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52. Objective Evaluation of Thoracoscopic Sympathectomy for Palmar Hyperhidrosis

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Background: Evaluation of palmar hyperhidrosis (PH) patients and estimation of their response to bilateral thoracoscopic sympathectomy (BTS) are subjective. We hypothesize that measurement of transepidermal water evaporation rates (TWER) and use of standardized questionnaires can provide an objective pre and postoperative assessment of patients with PH.

Methods: IRB-approved prospective study of healthy volunteers (controls) and of all PH patients evaluated in 2006. We measured palmar TWER(g/m²/h) with a hand-held closed-chamber device (Vapometer®). Study subjects answered 3 standardized quality-of-life (QOL) questionnaires: Dermatology Life Quality Index (DLQI), Hyperhidrosis Disease Severity Scale (HDSS), and SF36. The DLQI scores the effect of symptoms on life (0=no effect;30=extremely large effect), and the HDSS rates hyperhidrosis severity (1=unnoticeable;4=intolerable). TWER and questionnaires were re-evaluated 1 month after BTS. We used t-tests to compare controls vs PH patients, and preoperative vs postoperative values in PH patients undergoing BTS(α=0.05).

Results: TWER and questionnaire scores were significantly higher in PH patients (n=20) than in controls (n=22). 10 patients had BTS during the study period. BTS decreased TWER and questionnaire scores significantly (Table).

	Controls(n=22)	Preop PH(n=20)	Postop PH(n=10)
TWER(g/m ² /h)*	125+53	167+33a	40.5+9.9b
DLQI*	0.2+0.5	14.2+5.1 a	1.5 +2.0b
HDSS(mean)	1.0	3.6a	1.2b

*Mean+standard deviation
ap<0.005 vs controls
bp<0.001 vs preop

PH patients had lower SF36 physical (p=0.032) and mental health dimensions (p=0.001) than controls. BTS significantly improved mental health dimensions (p=0.045).

Conclusion: TWER and standardized QOL questionnaires are objective, clinically practical tools to evaluate patients with PH and their response to BTS. Normal reference TWER values may be helpful for future standardization of results.