AN UPDATE ON THE DIAGNOSIS AND MANAGEMENT OF VARICOSE VEINS AND CHRONIC VENOUS DISEASE

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Nothing To Disclose
1. What are the recommended stockings to use in the conservative treatment of patients with varicose veins?

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b) OTC (15-18mm)  
c) Class I (20-30mm)  
d) Class II (30-40mm)  
e) Class III (40-50mm)
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   b) NSAIDS
   c) Rest and elevation of the legs.
   d) Antibiotics
   e) All of the above
   f) A, b, c
1. What are the major contributing factors for varicose vein disease?

a) Smoking
b) Heredity
c) Obesity
d) Pregnancy and child birth
e) All the above
f) b, d
1. Which of the following is not recommended as first line treatment of varicose veins?

a) Radio Frequency ablation
b) Endovenous Laser Ablation
c) Vein stripping
d) Sclerotherapy
e) Phlebectomy
1. Which of the following conditions should be referred for venous evaluation?
   a) Unexplained lower extremity edema or lymphedema
   b) Large high pressure varicosities
   c) Lower extremity ulcers not directly associated with arterial disease.
   d) Spider veins and leg pain
   e) All of the above
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Varicose Veins

• Dilated thin or thick walled veins caused by ambulatory venous hypertension
Clinical Spectrum of Varicose Veins

- Truncal Varices
- Reticular Veins
- Telangiectasias
INCIDENCE OF VARICOSE VEINS

• > 25% of Adult U.S. Population
• Women 2 times more likely than men
• Increases with age
  • - age 30 – 30%
  • - age 40 – 40%
  • - age 50 – 55%
  • - age 60 – 80%
  • - age 70 – 89%
MORE PREGNANCIES = MORE VARICOSE VEINS

13% with 1 pregnancy
30% with 2 pregnancies
57% with 3 or more pregnancies
WORK MAY BE HAZARDOUS TO YOUR VENOUS HEALTH

• Most studies show that prolonged standing or sitting increases the prevalence and severity of venous disease

• 2854 factory workers, in those with varicose veins:
  • 64.5% stood
  • 29.2% sat
  • 6.3% walked
HEREDITY AFFECTS INCIDENCE OF VENOUS DISEASE

• Risk of developing VVs 90% if both parents affected

• 47% (25% for men and 62% for women) if one parent affected

• 20% if neither parent affected
Clinical Causes of Varicose Veins

- Heredity
- Age
- Female Gender
- Female Hormones
- Pregnancy
- Prolonged standing
- DVT/SVT
NO RELATIONSHIP HAS BEEN CONFIRMED BETWEEN VENOUS DISEASE AND...

- Obesity
- Diet
- Constipation
- Smoking
- OCP/HRT
- Diabetes, HTN
- Trauma to legs
The Etiology

• Chronic ambulatory venous hypertension
  – Incompetent valves
    • Superficial
    • Perforator
    • Deep veins
  – Deep venous obstruction

$r=0.79$

Incidence of ulceration (%)

n=34
n=44
n=51
n=45
n=34
n=28
n=10
n=5

Ambulatory venous pressure (mmHg)

<n=31  31-40  41-50  51-60  61-70  71-80  81-90  >90>
Natural History of Varicose Veins

• Progressive enlargement
• Complications
  – Bleeding
  – Superficial phlebitis
  – Ulceration
Treatment of Superficial Phlebitis

Compression (stockings or ace wrap)
NSAIDS
Rest and leg elevation
Antibiotics not indicated
Clinical Spectrum of Varicose Veins

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SYMPTOMS

Aching, throbbing, heaviness, tiredness, cramping, restless legs, swelling

Pain often prior to menses

Varicose vein symptoms do not correlate with vein size

85% of women with just spider veins have symptoms relieved by treatment
Vascular Laboratory Examination

- Duplex ultrasound
- Duplex ultrasound
- Duplex ultrasound
Duplex Ultrasound

- Survey of deep veins
- Evaluation of SFJ/SPJ
- Evaluation of GSV/SSV
- Evaluation of Inc. Perforators
EPIGASTRIC BRANCH

GSV

CFV

RT SAPHENOFEMORAL JUNCTION
Common Duplex Pathology

- Junctional Reflux (SFJ/SPJ)
- Truncal Reflux (GSV/SSV/Named Br)
- Perforator Reflux (Named/Unnamed)
Treatment of Varicose Veins

- Ablate high pressure refluxing veins
- Sclerose smaller veins
- Compression therapy
TREATMENT OF VARICOSE VEINS

• Conservative Treatment
  – Pump assist device
  – Class 2 (30-40mm) graduated compression stockings
  – Never TED hose
Historical Treatment of Varicose Veins

- Bloodletting
- Cauterization
- Ligation
- Stripping
- **Sclerotherapy**
- Laser (external)
- **Ambulatory phlebectomy**
- **RF/Laser endovenous ablation**
Vein Ligation and Stripping

- Old standard procedure
- Junctional ligation and GSV/SSV Removal
- Stripping of secondary varices/perforators
- No longer first line treatment
Modern Treatment of Varicose Veins

- Duplex US Diagnosis and Guidance
- Laser/RF Ablation of jct/truncal vessels
- Amb. phlebectomy of secondary varices
- Follow up sclerotherapy of residual varices
- All performed in the office
LASER/RF ABLATION

- Uses Heat to injure vein endothelium
- Tumescent Anaesthesia
- Performed in the office
- Treats GSV, Ant. Branch, SSV and Perforating veins
The VenaCure EVLT®
Procedure
Under local anesthesia, a catheter is placed in the vein through a needle.

- The laser is passed through the catheter to the top of the site.
- After injection of additional anesthesia along the length of the vein, the laser is fired, and the catheter is withdrawn back out of small puncture site.
WHAT TO EXPECT AFTER THE VENA CURE EVLT® PROCEDURE

- Mild bruising can occur along the leg that has been treated.
- A “tightening” sensation along the vein is reported by many patients.
- Some mild tenderness along the vein for a couple of days is common.
- Tylenol / Motrin is typically all that is needed.
WHAT DO THE RESULTS LOOK LIKE?
PATIENT 1

Before VenaCure EVLT® treatment

2 months after VenaCure EVLT treatment
PATIENT 2

Before VenaCure EVLT® treatment

2 months after VenaCure EVLT treatment
PATIENT 3

Before VenaCure EVLT® treatment

2 months after VenaCure EVLT treatment
PATIENT 4

Before VenaCure EVLT® treatment

2 months after VenaCure EVLT treatment
PATIENT 5

Before VenaCure EVLT® treatment

2 months after VenaCure EVLT treatment
PATIENT 6

Before VenaCure EVLT® treatment

2 months after VenaCure EVLT treatment
Laser/RF Results

- Effectively closes GSV and SSV and larger truncal branches.
- Immediate Results: 98-99% closure
- One year results: 94-97% closure
- Five year results: 92-96% closure
Postoperative Duplex Surveillance.

- Postoperative evaluation at 3 days, 4-6 weeks, 6mo. and 1 year.
- “Closed” vein appears the same as acute SVT at level of SFJ.
- Thrombosis of secondary varices is common
- PO edema and hematomas are also commonly seen
• Laser/RF ablation of varices is the new standard of treatment for Junctional Reflux.
• All varicose vein treatment is now performed in an office or clinic setting with only local anaesthesia.
• Patients return to most normal activities the next day.
Ambulatory Phlebectomy

• The removal of varicose veins through small incisions.
• Performed in the office under local anesthesia.
• Done at the same time as Laser/RF ablation.
• Steri strips used to close incisions, no sutures needed.
SCLEROTHERAPY

The Introduction of a Medication into a Vein Causing Irritation to the Lining and Scarring from Within
SCLEROTHERAPY

- 1840 - Hypodermic Syringe
- 1920 - Saline Solution
- 1946 - Sotradecol
- 1960 - Compression added
- 1966 - Polidocanol
- 2000 - Foam
FOAM SCLEROTHERAPY

- Displaces blood, longer contact time
- Treats larger veins with less sclerosant
- Foam visualized on ultrasound
- Treatment limited to 20 ml of foam per day
COMPLICATIONS

• Pigmentation
• Skin Ulcers
• Extremely Small Spider Veins
• Telangectatic Matting
• Allergic Reaction
• Larger veins appear like SVT
RECURRENCE
Only a treatment, not a cure
CONTRAINDICATIONS

- Bedridden Patients
- Febrile Patients
- Patients with Deep Vein Thrombosis
- Pregnant or Nursing Patients
- Patients Attempting Pregnancy
Who should be referred for evaluation

- Unexplained lower extremity edema or lymphedema
- Any size varicosities with symptoms, including spider veins
- Lower extremity ulcers not directly explained by arterial disease
- Restless Leg Syndrome
CONCLUSION

• Laser/RF ablation has replaced vein stripping.
• All varicose vein treatment can be done in the office under local anesthesia, none for sclerotherapy.
• There is no bed rest required after treatment and patients are encouraged to remain active.
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