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A Systematic Review of the Systematic Reviews on Multiligamentous knee injuries

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ADMINISTRATIVE INFORMATION

Support - None.

Review Stage at time of this submission - Data extraction.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 05 July 2024 and was last updated on 05 July 2024.

INTRODUCTION

Review question / Objective To analyse the current evidence in the management of multi ligamentous knee injuries and identify the gaps in the current literature. The secondary objective was to identify the potential future research trends in the management of these complex injuries.

Rationale Despite advancements in evaluation, diagnosis and treatment strategies, optimal management for MLKIs remains a topic of ongoing debate. Given the complexity of MLKIs and the ongoing debate regarding optimal management strategies, a comprehensive understanding of the current evidence is essential to guide evidence-based decision making and improve patient care. Systematic reviews offer a valuable tool for synthesizing the existing research on a specific topic by critically appraising multiple primary studies and summarizing their findings.

Condition being studied Multi ligamentous knee injuries.

METHODS

Search strategy (MLKI OR "Multi Ligament Knee " OR (ACL AND MCL) OR (ACL AND PCL) OR (ACL AND LCL) OR (ACL AND (PLC OR "posterolateral corner")) OR (ACL AND PCL AND MCL) OR (ACL AND PCL AND LCL) OR (ACL AND MCL AND LCL) OR (ACL AND PCL AND (PLC OR "posterolateral corner"))) OR (ACL AND MCL AND (PLC OR "posterolateral corner")) OR (ACL AND LCL AND (PLC OR "posterolateral corner")) AND (Injury OR injuries).

Participant or population Multiligamentous injuries ("multiligament" injury defined as the disruption of at least 2 of the 4 major knee ligaments).

Intervention Surgical treatments and non-surgical treatments.

Comparator Not applicable.

Study designs to be included Systematic reviews.

Eligibility criteria Systematic reviews and metaanalyses about multiligamentous injuries published in the English language ("multiligament" injury defined as the disruption of at least 2 of the 4 major knee ligaments).

Information sources PubMed, Embase, Cochrane reviews.

Main outcome(s) Optimal timing of surgery, the most effective surgical techniques, repair v/s reconstruction, and complications.

Additional outcome(s) To analyse the treatment strategies of combined injuries such as ACL + PCL Injury, Cruciate + Collateral, ACL + MCL Injury, MCL in MLKI, PLC + Cruciates.

Quality assessment / Risk of bias analysis AMSTAR 2 criteria.

Strategy of data synthesis Comprehensive literature search was conducted using PubMed, Embase, and the Cochrane Library using the keywords. The search criteria were broad to capture all potentially relevant articles, but only studies in English were included. The search yielded 60 articles in PubMed and 94 in Embase. After combining the search results and removing duplicates, two authors independently screened the title and abstract for eligibility. The full texts of the selected studies were reviewed to assess whether they met the inclusion criteria. All citations within the selected studies are being screened for relevant studies in case these were missed in the initial search. Disagreements will be resolved via discussion between the authors or via consultation with a third author. Data extraction will performed using the checklist. Data on the following variables were extracted: study type, level of evidence, number of cases, treatment of combined injuries, and complications. Disagreements will be resolved via discussion between the reviewing authors or via consultation with the same third author.

Subgroup analysis It is important for surgeons to identify and address associated injuries since these can place additional stress on the reconstructed if left untreated. Hence, treatment strategy of combined injuries such as ACL + PCL Injury, Cruciate + Collateral, ACL + MCL Injury, MCL in MLKI, PLC + Cruciates will be analyses seperately.

Sensitivity analysis Descriptive statistics will be calculated with continuous data reported as weighted means with their associated SD and categorical data reported as frequencies with percentages, grouping studies by intervention and outcome.

Language restriction Engligh language only.

Country(ies) involved India.

Keywords Multi Ligament Knee, Knee Dislocation, ACL, PCL, LCL, MCL, Posterolateral corner, Systematic Review.

Contributions of each author

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