



THE ROLE OF LOW-INTENSITY SHOCK WAVE THERAPY ON ERECTILE DYSFUNCTION.

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INTRODUCTION & OBJECTIVES: Erectile dysfunction (ED) is a common disease affecting about 50% of men between 40-70 yr. Nevertheless, none of the multiple available treatments alter de underlying pathology of ED. LiSWT may have the potential to cure ED and restore spontaneous erections. The aim of this study was to evaluate the impact of LiSWT in erectile dysfunction

MATERIAL & METHODS: We prospectively analyzed all patients who underwent LiSWT, from June 2016 to October 2017. Erectile function was assessed before and 6 weeks and 3 months after treatment with the International Index of Erectile Function (IIEF-5) and with penile doppler duplex ultrasound.

RESULTS:

Total number	
20 patients	
Age at LiSWT	
Years	Median (range)
	62.5 (27-73)
ED type	
Arteriogenic	12 (60)
Arteriogenic + Venous leak	4 (20)
Post-Radical Prostatectomy	3 (15)
Venous leak	1 (5)
ED risk factors	
Hypertension	14 (70)
Dyslipidemia	13 (65)
Diabetes	7 (35)
Tobacco	4 (20)
ED evolution time	
Median (months)	27
Range (months)	5-90

LiSWT: Low intensity shock wave therapy; ED: Erectile dysfunction

IIEF-5 improvement		
6 weeks Post-LiSWT % (n)	3 months Post-LiSWT % (n)	
Arteriogenic	91.7 (11)	80.0 (4)
Arteriogenic + venous leak	50.0 (2)	66.7 (2)
Post-RP	0.0 (0)	33.3 (1)
Venous leak	100 (1)	100 (1)
	p-value	p-value
	0.01	0.82
Penile dynamic duplex ultrasound improvement		
PSV Post-LiSWT % (n)	EDV Post-LiSWT % (n)	
Arteriogenic	68.7 (4)	68.7 (4)
Arteriogenic + venous leak	50.0 (1)	100 (2)
Post-RP	66.7 (2)	33.3 (1)
Venous leak	100 (1)	100 (1)
	p-value	p-value
	1.00	0.68
PDE5i treatment improvement		
%	n	
Arteriogenic	0.0	0
Arteriogenic + venous leak	0	0
Post-RP	0	0
Venous leak	100	1
	p-value	
	0.22	
PDE5i response improvement		
%	n	
Arteriogenic	0	0
Arteriogenic + venous leak	0	0
Post-RP	33	1
Venous leak	0	0
	p-value	
	1.00	

ED: Erectile dysfunction; IIEF-5: International index of erectile function (5 questions); LiSWT: Low intensity shock wave therapy; Post-RP: Post radical prostatectomy; PSV: Peak systolic velocity; EDV: End-diastolic velocity; PDE5i: Phosphodiesterase type 5 inhibitors.
* Statistical significance with p < 0.05

IIEF-5						
Summary statistics	Pre-LiSWT	6 weeks Post-LiSWT	p-value	3 months Post-LiSWT	p-value	
Min-Max	5 - 21	5 - 24		5 - 24		
Median (IQR)	13.5 (10.0-15.0)	15.5 (11.0-20.5)	0.00	16.5 (9.5-21.8)	0.05	
Mean ± SD	12.9 ± 4.4	15.3 ± 5.6		15.5 ± 6.8		
Improvement % (n)		70.0 (14)		66.7 (8)		
Penile dynamic duplex ultrasound						
Summary statistics	PSV Pre-LiSWT	PSV Post-LiSWT	p-value	EDV Pre-LiSWT	EDV Post-LiSWT	p-value
Min-Max	13.2 - 59.2	14.7 - 70.0		-6.0 - -7.3	10.1 - 5.4	
Median (IQR)	27.7 (20.4-29.6)	39.3 (24.3-48.1)	0.06	-2.0 (-4.5 - 6.5)	1.8 (-4.5 - 4.5)	0.23
Mean ± SD	29.2 ± 11.8	39.4 ± 17.3		2.2 ± 4.6	0.9 ± 4.9	
Improvement % (n)		66.7 (8)		66.7 (8)		
PDE5i treatment						
Yes	Pre-LiSWT % (n)	Post-LiSWT % (n)	p-value			
	75 (15)	60 (8)	1.00			
No						
	25 (5)	40 (4)				
Improvement % (n)		11.1 (1)				
PDE5i response						
Pre-LiSWT n (%)	Post-LiSWT n (%)	p-value				
Good	15.8 (3)	50.0 (3)				
Moderate	36.8 (7)	16.7 (1)	1.00			
Bad	26.3 (5)	33.3 (2)				
Improvement % (n)		10.7 (1)				

IIEF-5: International index of erectile function (5 questions); LiSWT: Low intensity shock wave therapy; EDV: End-diastolic velocity; PSV: Peak systolic velocity; EDV: End-diastolic velocity; PDE5i: Phosphodiesterase type 5 inhibitors.
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	Satisfaction? % (n)	Recommendation? % (n)	Adverse effects % (n)
Yes	76.9 (10)	81.8 (9)	0.0 (0)
No	23.1 (3)	18.2 (2)	100 (20)

CONCLUSION: LiSWT is a non-invasive therapy that has the potential to cure ED, presenting good functional outcomes specially in arteriogenic ED.

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