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Extracorporeal shockwave therapy (ESWT) for the treatment of chronic diabetic ulcers & wounds: A clinical perspective

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Amputations are the consequence of chronic unresponsive diabetic foot ulcers due to small vessel occlusion and persistent limb ischemia, compounded with neuropathy and infection. Despite the expansion of guidelines and developments in this area, the management and treatment of chronic diabetic ulcers continues to be challenging with limited success, and remains an enigma. Extracorporeal shockwave treatment (ESWT) has been used for the treatment of chronic diabetic ulcers with promising results. In our series (n=54), 70% of these ulcers healed in response to ESWT, and was comparable to response rates of non-diabetic lesions. Other investigations conducted by Mittermayr et al (2011), Saggini et al(2008), and Wang et al (2008) all yielded similar promising results, with one study (Wang et al, 2008) finding ESWT to be more effective when compared to hyperbaric oxygen therapy (HBOT). Although the exact mechanism of ESWT is yet to be fully elucidated, studies have demonstrated that the acoustic shockwave stimulus triggers a favourable cascade of neurobiocellular and chemical processes that modulates regional microcirculation, inflammation, neuronal signalling, and growth factor proliferation. ESWT offers a non-invasive, systemically neutral, economical and readily applicable treatment modality which accelerates tissue regeneration and function. Its favourable risk-benefit ratio, economics and mechanism of action warrants further investigation of its use not only for the treatment of chronic diabetic foot ulcers, but simultaneously for the potential systemic disease homeostatic modulation of insulin resistance associated with type II diabetes mellitus.

Biography

Kenneth Craig has been utilising medical acoustic-shockwaves since 2001 on many indications including: sports medicine, complex regional pain syndromes, age-related skeletal muscle sarcopenia, and diabetic complications. He is an author, reviewer and board member of several reputed medical journals and publication, and works with research centres globally. He is a board member and currently the Vice-President for the International Society for Medical Shockwave Treatment.

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