Steroids Versus Pulsed Radiofrequency in Treatment of Radicular Pain Due to Lumbar Disc Prolapse A randomized ClinicalTrial.

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Table (1) Demographic and Clinical Data

	Group TES N=45		Group PRF N=45		Test	P
Age (years) Mean± SD Range	**39.3± 8.8 26- 55**		**37.5± 9 28- 59**		**0.99**	**0.32**
Gender	**N**	**%**	**N**	**%**	**X^2**	**P**
Male	**31**	**68.9**	**28**	**62.2**	**0.44**	**0.5**
Female	**14**	**31.1**	**17**	**37.8**		
Root affected	**N**	**%**	**N**	**%**		
L4	**8**	**17.8**	**7**	**15.6**		
L5	**16**	**35.6**	**17**	**37.8**		
S1	**8**	**17.8**	**6**	**13.3**		
L5+ S1	**13**	**28.9**	**15**	**33.3**	**0.53**	**0.91**

Table (2) VAS Changes

	TES	PRF	t	P
Pre Mean± SD Range	**7.5± 0.5 7- 8**	**7.53± 0.5 7-8**	**0.41**	**0.67**
At one week Mean± SD Range	+ **4± 2 2- 7**	+ **3.2± 1.6 2-7**	**1.96**	**0.052**
4 weeks Mean± SD Range	+ **5.9± 0.7 5- 7**	+ **3.2± 1.6 2-7**	**10.02**	++ **<0.001**
2 months Mean± SD Range	**6.5± 0.5 6-7**	+ **3.2± 1.6 2-7**	**12.8**	++ **<0.001**
3 months Mean± SD Range	**7.5± 0.5 7- 8**	+ **4± 1.2 3-7**	**17.02**	++ **<0.001**
P	+ **<0.01**	++ **<0.001**		

+ P <0.01 when compared with pre interventional value using paired t test within each group.

++ P<0.001 when compare between TES and PRF groups.

Introduction

After a long experience of lumbar transforaminal epidural steroid injections and dorsal root ganglion pulsed radiofrequency we observe unsatisfactory outcome after steroids injection in so many cases and this is not the case in dorsal root ganglion (DRG) pulsed RF. To the best of our knowledge there is no welldesigned large randomized controlled trials to proof the efficacy of (DRG) pulsed radiofrequency in the management of chronic lumbar radicular pain.Shanthanna et al, say that there is non significant difference between lumbar (DRG) pulsed radiofrequency and control group regarding visual analogue scale and Oswestry disability index either at four weeks or three months intervals post intervention (1). We perform a comparative study between both interventional procedures.

Patients and methods

We included 100 patients of lumbar disc prolapse with radiculopathy in the study, 90 of them only completed the follow up period. Group (TES) 45 patients were managed by transforaminal epidural steroid injection of 24 mg methylprednisolone in 3ml normal saline on each affected root. Group (PRF) 45 patients were managed by pulsed radiofrequency on DRG of the affected roots for 240 seconds after which 8mg of methylprednisolone in 2ml of normal saline are injected.

Results

There was non significant difference between group (TES) and group (PRF) regarding the age, sex and levels of root affection table (1). Improvement in the VAS in PRF group is significant at all assessment intervals when compared with TES group table (2). In TES group after one month of intervention the change in VAS was non significant if compared with the preintervention value .

Discussion

The current results disagree with Manchikanti et al and this may be due to they use more than one single injection and their results may be attributed to the effect of local anesthetic they inject in the foramen not the steroids (2) . The results of steroid injection in this study agree with the results of Schaufele et al who say that 45% of patients who are improved after transforaminal epidural steroid injection require one or two more injections in a period of one year follow up and the initial period of improvement in such patients occur in a mean of 18.7 days (3). Regarding the (PRF) group the results of that study disagree with Shanthanna et al who say that there is no statistically significant difference between the effect of pulsed radiofrequency on DRG and the control group in treating radicular pain of lumbar disc prolapse either at 4 weeks or 3 months after the procedure. This may be because we used PRF at 42C for 240 seconds and not only for 120 seconds (1). In the current study the results of PRF group are concordant with the results of Simopoulos et al who sa y that pulsed radiofrequency is a successful treatment for radicular pain after lumbar disc prolapse in the majority of cases up to three months after the procedure (4).

Conclusion

Pulsed radiofrequency of lumbar dorsal root ganglia is more effective than lumbar transforaminal epidural steroid injection up to three months of follow up in patients with radiculopathy due to lumbar disc prolapse.

References:

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