

SHORT COMMUNICATIONS

BIOFEEDBACK ASSISTED RELAXATION (BAR) IN MANAGEMENT OF HYPERHIDROSIS : A PRELIMINARY STUDY

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Ten adult male patients suffering from hyperhidrosis were managed with biofeedback assisted relaxation (BAR) regimen using skin conductivity. Six of them showed significant improvement, 2 showed minimal to moderate improvement, whereas no improvement was observed in the remaining 2 cases. Mean values of skin conductivity showed a range of 1.29 to 6.79 mho units before biofeedback session with reduction in these values to the range of 0.53 to 1.64 mho units after therapy in 6 patients showing good response. The grades of clinical improvement correlated well with corresponding reduction in skin conductivity in all the cases.

Key Words : Biofeedback, Hyperhidrosis

Introduction

Behaviour therapeutic techniques have proved beneficial in management of various dermatological disorders such as chronic constitutional eczema, atopic dermatitis, lichen simplex, urticaria and hyperhidrosis.¹⁻³ Biofeedback therapy, a behavioural technique has been effective in treating hyperhidrosis by producing marked changes in skin conductance and by lowering level of subjective anxiety.⁴ Biofeedback assisted relaxation (BAR) sessions were utilised in the present study for treatment of hyperhidrosis.

Materials and Methods

Ten adult males in the age group 18-35 years, suffering from palmoplantar hyperhidrosis, of varying severity received biofeed assisted relaxation therapy.

Duration of symptoms varied from 15 days to 10 years in the study group. Four patients had associated skin conditions like pompholyx, tinea pedis, contact dermatitis, infective eczematoid dermatitis and fissuring/scaling of soles respectively (Table I).

Skin conductivity biofeedback monitoring apparatus manufactured by Thought Technology Ltd, Montreal was utilised for the present study. The instrument provides real time values in form of digital visual display as well as directional changes in form of auditory tonal feedback.

Every subject was given around 10 sessions in an airconditioned experimental chamber with low ambient light and noise levels. He reclined on an easy chair with index and ring fingers of his right hand connected to the electrodes of the apparatus. Auditory tonal feedback was given through ear phones. During the sessions patient was given preliminary relaxation training for 2 to 3 minutes with suggestions for calming mental imagery,

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progressive muscular relaxation and deep breathing exercises. Thereafter biofeedback alone was given with auditory feedback for a total of 20 minutes. The values of skin conductivity were recorded in the beginning, every 5 minutes and at the end of BAR sessions.

Results

Table II shows the BAR therapy results in individual patients. Six of the 10 patients obtained significant improvement, 2 obtained minimal or moderate improvement whereas the remaining 2 patients showed no improvement. Out of these six subjects, only 2 could be

followed up after 4 weeks of BAR sessions and both of them continued to remain symptom-free. The other 4 patients who had secondary skin disorders showed concomitant improvement in these changes too with improvement in hyperhidrosis.

Significant reduction in skin conductivity (SC) values was obtained in all the six patients, who were found to respond well to BAR therapy. Non-significant reduction of SC values was found in the two cases who showed mild to moderate improvement. Paradoxical rise of SC values at the end of BAR

Table I. Clinical details of the subjects

Sl.No.	Age	Duration	Severity	Associated skin conditions
1.	19	1 month	Moderate	-
2.	24	5 years	Moderate	Pomphoiyx and tinea pedis
3.	34	10 years	Severe	-
4.	27	2 years	Moderate	Contact dermatitis
5.	35	1 year	Moderate	-
6.	25	6 years	Mild	Infective eczematoid dermatitis
7.	22	15 days	Moderate	-
8.	31	9 years	Mild	Fissuring and scaling of soles
9.	18½	4 years	Moderate	-
10.	26	3 years	Moderate	-

Table II. BAR therapy results in hyperhidrosis

Case No.	No. of sessions	Overall clinical improvement	Skin conductivity in mho units				Mean difference
			Pretreatment		Posttreatment		
			Mean	SD	Mean	SD	
1.	09	Significant	1.29	0.69	0.63	0.24	0.66
2.	09	Significant	3.13	2.13	0.76	0.51	2.37
3.	08	Significant	2.15	1.24	0.53	0.29	1.62
4.	07	Minimal	3.11	3.29	1.12	1.47	1.99
5.	07	Nil	14.39	7.61	15.21	9.6	-0.82
6.	12	Significant	2.46	1.04	1.04	0.31	1.42
7.	10	Significant	6.79	4.55	1.64	0.75	5.15
8.	04	Nil	4.73	1.77	5.01	2.99	-0.28
9.	07	Moderate	14.39	19.41	5.54	5.56	8.85
10.	11	Significant	2.31	1.7	0.99	0.28	1.32

sessions was found in the two cases who did not respond at all to this therapy.

Comments

Emotional sweating appears primarily on palms, soles and axillae. It is activated by states of fear, rage and tension.⁵ Silver and Blanchard⁶ have emphasised that active ingredient of biofeedback in treatment of psychophysiological disorders is relaxation or tension reduction.

Miller and Coger¹ used biofeedback in treating patients with dyshidrotic eczema. Clinical improvement was noticed in 16 of 22 eczema patients. Duller and Gentry² were able to demonstrate improvement in 11 of 14 adult patients of hyperhidrosis given biofeedback therapy. Patients received auditory tonal feedback in both these studies, using an earlier generation of biofeedback equipment which did not provide actual values of physiological parameters.

The present study suggests effectiveness of biofeedback therapy in

cases of hyperhidrosis. The grades of clinical improvement have been well corroborated by corresponding reduction in skin conductivity in all the cases. This shows that it is possible to predict outcome of the treatment by monitoring biofeedback parameters.

References

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