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QUANTITATIVE ASSESSMENT OF RESULTS OF SPINAL CORD STIMULATION (SCS) IN REFLEX SYMPATHETIC DYSTROPHY BY AUTONOMIC FUNCTION TESTS

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PURPOSE: Spinal cord stimulation (SCS) for reflex sympathetic dystrophy (RSD) is still sparsely used. Quantitative assessment of improvement is needed to demonstrate usefulness of SCS in RSD.

METHODS: In this prospective study, 32 consecutive patients referred for RSD to a neurosurgeon (RS) since 1992 were evaluated with autonomic function tests: resting sweat output (RSO), Quantitative Sudomotor Axon Test (Q-SART), and thermography.

RESULTS: Eleven out of 12 patients failing non-interventional management succeeded an SCS trial and underwent implantation of a Resume lead in 5 patients (4 cervical, 1 thoracic) and Pisces-Quad in 6 (2 cervical, 4 thoracic) and Itrel II generator. Follow up ranged from 1 to 54 mos, mean 16 mos. Only one patient requested removal of hardware; she demonstrated objective evidence of improvement of her causalgia, but complained of worsening of her failed back surgery syndrome. Autonomic function tests improved in all SCS patients. Rest sweating decreased 0.58 microliters (0.9-1.71) in 4 cases and increased 0.2 microliters (0.18-0.23) in 5. Stimulation sweating increased 3.01 microliters (0.58-7.55) in three cases while decreasing 2.33 microliters (0.28-7.76) in seven. Temperature increased in 10/11 cases, average 2.5 degrees C (0.5-7C). The autonomic tests deteriorated in one patient who experienced recurrence of symptoms with exhaustion of the SCS generator. Patients reporting worsening of symptoms coinciding with litigation in thw absence of objective findings on exam did not have changes in autonomic testing. Migration of RSD occurred in five patients and was confirmed with autonomic testing.

CONCLUSION: We conclude SCS is helpful in RSD and that objective measurement of improvements are obtained with autonomic function tests.