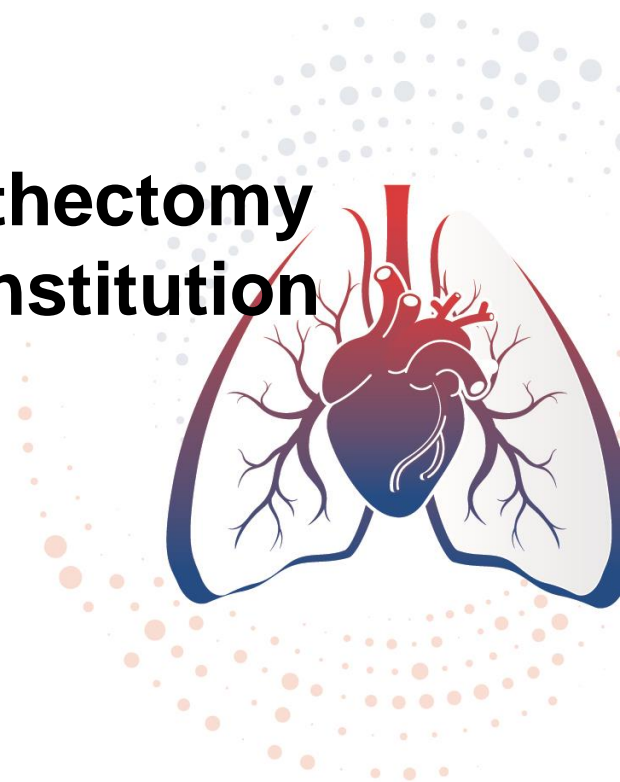


2023 대한심장혈관흉부외과학회

제55차 추계학술대회 & APELSO 2023

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Mid-term Outcomes of Endoscopic Lumbar Sympathectomy : Analysis of 474 Consecutive Patients at a Single Institution



- ***Plantar hyperhidrosis*** severely impairs the quality of life of patients.
- Its definitive treatment is ***lumbar sympathectomy***, but it has not been widely adopted and used as it still remains relatively unfamiliar to many thoracic surgeons.
- This study aims to evaluate the ***mid-term results of 474 consecutive patients treated at a single institution***.
- The results of this study will ***reveal and facilitate a discourse regarding the factors influencing the surgical outcomes***, as well as ***surgical indicators***.

- From July 2019 to February 2023
- Retrospective review
- 474 patients with at least 6 months of follow-up after ELS (\pm ETS)
- **Patients were divided into three groups (based on period):**
 - ✓ **Group A: Surgery without any application (initial period)**
 - ✓ **Group B: Surgery with Laser Doppler Flowmetry (LDF)**
 - ✓ **Group C: Surgery with both LDF and psoas muscle relaxation**
- Statistical analysis
 - Mann Whitney U test
 - Fischer's exact test
 - Logistic regression for reappearance of plantar symptoms and compensatory hyperhidrosis

**Group A:
“Initial period”**

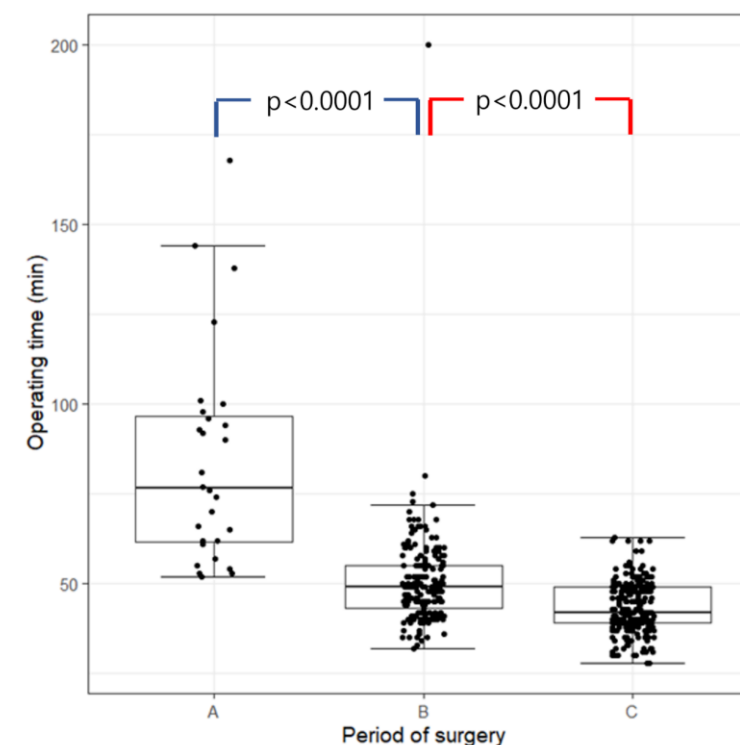
**Group B:
“with LDF”**

**Group C:
“with Psoas muscle
relaxation”**

Demographics and surgical outcome of patients underwent ELS

Factor	Group	Total N=474	Period A (Initial period) n=28	Period B (with Laser Doppler) n=198	Period C (with Psoas relaxation) n=248	P- value
Sex						0.512
	F	277 (58.4)	18 (64.3)	110 (55.6)	149 (60.1)	
	M	197 (41.6)	10 (35.7)	88 (44.4)	99 (39.9)	
BMI		22.1 [20.0, 24.1]	20.7 [18.9, 22.6]	22.8 [20.6, 24.6]	22.0 [20.0, 24.0]	0.004
Obesity (BMI over 25)		86 (18.1)	1 (3.6)	40 (20.2)	45 (18.1)	0.102
Weight		60.8 [53.0, 70.0]	56.5 [50.4, 66.8]	62.7 [53.9, 72.0]	60.0 [52.1, 69.5]	0.022
Height		165.6 [160.0, 173.0]	163.7 [159.3, 172.5]	165.5 [160.6, 173.3]	166.1 [160.0, 173.0]	0.614
previous ETS		79 (16.7)	13 (46.4)	33 (16.7)	33 (13.3)	<0.001
Previous LSGB		8 (1.7)	2 (7.1)	2 (1.0)	4 (1.6)	0.061
Operating time		46.0 [40.0, 52.0]	76.5 [61.7, 96.5]	49.0 [43.2, 55.0]	42.0 [39.0, 49.0]	<0.001
Concomitant ETS		390 (82.3)	13 (46.4)	163 (82.3)	214 (86.3)	<0.001
Unidentifiable lumbar chain		8 (1.7)	1 (3.6)	3 (1.5)	4 (1.6)	0.725
Peritoneal injury		38 (8.0)	4 (14.3)	25 (12.6)	9 (3.6)	0.001
Reappearance of plantar sweating		21 (4.4)	5 (17.9)	6 (3.0)	10 (4.0)	0.002
Compensatory Hyperhidrosis						0.005
	N	256 (54.0)	23 (82.1)	98 (49.5)	135 (54.4)	
	Y	218 (46.0)	5 (17.9)	100 (50.5)	113 (45.6)	
Compensation Degree	HDSS 0	256 (54.0)	23 (82.1)	98 (49.5)	135 (54.4)	0.027
	HDSS 1	210 (44.3)	5 (17.9)	97 (49.0)	108 (43.5)	

Operation time according to each periods



Risk factor analysis for reappearance of plantar sweating

Univariate analysis			Multivariate analysis	
Factor	OR (95% CI)	p-value	OR (95% CI)	p-value
Age over 35	3.67 (1.47-9.21)	0.006	4.57 (1.56-13.40)	0.006
BMI over 25	0.46 (0.11-2.02)	0.314		
Sex (Ref. Female)	0.69 (0.27-1.75)	0.442		
Previous ETS	2.08 (0.78-5.54)	0.143		
Previous LSGB	226 (26.0-1960)	<0.001	269 (29.3-2460)	<0.001
Intraoperative peritoneal injury	2.90 (0.92-9.10)	0.068		

Risk factor analysis for Compensatory hyperhidrosis

Univariate analysis			Multivariate analysis	
Factor	OR (95% CI)	p-value	OR (95% CI)	p-value
Age over 25	0.58 (0.39-0.86)	0.007	0.60 (0.40-0.90)	0.014
BMI over 25	0.93 (0.56-1.53)	0.770		
Male (Ref. Female)	0.90 (0.60-1.34)	0.590		
Concomitant ETS	5.98 (2.00-17.8)	0.001	5.63 (1.88-16.9)	0.002
Study period (Ref. period A)¶				
Period B	2.58 (0.85-7.89)	0.106		
Period C	2.02 (0.67-6.10)	0.210		
Intraoperative peritoneal injury	1.05 (0.50-2.22)	0.890		

- Endoscopic Lumbar Sympathectomy (ELS) proved to be a highly effective surgical method in treating plantar hyperhidrosis.
- Following ELS, *reappearance of plantar hyperhidrosis (surgical failure) was observed in patients aged 35 years and older*, as well as patients *with history of undergoing lumbar sympathetic ganglion block (LSGB)*.
- Following ELS, *compensatory sweating* was actually *less frequent in patients aged 25 years and older*; however, it occurred *more frequently* in patients who *concurrently received endoscopic thoracic sympathectomy (ETS)*.
- Based on this, ELS with careful patient selection appears to be beneficial to improving the quality of life of patients suffering from plantar hyperhidrosis