Radiofrequency Ablation Versus Polidocanol Endovenous Microfoam Ablation of Large Diameter Saphenous and Tributary Veins

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Disclosures:

- Boston Scientific- Speaker, Consultant

Endovenous Ablation of Incompetent Large Diameter (LD) Truncal Veins:

- **Some authors have reported worse outcomes following endovenous ablation of larger diameter truncal veins**
  - **Lower occlusion rates**
  - **Higher rate of Ablation Related Thrombus Extension (ARTE)**
- **Definition of "large diameter" has ranged from minimum 8 mm to 15 mm**
- **Radiofrequency ablation generally considered safe and effective for LD truncal veins**

Endovenous ablation with concomitant phlebectomy is a safe and effective method of treatment for symptomatic patients with axial reflux and large incompetent tributaries

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- **1000 Consecutive RFA**
- **Symptomatic Relief- 87%**
- **Successful Closure- 98.6%**
- **ARTE- 1.7%**

TableIV. Multivariate analysis using the multiple linear regression model for predictors and risk factors resulting in level 3, 4, and 5 closures

Vein diameter (>8 mm)	*P*= .027
Vein diameter (>10 mm)	*P*< .001
History of DVT	*P*= .041
Age	*P*= .722, NS
Chronic anticoagulation	*P*= .198, NS
Antiplatelet medication taken	*P*= .495, NS
Previous vein ligation	*P*= .312, NS
Previous vein stripping	*P*= .204, NS
Previous stab phlebectomy	*P*= .391, NS
Concomitant phlebectomy	*P*= .483, NS

The 2023 Society for Vascular Surgery, American Venous Forum, and American Vein and Lymphatic Society clinical practice guidelines for the management of varicose veins of the lower extremities. Part II

Endorsed by the Society of Interventional Radiology and the Society for Vascular Medicine

Consensus Statement:

5.2.7.- For patients with large (> 10 mm), nonaneurysmal saphenous veins, thermal ablation with EVLA or RFA should be performed rather than using nonthermal ablation techniques

Commercial Polidocanol Endovenous Microfoam (Varithena) in LD Truncal Veins

- **VANISH-2 Trial (2014): 232 treated patients**
- **Randomized blinded multicenter study**
- **Treated GSV's from 3.1 mm to 19.4 mm (Mean: 8.7 mm)**
- **Significant improvement in symptoms and appearance**
- **Ablation Related Thrombus Extension (ARTE)- 3.9%**
- **DVT- 6.5%**

Early results following comparison of radiofrequency and microfoam ablation of large diameter truncal veins demonstrate hig

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  - Microfoam- 95%
- Improved VCSS in both groups
- Venous Ulcer Healing Rates
  - RFA- 83%
  - Microfoam-79%

- ARTE
  - RFA- 3%
  - Microfoam- 6.1%
- No remote DVT or pulmonary emboli

Increased body mass index and vein diameter are associated with incomplete target vein closure following microfoam ablation of incompetent saphenous veins

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- **127 Truncal Veins treated with Microfoam (2018-2022)**
- **Group 1 (Complete Closure, n=115), Group 2 (Non-closure, n=12)**
- **Univariate and Multivariate Analysis**
  - **Diameter ≥ 10 mm was associated with non-closure (OR: 4.8)**
- **Symptom Relief**
  - **Group 1 (Closure): 97%, Group 2 (Non-Closure): 67%**

Factors associated with ablation-related thrombus extension following microfoam versus radiofrequency saphenous vein closure

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- **GSV's treated with (2018-2023): Microfoam (n=96)**
- **150 consecutive GSV RFA's included as comparison group**
- **Classified into two groups: ARTE and NO ARTE**
- **Six patients demonstrated ARTE**
  - **Microfoam- n=5, 5.2%**
  - **RFA- n=1, 0.7%**
- **Univariate and Multivariate analysis:**
  - **Vein diameter > 10 mm associated with ARTE (p=0.17)**

Conclusions:

- Both RFA and Microfoam appear to be safe and effective for treatment of large diameter truncal veins
- Based on our experience, first choice for closure of LD truncal veins is RFA
- Ultrasound screening for ARTE and non-closure suggested following Microfoam of LD truncal veins
- Need Randomized comparative trials

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