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**Is Low Intensity Shock Wave Therapy A Curative Treatment For
Erectile Dysfunction? A-1 Year Follow-up Pilot Study**

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Objectives

To evaluate the effect of low intensity extra corporeal shock wave therapy (ESWT) on erectile function, in patients with vasculogenic ED.

Materials and Methods

We included 20 middle-aged patients (56.1±10.7y) with long-standing vasculogenic ED, with a mean IIEF-ED domain score (IIEF-ED) of 13.5 and an abnormal NPT. Excluded were neurogenic, psychogenic or post pelvic- surgery patients. ESWT was applied on the penile shaft and crus for 3 minutes in 5 different penile anatomical sites (intensity of 0.09 mj/mm², 300 shocks per site). The treatment included 2 sessions per week for 3 weeks and was repeated after a 3-week no-treatment interval. Assessment of erectile function was performed at screening and at 1, 3 and 6 months after end of treatment using validated ED questionnaires (IIEF, QEQ, SEAR, EDITS, Rigidity score). Objective hemodynamic measurements were performed in 14 patients by penile and forearm endothelial function tests before and one-month after ESWT.

Results:

The mean IIEF-ED increased from 13.5 at baseline to 20.6, 20.4 and 21.7 at 1, 3 and 6 months. Only 5 patients did not respond to the therapy (IIEF ED increase < 5 points). QEQ improved by 23.8 points (from 32.9 to 55.3, p=0.001) and rigidity score increased from 1.45 to 2.5 (p=0.015). SEAR scores increased from 36 to 45.3 (p=0.002). The EDITS final score was 23.2. A one-year follow of 9 subjects showed improvement from an average of 14.4 to 23.3 in the IIEF. Similar improvements were noted with the other ED questionnaires. Prior to our intervention all subjects were on PDE5i therapy, 5 with poor and 15 with good response. Overall 12 subjects did not require any oral therapy at 3 months. Endothelial function testing one month after treatment showed significant hemodynamic improvement in baseline and maximal penile blood flow (7.7- 18.5 and 12.3- 29.8 ml/min/dl, respectively (p< 0.001). The AUC (expresses penile perfusion) increased from 369.6 to 812.2 units (p< 0.001). No pain or any other side effects were noted nor reported.

Conclusions

This is the first study assessing the efficacy of ESWT for vasculogenic ED. We found this approach to be feasible and tolerable. Its main advantages are the potential to improve erectile function without the need for pharmacotherapy. Short term results are promising yet demand further evaluation using sham control and long-term follow-up that are underway.