

## SEXUAL DYSFUNCTION

## Shockwaves for erectile dysfunction



Extracorporeal low-intensity shockwave treatment (LIST) of the penis is a promising treatment in men with severe erectile dysfunction (ED) not responsive to phosphodiesterase 5 (PDE5) inhibitors, say researchers.

In a diabetic rat model, LIST has been shown to improve nerve-stimulated erectile function and increase the endothelial content of penile tissue. Several clinical trials have also shown that penile LIST improves erectile function, penile haemodynamics and endothelial function in men with ED, in both those who responded well, and those who responded poorly to PDE5 inhibitors.

The latest study was a prospective, randomized, double-blind, sham-controlled study of LIST in men with severe ED unresponsive to PDE5 inhibitors. In total, 58 patients were included in the study: 40 were randomly assigned to receive treatment with

LIST (two 20-min sessions per week for 3 weeks, repeated after a 3-week interval) and 18 were assigned to treatment with a sham probe ( $n = 18$ ). All patients had previously responded to PDE5 inhibitors but had stopped PDE5 inhibitors less than 12 months before screening owing to lack of efficacy (an erection hardness score [EHS]  $\leq 2$  with maximal dosage of PDE5 inhibitor). Validated ED questionnaires were used to evaluate patients at baseline and 1 month after completing treatment; flow-mediated dilatation was used to evaluate penile endothelial function at these points. Treatment success was defined as an EHS  $\geq 3$  (an erection hard enough for vaginal penetration) and improvement in the erectile function domain of the International Index of Erectile Function (IIEF-EF).

In total, 37 patients in the LIST group and all 18 patients in the sham group completed the study. After treatment,

20 patients (54.1%) in the LIST group achieved an EHS of  $\geq 3$  compared with no patients in the sham group. "According to changes in IIEF-EF domain score, treatment was effective in 40.5% of the LIST patients, and in none of the patients in the sham group," say the authors.

A month after sham treatment, patients in the sham group were offered active treatment; 16 of these patients completed treatment and nine of them (56.3%) achieved an EHS of  $\geq 3$ .

"The future of LIST research should focus on two directions—basic science and clinical studies," say the authors. "Extensive basic research is mandatory in order to understand the mechanism of action of LIST...Future research will be able to define the modifications needed in the treatment plan in order to improve its efficacy and durability."

Rebecca Kelsey

**ORIGINAL ARTICLE** Kitrey, N. D. *et al.* Penile low-intensity shockwave treatment is able to shift PDE5i non-responders to responders: a double blind sham-controlled study. *J. Urol.* <http://dx.doi.org/10.1016/j.juro.2015.12.049>