Carpal Boss: a Systematic Review of Surgical Treatment Outcomes

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Objectives

- The carpal boss is a benign bony protuberance that often develops over the dorsal aspect of the index and middle metacarpal (CMC) joint bases leading to dorsal hand pain, impingement and at times, extensor tendon rupture. It can often be accompanied by an overlying ganglion cyst.
- While conservative treatment is the initial management, failure of symptom resolution prompts surgical intervention.
- In general, surgical treatment is divided into 2 categories: 1) simple excision; or 2) excision followed by CMC arthrodesis. No clear consensus exists regarding the most effective surgical technique however.
- The existing literature on the surgical management of carpal boss was systematically reviewed to identify the optimal surgical treatment method.

Methods

- Two authors independently reviewed articles retrieved from MEDLINE using the search query "carpal boss AND ganglion cyst OR carpal boss" and applied limitations to include English language articles.
- Reports with less than 5 patients were excluded.
- Secondary selection required the studies to report data with at least 6 months of clinical follow-up.
- Variables of interest included basic demographics, post-operative symptom recurrence, reoperations and complications. Fisher’s exact test was used for statistical analysis.

Results

- A total of 41 studies were identified.
- Following the application of inclusion and exclusion criteria, 8 studies remained: 1 level III, 7 level IV evidence.

Conclusion

- Simple excision is a technically less demanding procedure and appears to result in outcomes similar to CMC arthrodesis.
- While persistent symptoms of pain are not uncommon following carpal boss excision, additional, more extensive debridement or CMC arthrodesis usually result in satisfactory patient outcomes.
- The available literature on the surgical treatment of carpal boss is limited by a small number of studies with low levels of evidence.
- Higher quality studies would be useful in guiding treatment considerations and identifying a superior surgical technique.

REFERENCES