osteochondral lesions in the last two decades.
• AD alone showed satisfactory short and medium-term outcomes for the primary treatment of OLT irrespectively of size and depth.
• Comparative studies between AD and MF show inconsistent results.
• Bone-marrow stimulation techniques remain the first-line surgical strategy for osteochondral lesions of the talus treatment without proven superiority over arthroscopic debridement alone.
# Methological Quality and Risk of Publication Bias Assessment

## Table 1

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LOE, level of evidence; CS, case series; mCMS, modified Coleman methodology score; RCS, retrospective cohort study; RCT, randomized controlled trial.

Darker colours indicate overall ROB rating; lighter colours concern judgments.
CONCLUSIONS

• Bone-marrow stimulation techniques remain the first-line surgical strategy for OLT treatment without proven superiority over AD alone.

• Adopting AD for OLT treatment instead of MF could represent a paradigm breakthrough in clinical practice given its many potential advantages while preserving the subchondral plate.

• More evidence is needed to define the role of AD in these lesions.
REFERENCES


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