PRIMARY AXILLARY HYPERHIDROSIS

(A comparative 5-years follow-up study report)

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Summary

A total of 24 patients with primary axillary hyperhidrosis were treated during 1973 to 1976 with classical Hurley-Shelley operation alone or concomittent sympathectomy. Seventeen patients had been followed up for a period of 5 years or more till October, 1981. All the patients in Gr. B (Hurley-Shelley operation + sympathectomy) were symptom free till the time of report. Two patients in Gr. A (without concomittent sympathectomy) developed recurrence of hyperhidrosis of the same extent as of pre-operative state, were subsequently operated upon for sympathectomy, and had remained symptom free since then. Other patients in Gr. A showed very good to satisfactory response.

Patho-Physiology of Sweat-Secretion

The skin contains two types of sweat glands, the small sized eccrine glands and the larger ones the apocrine glands. Eccrine glands are ennervated with cholinergic fibres and respond both to emotional and thermal stimuli. Apocrine glands are ennervated with adrenergic fibres, and do not respond to thermal stimuli unless there is an accompanying emotional stimulation (Hurley and Shelley, 1960).

The central portion or the dome of axilla is heavily loaded with both types of sweat glands. Though smaller in size, eccrine glands are responsible for 70—80 per cent of the total sweat produced.

Hyperhidrosis may result from an abnormal increase in nerve impulses as in C. N. S. lesions or hyperthyroidism (secondary hyperhidrosis) or emotional states (primary hyperhidrosis). Increased tonicity of sweat fibres may intensify the sweat response to normal nervous or non-nervous stimuli.

There is no apparent racial or sexual predilection for axillary hyperhidrosis.

Material and Method

A total of 24 patients with primary axillary hyperhidrosis were operated upon during the period 1973 to 1976. None of the patients had suffered from any obvious pathology e. g. thyrotoxicosis or C. N. S. lesions, which might have led to hyperhidrosis. X-ray skull, X'ray chest, serum T_3–T_4 estimation, urinary steroids, done in all cases, were all within normal limits.

The patients were randomly divided into two groups, i. e. Gr. A and Gr. B. In Gr. A comprising of 15 patients, classical Hurley-

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Shelley operation were performed, under L. A. The Gr. B. of 9 patients were treated with the same operation plus sympathecthomy (T_2 to T_4 or T_5 ganglia) under G. A. The maximum sweat gland bearing area was mapped out by the method described by Weaver (1970).

Only those patients were included for the evaluation purpose, who are followed up for a minimum period of 5 years after operation. Two patients (one from each group) died within 2–3 years of operation and 5 patients (3 patients in Gr. A and 2 patients in Gr. B) did not respond to follow up study, for more than 3 to 8 months after operation. Therefore, only 17 patients (10 patients in Gr. A and 7 in Gr. B) could be evaluated. The age and sex incidence is shown in Table I.

All the patients were followed up initially every two months for first 6 months, then every 4 months for a minimum period of 5 years. Two patients were followed for over 7 years.

Table I

Age and Sex distribution in Gr. A and Gr. B

Age group in years,	No. of cases			
	Group A		Group B	
	Male	Female	Male	Female
0-10	—	—	—	—
11-20	1*	2	1	—
21-30	2	3	2	1
31-40	2	1*	1*	1
41-50	1	1**	1	1*
51-60	1*	1	1**	—
60 and above	—	—	—	—

Note : * Did nol respond for follow-up study.

** Died during the period of evaluation due to causes unrelated to hyperhidrosis or the surgical procedures carried thereof.

The criteria for the effectivity were (i) duration of symptom free post-operative period, and (ii) the degree of response shown. The degree of response was evaluated as (a) very good—no hyperhidrosis trouble-free post-operative period during the entire period of followup, (b) satisfactory—relapse of hyperhidrosis but at a subdued level, not much discomforting, which could be easily managed by enticholanergics and anti-perspirants, and (c) poor –return of pre-operative state of excessive sweating, requiring a further surgery (Table II).

Table II

Degree of response achieved in Gr. A and Gr. B regimes.

	No. of cases	Good.	Satis-factory	Poor
Gr. A.	10	3	5	2*
Gr. B	7	5**	2	—

Note : * Sympathectomy performed subsequently. Have remained symptom free since then.

** One case followed up for over 7 years, has remained symptom free.

Discussion

Primary hyperhidrosis can be, not only, discomforting but embarrassing, occasionally, disabling, as well. Very mild cases can be managed by anticholinergics and anti-perspirants. But severe cases can be treated effectively, only by surgery. Since the time, when, Hurley and Shelley discovered accidently, the surgical procedure, which proved to be effective against hyperhidrosis, much work has been done on the subject (Skoog and Jhyresson, 1970; Ellen & Morgan, 1971). Where the result of such procedures as Hurley-Shelley operation or the removal of all of the axillary glands by excision of the "glandular layers" of the axillary skin, is not very effective, addition of sympathectomy provides a gratifying result.

A perusal of Table II shows that out of 10 patients in Gr. A, the response achieved was good in 3 (30%) and satisfactory in 5 (50%). In the latter case two patients complained of a relapse of mild degree within 2 years, 2 patients had a similar degree of relapse between 3rd and 4th year and one patient in 4th and 5th year. Such mild type of relapse was not much discomforting to the patients and could be easily managed by conservative methods. Two (20%) patients, after an initial symptom free period of one to two years complained of recurrence of hyperhidrosis (poor response) to the extent of preoperative state. Subsequently, sympathectomy was performed and, since the had remained free of symptom.

All the patients undergoing Hurley-Shelley eombined with sympatheetomy procedures (Gr. B) showed marked improvement. Five (71.4%) patients remained absolutely trouble free all during the 5 years follow-up period. One of them had remained so far over 7 years. The rest two patients (28.5%) showed a relapse (one within the 3rd-4th year and the other in 4th-5th year), but only of a minor degree.

The aim of Hurley-Shelley operation is only to reduce the excessively axillary secretion to a near normal level and not its complete abolition (as against Skoog and Thyresson procedures which inhibits axillary sweating, which obviously is not a desiaable state). Very good to quite satisfactory results are achieved by Hurley-Shelley procedures. Any relapse of moderate to severe degree can, effectively, be treated by sympathectomy.

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