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### Efficacy of Marteeni cast in diabetic heel ulcers

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**Background:** Marteeni or Martini Cast (MC) was invented as off-loading method for patients with diabetic heel ulcers in case of inability to use the traditional contact cast. We implemented it in our practice in 2009. Now we conducted a study to evaluate efficacy of this technique. **Object and Methods:** In this retrospective study, we analyzed the medical records of 16 consecutive outpatients in whom MC was applied from Nov'2009 to Dec'2011. Four of them had neuropathic heel ulcers (1A, 1B classes) and 12 - neuroischemic heel ulcers (1C, 1D classes (UT Classification System)). As we considered randomized study on MC is ethically inappropriate, we compared treatment results in this group with a historical control group of 21 patients with heel ulcers who were treated in the same foot clinic in 2006-2011 without MC. Two groups were comparable in age, diabetes and ulcer duration, ratio of genders and neuropathic/neuroischemic ulcers, number and size of ulcers ( $p>0,05$ ). In case of several ulcers in one patient we analyzed the largest one on a heel. Treatment included dressings, antibiotics (in 75% and 86% in 2 groups respectively), half-shoe for heel (in 50% and 57%) and revascularization (in 31% and 14%). Statins, prostanoids and low molecular weight heparins were also used for treatment of neuro-ischemic ulcers. Patients treated with TCC were not included in the study. **Results:** During the study period in MC group ulcers healed in 11 (69%), 1 patient died, 3 were lost for contact or refused to wear the device, in one TCC was applied due to lack of healing in MC. In control group: 17 (81%) ulcers healed, 3 patients died, 1 was unhealed.

Off-loading method	MC	Controls	p
3 months healing rate	19%	52%	0.048
6 months healing rate	63%	62%	n.s.
Healing time, Me (min-max), days	116 (53-300)	63 (9-567)	n.s.

**Conclusions:** Unfortunately, our study did not show that usage of Marteeni Cast improves treatment outcome. But, as the study was not randomized, RCT should be conducted on this issue (to our knowledge such studies were not published by now).