E-Poster

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A Comparative Study of the Effectiveness of Total Contact Casting in The Treatment of Forefoot *vs.* Hindfoot Neuropathic Plantar Ulcers

Topic: Health Conditions (Nervous System, Musculoskeletal System, Cardiopulmonary System)

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BACKGROUND

Trophic plantar ulcers commonly develop in peripheral neuropathy patients, mainly over the plantar aspect over peak plantar pressure areas. The treatment principle is to avoid pressure at the ulcerated site, known as offloading, which can be achieved by complete bed rest, axillary crutch, total contact casting, etc. In total contact casting, plaster is applied over the limb to the patellar tendon, which distributes weight along the plantar aspect of the foot, thus relieving pressure from the forefoot during walking and standing, enabling the ulcers to heal. There is a paucity of data on the efficacy of TCC in forefoot ulcers & hindfoot ulcers; this study aimed to evaluate the effectiveness of TCC in forefoot ulcers & hindfoot ulcers.

The aims and objectives of this study were to observe the effectiveness of total contact casting in neuropathic plantar foot ulcers and to compare the efficacy in the forefoot vs. hindfoot ulcer.

After institutional ethical clearance, an observational study was conducted at the Physical Medicine and Rehabilitation Department from January 2024 to June 2024 and a total of 16 patients, of which 12 had ulcers over the forefoot, and four had ulcers over the hindfoot with Wagner classification grades I and II in the age group of 40-60 years were included in the study. Total contact casting was done by molding a cast over the entire surface of the roller cotton. Plasters were removed after 10 days, and again, debridement was done, followed by TCC. This procedure was repeated for 4 to 5 times depending on ulcer healing. In each visit, the size of the ulcer was measured. Statistical analysis showed statistically significant differences in the ulcer size before and after treatment ($F = 7.742$, $p = 0.01$). Bonferroni's test for multiple comparisons revealed a statistically significant difference in the volume of the ulcer at 1st and 2nd follow-up from before the start of treatment. Our study revealed a significant difference in the decrease in size of the ulcer compared with forefoot vs. hindfoot plantar ulcers. Hindfoot showed more improvement than forefoot ($F=10.854$, $p = 0.005$).

CONCLUSION

Total contact casting is a safe, effective, and inexpensive treatment option for chronic non-healing neuropathic ulcers in both hindfoot and forefoot ulcers although a larger study in the form of RCT is required.

Statement of Disclosures

None

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