Published online: 2019-12-20

Adverse effects of percutaneous needle electrolysis in carpal tunnel syndrome

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Rev Fisioter Invasiva 2019;2:130.

Abstract

Background Percutaneous needle electrolysis is a physical therapy technique which has shown to be useful for the treatment of nerve entrapments. The aim of the present study was to analyze the possible adverse effects and the follow-up pattern after the application of percutaneous needle electrolysis in carpal tunnel syndrome.

Material and Methods A descriptive observational study conducted at the Traumatology Service of the Ciudad Real Hospital, in patients with a medical diagnosis of carpal tunnel syndrome confirmed by electromyography (*gold standard*).

Percutaneous needle electrolysis was applied under ultrasound guidance in the superficial and deep interphase of the median nerve in its passage through the carpal tunnel, applied with a frequency of once every seven days over four weeks.

The week after each intervention, the follow-up pattern of the adverse effects variables was gathered, grouped in the following categories: type of adverse effect, moment of appearance, prevalence period, impact and causality.

At 1.5 weeks and 6 weeks after the last intervention, the following variables were gathered: presence of painful or hypertrophic scar, stiffness at the level of the wrist, hand or fingers, infection of the wound, alteration of reflex sympathetic trophism, symptoms related with a nerve lesion, symptoms related with a tendon lesion, post intervention effusion. The McNemar test was used for comparative measures between the first, second, third and fourth intervention, without significant variations ($p < 0.05$).

Results 30 cases participated in the study, of which one subject had to abandon the treatment after the first application because of apprehension in relation to following through with treatment.

Of the 117 intervention applied, one vegetative reaction was recorded, which was transitory and without consequences. Pain appeared during the intervention in 96.5% of the interventions, after the intervention pain was present in 56%, whereas pain experienced days after the intervention occurred in 28.4%. No cases required further medical intervention, and there were no irreversible cases, independent of the cause. For the remaining variables, the records were negative in all interventions.

No adverse effects were described for any cases at the follow up at 1.5 and 6 weeks post-intervention.

Conclusions No adverse effects were described at the end of the intervention in the short to mid term. Regarding the follow-up pattern, the pain followed a highly homogeneous course, there were no irreversible adverse effects requiring intervention, and no relationship was found with any cause on behalf of the patient.

Keywords

- percutaneous needle electrolysis
- adverse effects
- carpal tunnel syndrome

DOI https://doi.org/10.1055/s-0039-3402508.
ISSN 2386-4591.