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Introduction : It would be convenient to have a method to evaluate objectively the outcomes of Low Intensity Shockwave Treatment (LIST) or ED. Flow Mediated Dilation was used and recently TRIMIX cavernous injection showed correlation of IIEF improvement with Doppler test. Our objective was to perform an initial Pilot Study in order to check whether we could use Doppler test in the flaccid penis and avoid cavernous injection. From February to September 2017, we treated 36 patient with

Vascular Erectile Dysfunction (ED) by Renova Linear Low Intensity Shockwave treatment(LIST) and performed a Ultrasound Doppler procedure test of the cavernous deep penile artery , in the flaccid state .

Aim

We performed the following :

- a) Collecting anamnesis data, identifying diseases, filling of IIEF-5 (SHIMS) score .
- b) Physical examination for definition of genital status, the presence of possible anomalies and deformities of the external genitalia.
- c) Laboratory tests included: determination of fasting glycemia, total Testosterone and PSA levels
- d) Doppler Spectral Power (DPS) of the cavernosal deep penile artery , in the flaccid

state , without any pharmacological forced dilatation .

The average age of the patients was 56 years. The average duration of ED is 11 months. Average Score IIEF-5 is 13 (Mild to Moderate)
Co-morbidities : arterial hypertension (compensated) , insulin-dependent diabetes mellitus.

Method

The patient was placed on a gynaecological chair, in a warm and relaxed atmosphere (to avoid stress or anxiety which could influence the DSP tests)

Ultrasound Doppler transducer was pointed at the right and left Crus.

Doppler test included peak systolic velocity (PSV)) and Resistivity Index (RI)

We divided the 36 patients into 3 groups, based on the following parameters:

Group I : Mild severity (12 Patients),

Group II : Mild To Moderate (14 patients)

Group III: Severe (10 patients)

Follow up after 4 weeks

Treatment :

Group I : LIST with the Renova (1 session once a week - 4 weeks);

Group II: Same as I but adding PDE5-I (Tadalafil 5 mg once daily for 28 days).

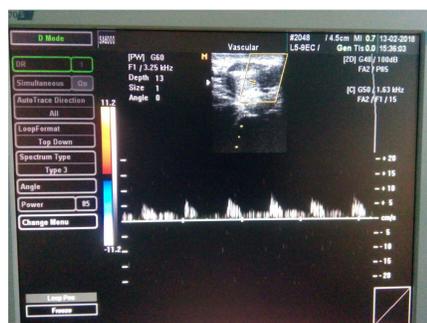
The follow-up at 1 month

Group III : Same as I but adding PDE5-I (Tadalafil 5 mg once daily for 28 days).

Doppler measurement method



Taking the DSP test from left and right Crura



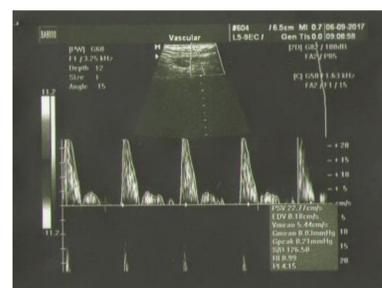
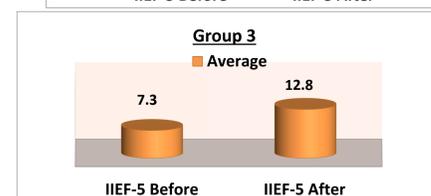
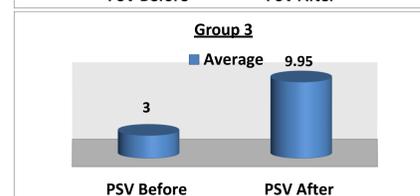
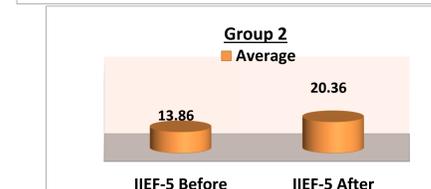
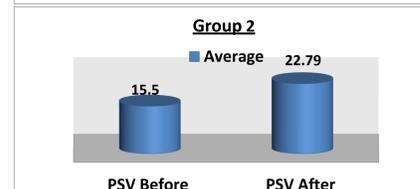
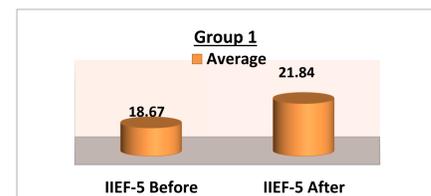
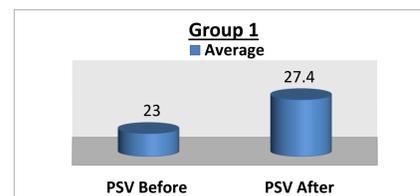
Treatment Procedure with LIST Renova. (left and right side of Crura)



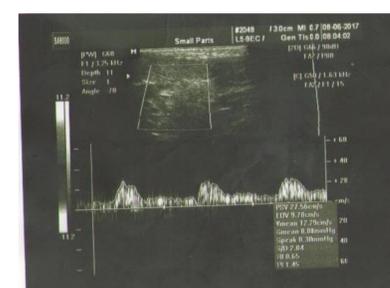
Treatment Procedure with LIST Renova. (left and right side of corpus cavernous)

Results

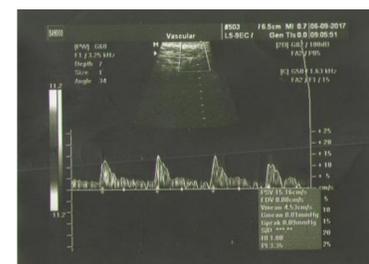
		PSV Before	PSV After	R.I. Before	R.I. After	IIEF-5 Before	IIEF-5 After
Group I	Average	23	27.4	0.86	0,87	18.67	21.84
	Standard Deviation	1.6	1,24	0,07	0,07	1.67	5.8
Group II	Average	15.5	22.79	1.01	0.98	13.86	20.36
	Standard Deviation	3.3	2.91	0.04	0.04	1.75	2.21
Group III	Average	3	9.95	0.13	0.98	7.3	12.8
	Standard Deviation	4.9	6	0.35	0.41	2.16	3.19



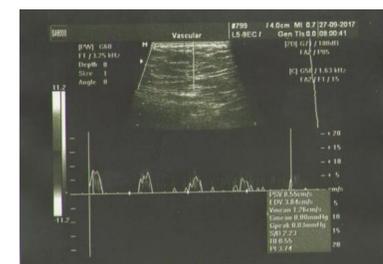
DSP test. PSV 22.7cm/s



DSP test. PSV 27.5cm/s



DSP test. PSV 15.16cm/s



DSP test. PSV 8.55cm/s

Group I had excellent results in IIEF improvement, increase of PSV and reduction of RI.

Similar results in Group II with Tadalafil.

Group III had poor results.

Conclusion

Our experience shows the potential of using DPS and RI in flaccid penis for diagnosis and treatment assessment of results of LIST with Renova

This is an initial Pilot and additional studies have to be performed to asses the potential of this method .

