Clinical studies on low intensity extracorporeal shockwave therapy for erectile dysfunction: a systematic review and meta-analysis of randomised controlled trials.

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The efficacy of low intensity extracorporeal shock wave therapy (LI-ESWT) for erectile dysfunction (ED) has received hard criticism and recently published meta-analyses were not able to provide further insights, nor specific recommendations. The aim of this systematic review and meta-analysis is to evaluate the efficacy of LI-ESWT for ED, identify the ideal treatment population and treatment protocol, and provide recommendations for future research in the field. A systematic research for relevant clinical studies published from January 2010 to September 2018 was performed, using the following databases: Medline, Embase, The Cochrane Library, Scopus, and Web of Science. Only clinical studies that investigated the efficacy of LI-ESWT for ED only, and reported primary outcomes using IIEF-EF scores/questionnaires were included. Both, randomised controlled trials (RCTs) and cohort studies were included, but the meta-analysis was performed only for sham-controlled RCTs. Ten RCTs including 873 patients were selected for the meta-analysis. Pooling data of these studies showed that LI-ESWT could significantly improve erectile function in men with ED regarding both patient-subjective outcomes (IIEF-EF: +3.97; 95% CI [2.09-5.84]; $p < 0.0001$, EHS ≥ 3: OR: 4.35; 95% CI [1.82-10.37]; $p = 0.0009$) and patient-objective outcomes (peak systolic velocity: +4.12; 95% CI [2.30-5.94]; $p < 0.00001$). In conclusion, the present meta-analysis provided results showing that LI-ESWT significantly improves erectile function in patients with vasculogenic ED.

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Ioannis Sokolakis, Georgios Hatzichristodoulou

Department of Urology and Paediatric Urology, Julius-Maximilians-University of Würzburg, Würzburg, Germany., Department of Urology and Paediatric Urology, Julius-Maximilians-University of Würzburg, Würzburg, Germany. hatzichris_g@ukw.de.

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