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Comparing the efficacy of local triamcinolone injection in carpal tunnel syndrome using three different approaches with or without ultrasound guidance

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Purpose: The present article has investigated the added value of ultrasound (US) guidance on improving the efficacy of local triamcinolone injection via comparing two US-guided methods versus a conventional landmark-guided approach.

Methods: Eighty-one subjects with mild or moderate CTS were included and randomly assigned into three categories including landmark-guided, conventional US-guided midline approach and US-guided ulnar in-plane method. Primarily, participants in the three groups were relatively similar in terms of demographics and their clinical variables comprising visual analogue scale (VAS) for pain, pain-free grip strength (PFGS), Boston CTS questionnaire (BCTQ), EDX parameters, and cross-sectional area (CSA) of median nerve measured by ultrasonography. Ten weeks after injection, the changes of clinical and Para-clinical outcomes were reassessed for 76 patients who finished the study.

Results: Our findings showed that all three injection methods were associated with a significant and relatively similar improvement in clinical and electro diagnostic parameters. The post-injection evaluation showed a statistically significant

change in all variables. The best effect-size values were observed for VAS [56%] and functional severity scale (FSS) of BCTQ [42%], both reported in the US-guided midline group. However, no significant difference was found between the groups regarding their improvement in any of the outcome variables (P value >0.05).

Conclusion: Based on the current data, all three injection methods were effective in improving electro diagnostic findings and clinical symptoms of CTS. Although all approaches were relatively similar, US-guided midline approach was associated with slightly better outcomes. Keywords: corticosteroid injection, electro diagnosis, conservative treatment.

Speaker Biography

Mohammad Ahmadi Dastgerdi has completed his md-mph at the age of 25 years from Tehran University of medical sciences and finished his PM&R residency program at age of 28 from Shahid Beheshti University of Medical Sciences. He has 3 papers in international journals. He is ISPRM member since 2020.

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