Incidence, Causes, and Treatment of Recurrent Varicose Veins following Thermal Ablation

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**Disclosures**

- Medtronic: speaker/trainer
- Endoshape: stock
- Analytics 4 Life: stock
- Vascular Device Partners: partner

**Incidence**

- Few long term longitudinal studies
- Bush study estimated a 7% recurrence at a median 3 year follow-up based on total # ablations over the 3 year period though patients ranged from 9 months to 8 year follow-up.
- Surgical treatment with several studies with recurrences of reported of 26-70% depending on the definition of recurrence (symptomatic vs asymptomatic)

**Causes of Recurrent Varicose Veins (endothermal vs surgical)**

- Wrong or inadequate procedure (0% vs >40%)
- Recanalization of treated vein (6.1% vs 0%)
- New source of incompetence (>40% vs 30%)
- Neovascularization (<10% vs 0-24%)
- Deep venous disease (5% vs 20%)

**Same Site Recurrence is More Frequent After Endovenous Laser Ablation Compared with High Ligation and Stripping of the Great Saphenous Vein: 5 year Results of a Randomized Clinical Trial (RELACS Study)**

- Rass K, Frings N et al
- Eur J Vasc Endovasc Surg. 2015 Aug; 50(4):454-461
- 281 legs, 60 month median follow-up, 40% EVLA vs 55% HLS
- 18% vs 5% surgical site recurrence EVLA vs HLS
- 2% vs 7% saphenofemoral recurrence EVLA vs HLS
- 31% vs 50% different site recurrence EVLA vs HLS
- No difference in QOL or disease severity
Recurrence patterns after endovenous laser treatment of saphenous vein reflux

- Winokur RS, Khilnani NM, Min RJ
- Phlebology. 2015 Jul 16. pii
- 58 patients (79 limbs) from a cohort of 802 patients treated with EVLA and sclero March 2000 to March 2007 with clinical follow-up until May 2014
- New reflux in the anterior accessory saphenous and small saphenous veins as well as recanalization of the treated saphenous segment

Neovascularisation is not an innocent bystander in recurrence after great saphenous vein surgery

- Corbett CR, Prakash V
- Observational study of 100 limbs in 66 patients 5-22 years (mean 12) s/p GSV surgery with recurrent vv
- Saphenofemoral incompetence was most common source (27%) judged to be from neovascularization and most symptomatic based on AVVQ scores and most visible vv

Wrong Procedure

- Best to do the right one first
- Very thorough duplex mapping
- Special attention to accessory saphenous veins, pelvic sources, thigh extensions and perforators
- Careful pre-op marking

Recanalization

- Highest among first generation RFA
- Lowered by increasing energy
- Increased by large untreated tributaries and perforators
- Re-treatment may be limited by the ability to insert a catheter into the vein
Neovascularization

- More common after stripping than endothermal ablation but still reported
- Cause uncertain possibly recanalization of thrombosed vein
- Treatment options are more limited
- Sclerotherapy
- Varithena®

New source or progression of disease

- Genetic tendency not limited to the saphenous vein
- Accessory/duplicated saphenous vein
- Small saphenous vein including thigh extension
- Perforator veins
- Pelvic veins

Perforator vein treatment

- Thermal
- Sclerotherapy
- Ligation
Pelvic vein escape points

Deep venous disease

- History of DVT
- Deep venous reflux
- Central stenosis or obstruction
Elevated serum estradiol/free testosterone ratio precipitate recurrent varicose veins in men

- Özcan S, Tezcan O et al
- Int Angiol. 2015 Mar 20
- Group with elevated estradiol levels had significantly higher recurrence 54 vs 32% (p=0.006) higher CEAP clinical score 5 vs 2 (p<0.05)

Conclusion

- Recurrence is the rule rather than the exception
- Thorough duplex is essential in determining the source of the recurrence and to prevent early recurrences
- Treatment may involve one of several methods from sclerotherapy, thermal ablations, ligations to the deep vein interventions
- Hormonal replacement therapy may have a role (at least in men ages 30-50)