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Scientific Article

Revision Carpal Tunnel Release with Endoscopic Technique: Clinical Outcomes and Intraoperative Findings

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Purpose

The standard treatment for recurrent carpal tunnel syndrome (CTS) has been open revision. We hypothesize that endoscopic carpal tunnel release can be used successfully in the revision setting.

Methods

We identified patients between 2018–2023 who underwent revision carpal tunnel release (CTR). All patients underwent prior open or mini-open CTR (OCTR). All had electrodiagnostically proven CTS and CTS-6 scores >12. Those with suspected or documented nerve injury after primary CTR were excluded. Patient-reported outcomes, including visual analog scale pain scores and 5-point Likert-style rating of symptom improvement, were collected.

Results

Thirty patients were identified: 22 with recurrent and 8 with persistent CTS. Average time from index surgery was 110 months in recurrent and 18 months in persistent CTS cases. Twenty-five patients had prior mini-open CTR, and five underwent traditional-open CTR. Intraoperative findings included incomplete release ($n = 4$), median nerve (MN) adhesions to skin ($n = 1$) or flexor retinaculum ($n = 4$), inadequate visualization of the MN ($n = 5$) and no documented findings ($n = 17$). Five of 30 patients (16%) were converted from endoscopic to open release procedures intraoperatively. All conversions occurred in patients with prior traditional-open CTR and incisions crossing the wrist flexion crease. At 6-month follow-up, average visual analog pain scores improved from 7 to 2 after revision endoscopic release and from 7 to 3 in cases in which conversion from endoscopic to open release was required. Of the patients, 92% in the revision endoscopic group and 60% in the conversion group had symptom improvement (5-point Likert score ≥3 at final follow-up).

Conclusions

Revision endoscopic carpal tunnel release can be performed successfully after primary mini-open CTR. A prior traditional OCTR with an incision crossing the wrist crease is more likely to require conversion to open release. A lower proportion of patients converted to OCTR have postoperative symptom improvement than those treated with revision endoscopic release.

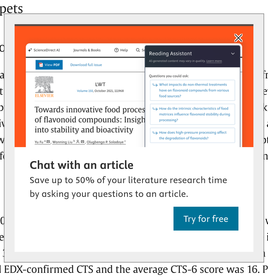
Level of Evidence

Therapeutic IV.

Section snippets

Patient demo

This study was a … from 2018–2023 who underwent … ew board approval was ob… king status. Pre- and postoperati… a 1–10 scale. Recurrent CTS w… toms for at least 6 months f… nt …



Results

We identified 30 … was 52 years (±4) and 60% we… in 30% of patients. Of the … persistent CTS. All patients had EDX-confirmed CTS and the average CTS-6 score was 16. Primary OCTR was performed with a minimally-open technique in 25 patients and an open technique crossing the wrist flexion crease in 5. The average time between primary …

Discussion

Revision ECTR has been described previously in the literature. Chow et al[14] first published a large case series from a single center that looked at outcomes after primary ECTR. They reported the outcomes of 2,402 primary ECTR cases over 13 years using a dual portal technique. Their recurrence rate was 0.5% and eight of these patients opted for a revision procedure. Six of the patients underwent revision ECTR while two patients underwent revision OCTR. They reported that 5 of 6 patients had …

Conflicts of Interest

No benefits in any form have been received or will be received related directly or indirectly to the subject of this article. …

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