

Carpal Tunnel Release in the Dialysis-Dependent Population: Incidence and Outcomes

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Level of Evidence Level III, retrospective case-control study

Background

The association between dialysis and carpal tunnel syndrome is well-established. As the number of patients living with dialysis-dependent end-stage renal disease (ESRD) increases, it is important that we understand outcomes after carpal tunnel release in this population.

Purpose

To investigate (1) the prevalence of carpal tunnel syndrome (CTS) in dialysis-dependent patients, (2) the incidence of carpal tunnel release (CTR), and (3) the differences in complications after CTR between hemodialysis patients, peritoneal dialysis patients, and matched controls.

Patients and Methods

Querying the PearlDiver database, we determined prevalence of CTS and incidence of CTR in dialysis-dependent and control patients. We compared peritoneal dialysis (PD) patients to matched populations of hemodialysis (HD) patients and non-dialysis-dependent controls. Complications were identified, including hospital admission, emergency department visits, infection, revision surgery, and postoperative chronic regional pain syndrome (CRPS).

Results

The rates of CTS and CTR in dialysis patients were significantly increased relative to controls. Dialysis-dependent patients had increased rates of hospital admission within 30 days postoperatively (OR 4.13, $P < .0001$ for PD; OR 4.42, $P < .0001$ for HD), infection within 6 months postoperatively (OR 2.32, $P = .013$ for PD; OR 3.20, $P < .0001$ for HD), and need for revision CTR (OR 2.04, $P = .009$ for PD; OR 1.62, $P = .037$ for HD). Emergency department presentation within 30 days postoperatively was less common in PD vs HD (OR .63, $P = .038$).

Conclusions

When compared to the control population, patients undergoing dialysis are more likely to be diagnosed with carpal tunnel syndrome, undergo carpal tunnel release, and are at significantly increased risk for perioperative complications.