Operative vs Non-operative management of Type 2a Supracondylar fractures of the humerus : A Literature Review

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Introduction

- There persists to be controversy surrounding the management of Gartland type 2a supracondylar humerus fractures as to whether they should be managed operatively or non-operatively. Much of the literature does not differentiate between type 2a and type 2b fractures. The aim of this study is to review the literature on management of type 2a as a separate entity

Aims

- The aim of this study is to review the literature on management of type 2a SCHF as a separate entity.

Methods

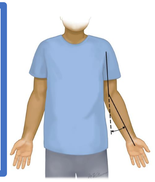
- A systematic search was applied to PubMed central and Scopus to retrieve all studies published from inception until January 2023. Studies which specifically differentiated patients being managed for type 2a fractures were included. Studies that did not differentiate between type 2a and 2b fractures were then excluded.

Results

- A total of 5 suitable studies were found including a total of 233 patients. 2 studies compared operatively and non-operatively managed cohorts, whereas 3 studies measured outcomes for a single treatment modality. The outcomes assessed varied with radiological, clinical, and functional outcomes all being looked at.

Carrying Angle

Carrying angle showed no significant difference between operative and non-operative groups. Range of motion was generally adequate, and no studies noted a significant difference.



Radiological Outcomes

Radiological outcomes at final follow-up again did not reveal a significant difference, and functional outcomes were comparable between both groups.

Conversion to operative management

In one of the studies 8% of the cases treated non-operatively required conversion to operative treatment due to radiographic loss of reduction at a mean of 10.5 days.

Complications

Complication rates were fairly low in all patients, with one study demonstrating a similar rate of avascular necrosis and refracture in both groups

Conclusion

Both operative and non-operative management have shown comparable outcomes in Gartland 2A fractures. The combined cohort of our study is limited and further studies specifically looking at this subtype in isolation are needed to confirm that there isn't a superior treatment modality.