



Does the Addition of Alcohol Increase the Efficacy of Radiofrequency Ablation of T2 and T3 Sympathetic Ganglia in Hyperhidrosis?

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Table (1) Demographic and Clinical Data

	RF group N=15		ARF group N=15		t	P
Age (years)						
Mean± SD	21.7± 3.9		20.1± 4.1		1.09	0.28
Range	14- 26		14- 26			
Gender					X ²	P
Male	10	66.7	9	60	0.14	0.7
Female	5	33.3	5	40		
Site of hyperhidrosis					X ²	P
Hands only	10	66.7	9	60	0.14	0.7
Hands and feet	5	33.3	6	40		

Table (2) Dryness and hotness of hands after Intervention

	RF		ARF		X ²	P
	N	%	N	%		
Immediate dryness						
Yes	7	46.7	13	86.7	5.4	0.02
No	8	53.3	2	13.3		
At one week						
Yes	7	46.7	13	86.7	5.4	0.02
No	8	53.3	2	13.3		
At one month						
Yes	7	46.7	13	86.7	5.4	0.02
No	8	53.3	2	13.3		
At 3 months						
Yes	7	46.7	13	86.7	5.4	0.02
No	8	53.3	2	13.3		
At 6 months						
Yes	6	40	12	80	0.5	0.025
No	9	60	3	20		

Introduction

Severe hyperhidrosis results in significant functional and psychosocial problem to the patient. Many patients particularly young refuse to undergo surgical sympathectomy and even endoscopic surgeons in our institute are reluctant to perform this surgery to their kids if they have hyperhidrosis. In our institute we observed high rate of patient dissatisfaction after radiofrequency (RF) ablation of thoracic sympathetic ganglia in hyperhidrosis.

After review of literature we found that most patients have some form of anatomical variations of the position of T2 ganglion all are described as Kuntz nerve (1). The goal of this work is to know whether the addition of alcohol will cover this anatomical variation and improve the results of thermocoagulation or not.

Patients and methods

30 patients of primary palmar hyperhidrosis are classified into two groups 15 for each. Group (RF) ; N = 15. Technique; 3 thermal RF lesions of T2 and T3 sympathetic ganglia using 10 cm RF cannula with 10mm curved active tip; each lesion temperature is 80°C for 120 seconds. After lesioning, 3ml of methylprednisolone 4mg/ml solution are injected at each ganglion. Group (ARF) ; N = 15. Technique; same like RF group plus addition of 0.5- 1 ml of 100% alcohol according to age and size. After lesioning, 3ml of methylprednisolone 4mg/ml solution are injected at each ganglion. Both groups are followed up for 6 months.

Results

Both groups are similar regarding age, sex and site of affection with hyperhidrosis table (1). 13 patients out of 15 got improved up to 6 months in group (ARF) while 7 patients only out of 15 got improved up to 6 months in (RF)group table (2). Only one patient in (RF) group developed intercostal neuritis and pain in axilla. Two patients developed same complication in the (ARF) group. All improved within one month after a course of Gabapentine 200- 400 mg /day according to age.

Discussion

Low success rate in RF group is most probably due to anatomical variations in the position of sympathetic ganglia present in most people all described as KUNTZ nerve. High success rate in ARF group is due to alcohol injection will cover a larger surface area of tissues that might contain the sympathetic chain. Results of RF only group are comparable with (Franco et al) who did the same technique under CT guidance (2) Results of ARF group are correspondent with results of (Huang et al), but the injected larger volume of alcohol in a different site (3) Results of RF only group disagree with (Purtuloglu et al) who found that RF sympathicolysis at T4 sympathetic ganglia was successful in 75% of cases of primary hyperhidrosis, this may be due to their larger sample size (4)

Conclusion

Efficacy of T2 and T3 sympathetic ablation with radiofrequency and alcohol is significantly higher than their ablation with radiofrequency alone with non significant complications after both procedures.

References:

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- 4) Purtuloglu T, Atim A, Deniz S et al. Effect of radiofrequency ablation and comparison with surgical sympathectomy in palmar hyperhidrosis. *European Journal of Cardio-Thoracic Surgery* 2013; 43: e151—e154