

## Value And Limitations Of Postoperative Duplex Scans After Endovenous Thermal Ablation



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No disclosures

## Venous Insufficiency



- Widespread condition
  - 30 mil in USA
  - Tx \$3 Bil annually
- Saphenous veins Tx options
  - GSV stripping & high ligation
  - Stab avulsions
  - EVLT, RFA (Thermal)
  - Sclerotherapy (Varithena ®, STS, PDC)
  - Venaseal® (Cyanoacrylate)
  - Clarivein ® (MOCA)

## Non-surgical closures advantages

- Simple, office based
- Minimally invasive
- Decreased
  - Pain
  - Hematoma
  - Infection
  - Cost (sick days)
- Improved QOL
- Comparable success



## Thermal / Tumescents Ablations Complications

- Bruising
- Paresthesias
- SVT
- DVT
- EHIT
- Burns
- Ulcerations
- Hyperpigmentation
- Failure to obliterate target



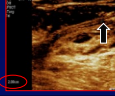
## Background

- EVTA of the lower extremity veins has become the primary modality treatment for symptomatic venous reflux disease
- Recanalization and EHIT had been reported as primary complications
- Currently, there is no clear consensus as to when and how often follow-up duplex scans should be performed
- Our aims were to try to determine the best time and frequency of duplex scan to best diagnose EHIT and recanalization as well as high risk patient groups



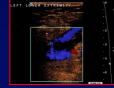
## RFA and EVLT 10000 Cases

- March 2012 to September 2018
- Tumescant +/- sedation, GSV thigh, leg, SSV, Acc S
- 3,218 patients
- 66.2% females
- Mean age = 61.9 years old (15 – 103 years)
- Mean CEAP = 3.84
- RFA <65 yo + ≥ 6mm vein, EVLT ≥65 yo
  - 6090 RFA + 3910 EVLA



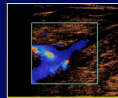
## RFA and EVLT

- March 2012 to September 2018
- 10000 procedures (8931 limbs, 3218 patients)
- Follow up: 25.8 ± 12.9 months
- Ages 15 -103 yo (62.5 ±15.6 yo)
  - <80 yo – 2441 pts 75.5%
  - 80-89 yo – 392 pts 12%
  - 90-99 yo – 369 pts 11%
  - ≥100 – 16 pts 0.5%



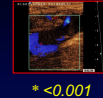
## Methods

- SFJ was evaluated for EHIT (classified for Tx)
- Successful obliteration was defined as lack of color flow on postoperative scan (3-7 d)
- Recanalization was defined as presence of reflux on duplex ultrasound in the target vessel at follow-up
- Follow-ups were conducted every 3 months in the first year and every 6 months thereafter



## RFA and EVLT 10000 Cases

- eHIT 186 (1.9%)
  - <80yo – 1.7%
  - >80yo – 2.8% \*
- The incidence of bilateral EHIT was 72.9%
- The data warrant further analysis of other specific risk factors in EHIT patients



\* <0.001

EHIT Class 1	137
EHIT Class 2	47
EHIT Class 3	1
EHIT Class 4	1

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Is Endovenous Heat-Induced Thrombosis Bilateral?

David Gill-Boyd, DO and Margaret MD, Vance Smith, BS, Tanya Zeng, MD, Joseph Volpone, DO, Diego Rodriguez, DO, Giovanni Lombardi, MD, Justin Lombardi, MD, Carlos Acosta, MD, Yonah Shalev, MD

## Results

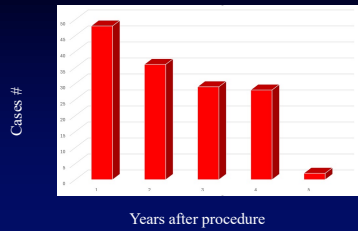
- Successful (axial) 9793 (97.9%)
- Recanalized 207 (2.1%)
  - <80yo – 1.6% \* 0.012
  - >80yo – 3.9%\*
- Follow up: 25.8 ± 12.9 months
- CEAP and recanalization
  - C3 – 42 / 2,075 2%
  - C4 – 56 / 3,166 1.8%
  - C5 – 13 / 123 10.6%
  - C6 – 32 / 889 3.6%
- 143 / 207 (69%) redo ablations for symptomatic pts



## Saphenous recanalization and age

Variables (all Pt for S-T Center vs. non-center)	<80 years old	80-89 years old	90-99 years old	≥100 years old
1. Male	2,956	383	54	5
2. Female	5,774	743	165	11
3. Right Leg	4,262	553	86	8
4. Left Leg	4,468	576	73	8
5. Veins Treated				
1. GSV	5,073	488	114	6
2. SSV	2,247	284	32	6
3. ASV	315	67	8	1
CEAP Classification (all Pt for S-T Center vs. non-center)				
1. CEAP-0	17	0	0	0
2. CEAP-1	106	3	4	0
3. CEAP-2	1,889	214	31	1
4. CEAP-3	2,647	540	72	2
5. CEAP-4	77	34	11	1
6. CEAP-5	609	236	52	2
Total # of veins treated	8,254	1,879	174	16
Mean Follow-up	29,141.9	28,241.3	24,143.9	23,644.7
Recanalizations (# of veins)	143	107	16	0
	1.7%	4.5%	10.4%	

### Timeline between Initial and Redo procedure



### Conclusion

- Large variability as to when redo procedures were performed
- Majority of patients had redo saphenous ablations performed within the first year after recanalization
- Post - procedure duplex checks after first year may only be indicated for recurrent symptoms

*Thank you*