



# SINGLE PORT ENDOSCOPIC THORACIC SYMPATHECTOMY WITH HOLMIUM LASER FOR TREATING PALMAR HYPERHIDROSIS AT THAI BINH PROVINCIAL GENERAL HOSPITAL

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RESEARCHERS:

PROF. PHD. HUNG DOAN QUOC

PHD. HUU NGUYEN CONG

MD. MA. THANH DO TAT

Speaker: THANH DO TAT

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## INTRODUCTION



- Primary palmar hyperhidrosis : hyperactivity of the sympathetic nervous system
- Rate: 1-1,5% of the population  
Male/Female=1/1, 20-40 yo, 25%-33% family factors.
- Endoscopic thoracic sympathectomy:  
Effective and optimal

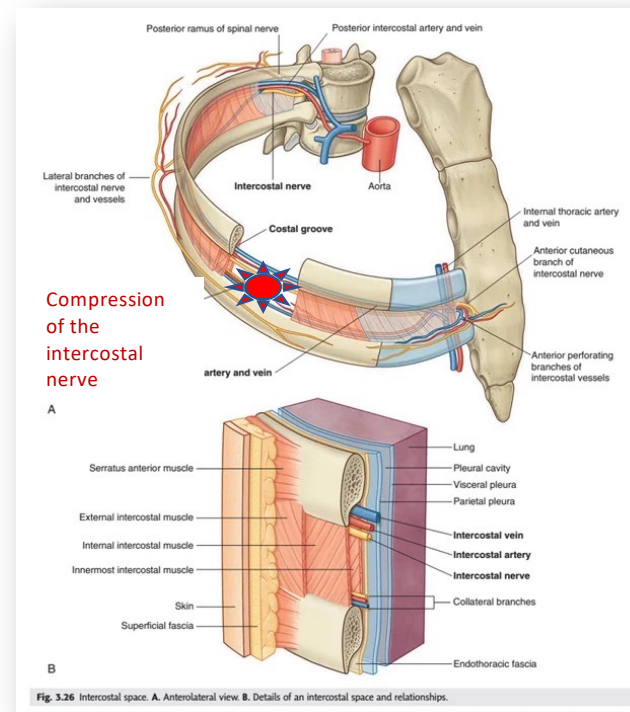
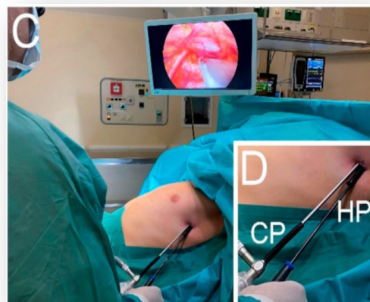
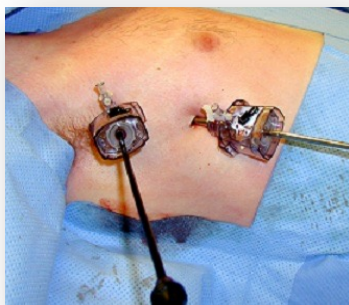




# INTRODUCTION



01 port



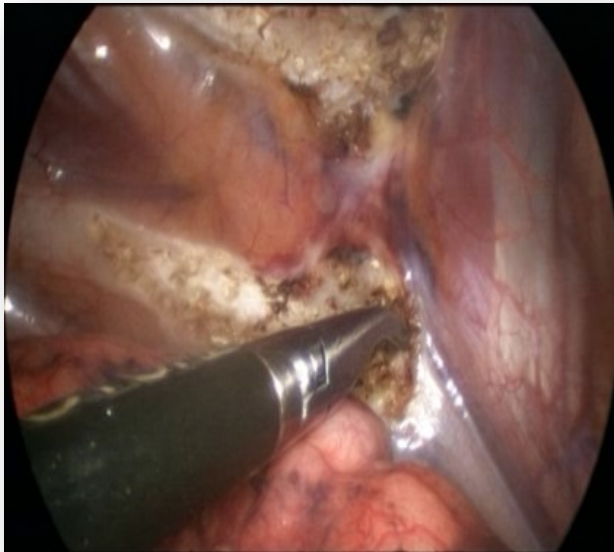
1. <https://www.vascularsociety.org.uk/patients/procedures/13/sympathectomy>

2. Georghiou GP, Berman M, Bobovnikov V, Vidne BA, Saute M. Minimally invasive thoracoscopic sympathectomy for palmar hyperhidrosis via a transaxillary single-port approach. *Interact Cardiovasc Thorac Surg.* 2004;3(3):437-441. doi:10.1016/j.icvts.2004.03.003



## INTRODUCTION

### Sympathetic ganglion destruction method



Electromagnetic



Clip



Dissection of sympathetic trunk



<https://asiamedicalspecialists.hk/en/health-info/33/Sweaty-Palms>



# INTRODUCTION



## Sympathectomy ganglion and compensatory sweating

Author	Rate	Factor
Chien-ChihLin (342 patients)	0 %	Alone coagulant T4
Larry R	Severe 1-2%	Resected T4
Rafael Reifeld (1274 patients)	N1 > N2	N1: Clipped T2-T3 N2: Clipped T3-T4
Neumayer C (144 patients)	N1: 55,6% N2: 8,5%	N1: Burnt T2-T4 (91p) N2: Clipped T4 (53 p)
Peter B Licht. (158 patients)	N1: 81% N2: 90% N3: 95%	N1: T2 (blush) N2: T2-T3 (Palmar) N3: T3-T4 (palmar+axillary)





# OBJECTIVE

## “SINGLE PORT ENDOSCOPIC THORACIC SYMPATHECTOMY WITH HOLMIUM LASER FOR TREATING PALMAR HYPERHIDROSIS”

1. Technical description
2. Early assessment of surgical results





## SUBJECTS AND METHODS



- **Time:** in June – July 2023
- **Subjects:** 47 patient ( 26 : isolated palmar, 21 : combined palmar/axillary)
- **Methods:** Description, prospective
- **Evaluate results after surgery::**
  - ✓ *Technical failure ?*
  - ✓ *Level of palmar and axillary sweating after surgery?*
  - ✓ *Compensatory sweating after 1 month?*
  - ✓ *Post-op HDSS score?*

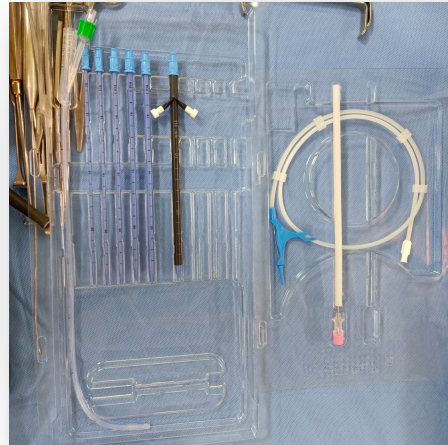




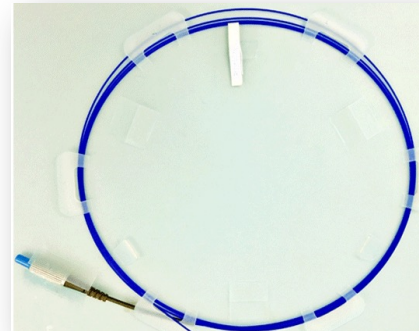
## SYMPATHECTOMY WITH HOLMIUM LASER



12Fr endoscope



Percutaneous dilation set



Optical fiber



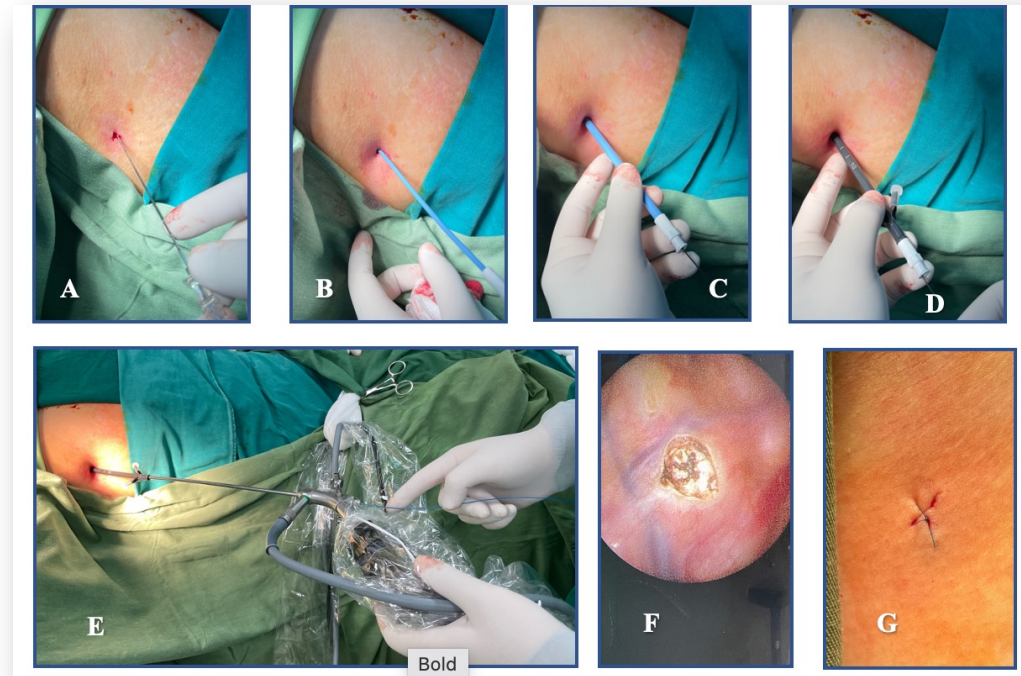
Holmium laser machine







## TECHNICAL PROCESS



**A:** Insert an exploratory needle

**B-C:** 8Fr-14Fr dilator

**D:** Set 14fr sheath

**E:** Place a 12Fr endoscope with

integrated Laser fiber tunnel

**F:** Transecting the sympathetic ganglion

**G:** Insicion closure



## RESULTS AND DISCUSSION

### ❖ PREOPERATIVE CHARACTERISTIC

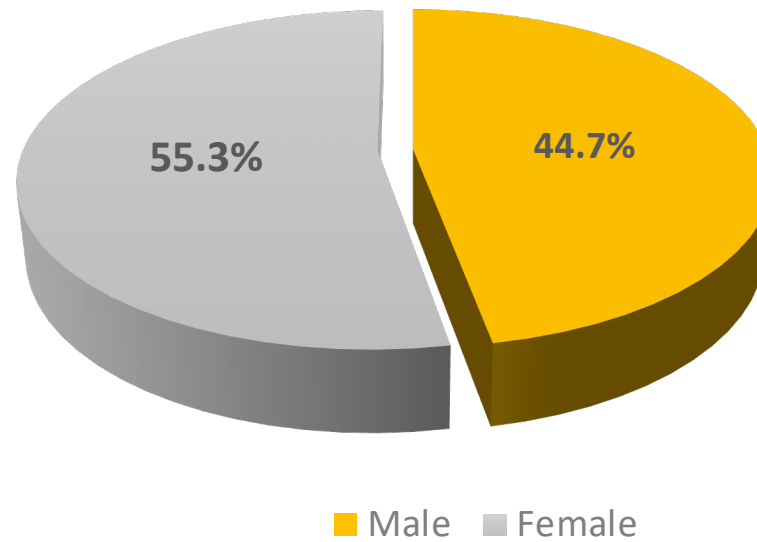
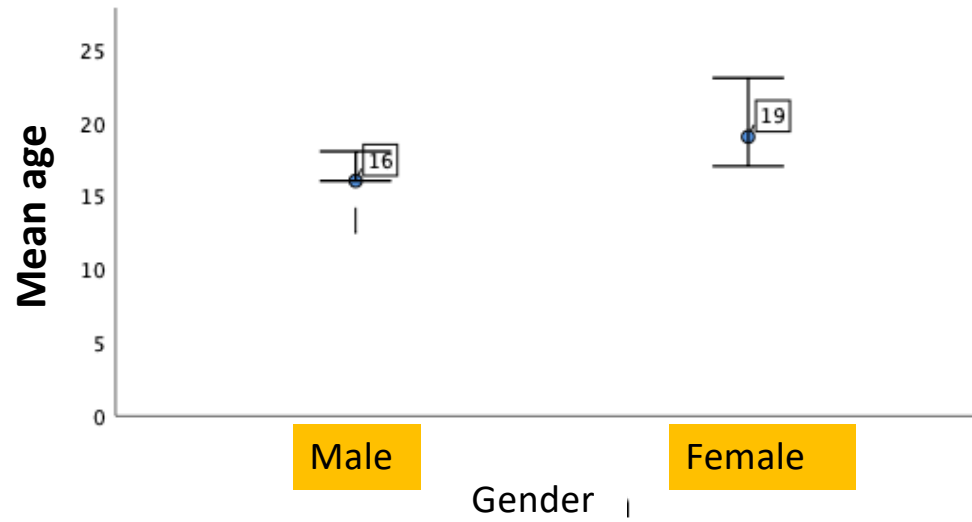


Chart 1: Gender





## RESULTS AND DISCUSSION



Mean age:  $18 \pm 7,4$

Chart 2: Age





## RESULTS AND DISCUSSION

**Table 1.** Preoperative patient data (n=47)

Variable		Results
BMI (kg/m <sup>2</sup> )		20±2,56
Region	Palm	26(55,3%)
	Palm - axillary	21(44,7%)
Time of onset	Childhood	40(85,1%)
	Unknown	07(14,9%)
HDSS score	1 - 2 point	0
	3 point	57,4%
	4 point	42,6%

**Table 2.** Hyperhidrosis Disease Severity Scale (HDSS)

HDSS scores	How would you rate the severity of your sweating?	PFH severity
1	My sweating is never noticeable and never interferes with my daily activities	Mild
2	My sweating is tolerable but sometimes interferes with my daily activities	Moderate
3	My sweating is barely tolerable and frequently interferes with my daily activities	Severe
4	My sweating is intolerable and always interferes with my daily activities	Intolerable

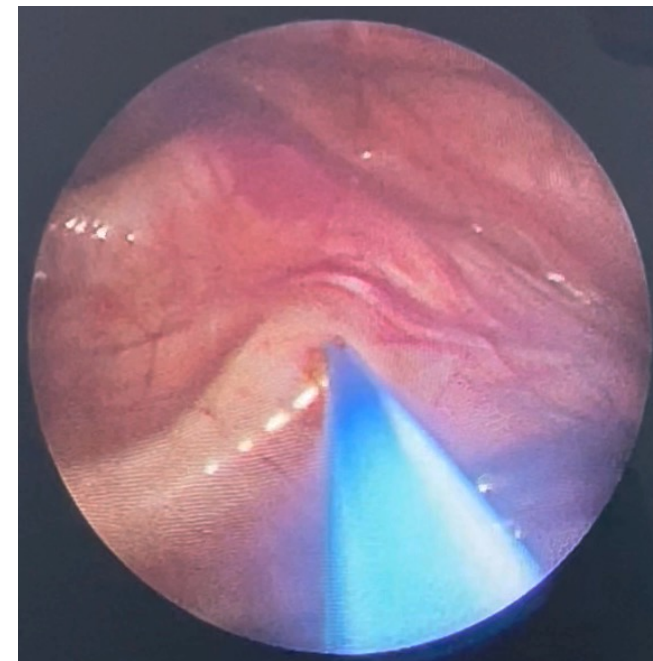




## RESULTS AND DISCUSSION

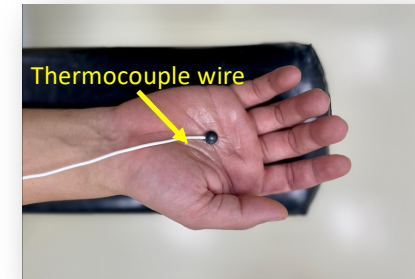
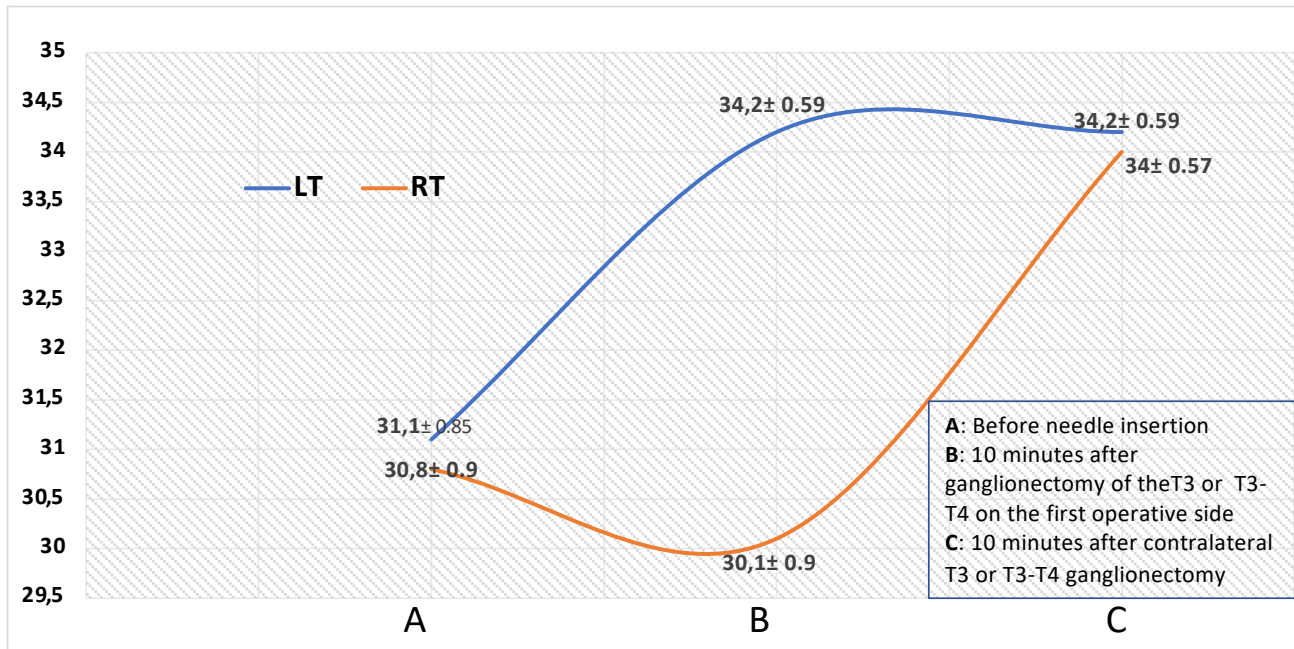
**Table 3. Operative characteristic**

Variable		Results
Pleural apical ligament		<b>08 (17%)</b>
Resected ganglion		T3 (55,3%), T3-T4 (44,7%)
Kurnt branch		<b>05 (10,6%)</b>
Operation time(s) **		<b>78 ± 40,76</b>
Intra-op complication	Punctured lung	0
	Bleeding	0

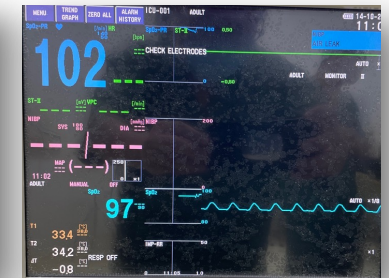




# RESULTS AND DISCUSSION

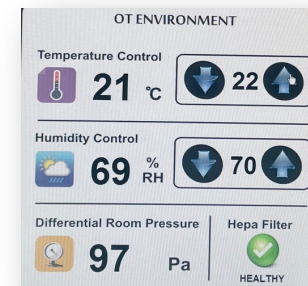


Palmar temperature measurement



Monitor

Chart 3: Pre-intra-post operative palmar temperature



Operating room temperature control panel





**Table 4. Postoperative outcomes**

Variable		T3	T3-T4	
Dry palm		<b>100 %</b>		
Dry axillary				
Horner 's syndrome		0		
Post-op pain***		4,2%( VAS: 5-6) <b>76,5% (VAS: 3-4)</b> 19,3%(VAS:1-2)		
Duration of hospital		<b>30 ± 11,4</b>		
Compensatory sweating	Yes (14/47)	Back	01	01
		Chest	01	03
		Abdominal	0	01
		Anterior thigh	01	01
		Leg	0	01
	Thigh-leg	0	04	
	Total	03/26 (11,5%)	<b>11/21 (52,4%)</b>	
No		<b>70,2%</b>		
Post-op HDSS score		<b>1 point : 100%</b>		





## CONCLUSION

- Single port endoscopic thoracic sympathectomy:
  - ✓ *14 Fr port*
  - ✓ *12 Fr endoscope intergrated laser fiber*
  - ✓ *Holmium Laser*
- ➔ **Fast - Safe – Minimally invasive – Less trauma**
- Axillary hyperhidrosis has a high risk of compensantory sweating after surgery.







**THANK YOU!**

