



#349 Shockwave therapy and platelet rich plasma for the treatment of Peyronie's disease

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Hypothesis / aims of study

AIM

The results of conservative methods of Peyronie's disease (PD) treatment do not exceed the placebo, and surgical treatment does not always lead to satisfactory results. The objective was investigate the effects of platelet-rich plasma (PRP) and extracorporeal shock wave therapy (ESWT) in patients with PD.

METHOD

70 patients with PD were included in our trial. Patients were randomly allocated to 2 groups. Group 1 received ESWT (Dornier Aries) twice weekly for 6 weeks, the age was 46.3 y.o. (21-71), the duration of PD was 1.4 years (0.5-5). Group 2 received 2 therapy sessions per week during 6 weeks. Session 1 included ESWT per penile and PRP injections into penile, finally PRP was activated with ESWT, session 2 included ESWT per penile. The age of group 2 patients was 44.1 y.o. (24-71), the duration of PD was 1.9 years (0.5-6). Follow-up evaluations were performed at baseline and 2 months after the treatment using the following criteria in both groups (median (IQR%): PDQ (Q6), VAS score during vaginal intercourse and VAS score during erection, curvature angle, plaque size and calcifications according to ultrasound data. The study was approved by the Ethics Committee of the RUDN Medical Institute.

Results and interpretation

RESULTS

VAS during erection in group 1 decreased from 3.4 (0-5) to 0 (0-0) (p<0.001). VAS during erection in group 2 decreased from 3 (1-4) to 0 (0-1.5) (p<0.001). VAS during vaginal intercourse in group 1 decreased from 1.5 (0-3) to 0 (0-1) (p<0.05). VAS during vaginal intercourse in group 2 decreased from 3.5 (2.4-5) to 1 (0-1) (p<0.001). PDQ in group 1 were changed from 9.5 (6-17) to 3.8 (0.7-5.1) (p<0.001). PDQ in group 2 were changed from 13.6 (7.9-18.5) to 5 (1-7.6) (p<0.001). The curvature angle in group 1 decreased from 30.3° (17-49) to 20.9° (15.7-36.1) (p<0.05). The curvature angle in group 2 decreased from 28.4° (18.6-47) to 15° (7.2-25.5) (p<0.05). In group 1 calcification size decreased from 4.2 mm (2.6-8.6) to 2.4 mm (1-5.1) (p>0.05). In group 2 calcification size was changed from 3.5 mm (2.1-8.7) to 2.4 mm (1-4.1) (p<0.05). In group 1 local fibrosis decreased from 268.2 mm2 (123-367.6) to 109.5 mm2 (56.2-176) (p<0.05). In group 2 local fibrosis decreased from 117.9 mm2 (71.9-295) to 30.7 mm2 (20.6-70.5) (p<0.05). In 15 cases (42.8%) of group 2 local fibrosis was completely resolved according to ultrasound data. After 2 months, intergroup analysis revealed a significantly lower mean plaque size, VAS during erection, VAS during vaginal intercourse, in patients that received PRP plus ESWT (p<0.05).

Group 1, ESWT (n=35)	Group 2 , PRP+ESWT (n=35)
Median age was 46.3 y.o. (21-71)	Median age was 44.1 y.o. (24-71)
The duration of PD was 1.4 years (0.5-5)	The duration of PD was 1.9 years (0.5-6)
ESWT per penile (Dornier Aries) twice weekly for 6 weeks.	2 therapy sessions per week during 6 weeks. 1 st session included ESWT per penile and PRP injections into penile, finally PRP was activated with ESWT, 2 nd session included ESWT per penile.

	Group 1, ESWT (n=35)		P value, versus baseline	Group 2 , PRP+ESWT (n=35)		P value, versus baseline
	0 day	60 day		0 day	60 day	
VAS during erection	1.5 (0-3)	0 (0-0)	p<0.001	3 (1-4)	0 (0-1.5)*	p<0.001
VAS during vaginal intercourse	1 (0-2.5)	0 (0-1)	(p<0.05)	3.5 (2.4-5)	1 (0-1)*	p<0.001
PDQ scale	9.5 (6-17)	3.8 (0.7-5.1)	p<0.001	3.6 (7.9-18.5)	5 (1-7.6)	p<0.001

PDQ - Peyronie's Disease Questionnaire (median (IQR%)) VAS - Visual Analogue Scale (median (IQR%)) * Significantly different from group 1 (p<0.05)

	Group 1, ESWT (n=35)		P value, versus baseline	Group 2 , PRP+ESWT (n=35)		P value, versus baseline
	0 day	60 day		0 day	60 day	
Curvature angle (°)	30.3° (17-49)	20.9° (15.7-36.1)	p<0.05	28.4° (18.6-47)	15° (7.2-25.5)	p<0.05
Calcification size (mm)	4.2 (2.6-8.6)	2.4 (1-5.1)	p>0.05	3.5 (2.1-8.7)	2.4 (1-4.1)	p<0.05
Local fibrosis (mm ²)	268.2 (123-367.6)	109.5 (56.2-176)	p<0.05	117.9 (71.9-295)	30.7 (20.6-70.5)*	p<0.05

* Significantly different from group 1 (p<0.05)

CONCLUSIONS

These suggested treatments were well-tolerated in all patients. PRP plus ESWT and singly ESWT may represent an actual conservative strategy in the PD treatment. Combined treatment is more effectiveness in relation to manage a local fibrosis and pain according VAS, PDQ.

CONTACT INFORMATION

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