

# Determinants of Early Response to Low-Intensity Extracorporeal Shockwaves for the Treatment of Vasculogenic Erectile Dysfunction: An Open-Label, Prospective Study.

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The aim of this study was to expand existing literature on the effects of cardiovascular risk factors on the outcome of low-intensity extracorporeal shockwaves therapy (LIESWT), and to evaluate the role of hormone concentrations. Twenty patients with long-standing, PDE5i-resistant, vasculogenic erectile dysfunction (VED) were treated with six weekly sessions of LIESWT (9000 pulses). After a three-week break, four poor responders underwent another six weekly sessions. Rigidity score (RS) questionnaire was administered at baseline (T0), last session (T1), and three months after LIESWT (T2), while the Improvement component of the Clinical Global Impression of Change (CGIC-I) and the International Index of Erectile Function-5 (IIEF-5) questionnaires were administered at T1 and T2, and at T0 and T2, respectively. At T0 serum luteinizing hormone (LH), testosterone, sex hormone binding globulin (SHBG), calculated free testosterone, and prolactin levels were also recorded. At T1 and T2, 12/20 (60%) and 11/20 (55%) patients reached a  $RS \geq 3$ ; 16/20 (80%) and 13/20 (65%) improved their erections variably. Testosterone levels correlated positively with CGIC-I at T1. Patients  $< 65$  years and those nonhypercholesterolemic had higher RS at T1 and T2. Age correlated negatively with RS at T1 and T2. At T0, diabetic patients had lower IIEF-5 scores, but those with  $RS \geq 3$  at T1 had higher IIEF-5 compared to those with  $RS < 3$ . Also, diabetes duration correlated inversely with IIEF-5 at T0. At T2, IIEF-5 improved significantly by an average of 2.8-points. We confirm safety and effectiveness of LIESWT for the treatment of VED. Age  $\geq 65$  years, diabetes, and hypercholesterolemia influence early and negatively the outcome of LIESWT.

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