

Varicose Veins

Dr Ewan Macauley

Consultant Vascular Surgeon

Royal Adelaide Hospital

Presented at the May 2009

South Australian Wound Management Association

Education Evening

What are Varicose Veins?

- Visible abnormal veins
- 3 types
 - Spider
 - Reticular
 - Varicose

Common Questions

- How do they form?
- Why does it happen?
- Did I inherit it?
- Did my work cause it?
- Did my children cause it?
- Are they dangerous?
- What might happen?
- What tests can we perform?
- What treatments are available?
- If you take the vein out what will happen?

How do they form?

- Valvular incompetence allows pressure transmission
- Veins dilate

Why do valves become incompetent?

- Primary (no cause)
- Gravity!
- Increased pressure
- Peculiar to humans
- Abnormal vein wall?
 - Difficult to prove
 - Rarely biopsy a pre-varicose vein and watch development of varicose vein!
- Secondary (rare)
 - Damage to valves
 - Post-DVT
 - Central increase pressure
 - Abnormality development deep veins
 - Keep in mind

Did I inherit it?

- Not well studied
- Twin studies 75% identical, 52% non-identical
- If both parents VVS - 85% of children VVs
- YES - they are inherited

Edinburgh Vein Study

- **Amanda J. Lee, Christine J. Evans, Cathryn M. Hau and F. Gerald R. Fowkes**
 - Wolfson Unit for Prevention of Peripheral Vascular Diseases, Public Health Sciences, Teviot Place, Edinburgh EH8 9AG, UK
- 1566 people (699 men, 867 women)
- Aged 18 - 64
- Randomly selected
- Occupation, smoking, activity, obstetric history, dietary fibre
- Duplex scanning (reflux) and clinical varicose veins

Aetiology Varicosities

- Height - both men and women
- Women
 - No really strong associations
 - Previous Pregnancy
 - Lower use OCP
 - Mobility at work
 - Sitting less likely
 - Standing/heavy lifting more likely
 - Obesity
- Men
 - No really strong associations
 - Height
 - Straining at stool!
 - Not fibre intake
 - Occupation and weight - no!

Complications

- Chronic Venous Insufficiency
 - 1% (skin changes) to 6% (malleolar flare)
- Bleeding (rare)
- Thrombophlebitis
- Pain - contradictory evidence
 - “Leg pain” - just as common in patients without varicose veins
 - Vascular/Spinal Claudication, Musculoskeletal, restless legs and aching legs
 - Patients report improvement after surgery

**More likely to have a
complication of treatment than
you are of leaving them alone.**

(so it comes down to how much they
bother you)

The Patient

- History

- Rule out secondary causes
- History complications
- History of symptoms
 - Are they due to the veins?
- Desire for treatment
- Comorbidities

- Examination

- Patient in general
- Pedal pulses
- Groins
- Veins
- Skin
- Trendelenburg

Investigation

- All get a Duplex scan
- Examines
 - Deep veins
 - Superficial veins
 - Incompetence and Patency
- Vast majority have superficial incompetence only

Treatment

- Conservative
 - Hosiery
 - Nothing
- Sclerotherapy
- Laser/Ultrasound ablation +/-?
- Surgery

Stasis Changes

- Usually associated with venous incompetence
 - Can be associated with dependency and loss of calf muscle pump
- Oedema, itch
- Inflammation/Pigmentation
- “Fibrin cuffing”
- Ulceration
- Stasis and “something else”

Who develops ulcers?

- Venous and Mixed
- Venous
 - Many will have superficial incompetence only
 - Previous DVT
 - Deep venous incompetence
 - Younger
- Mixed
 - Older patients
- All require arterial and venous assessment

Management of Venous Ulceration

- Compression
- Early surgery?
- Deep vein reflux - hopeless?
- ESCHAR study

**When the only tool you have is
a hammer, it is tempting to
treat everything as if it were a
nail.**

‘déformation professionnelle’

Who's for injection?

- Telangiectasia
- Reticular veins
- Who else
 - Good control with Trendelenburg
 - Recurrent veins
 - Frail with resistant/healed ulcers

Sclerosants

- Sodium tetradecyl sulfate
- Hypertonic Saline
- Polidocanol
- Many more!
- Damage endothelium leading to thrombosis of the vein
- Pressure to try and reduce the amount of thrombus

Microsclerotherapy

- 30 g butterfly needle
- 0.2% STS
- Several courses required
- ?benefit compression
- Complications
 - Staining
 - Ulceration (rare)
 - Failure
 - Anaphylaxis (very rare)

Foam Sclerotherapy

- Trunk and large varicosities
- 1:4 Sclerosant (1% or 3%): Air
- Why foam?
 - Induces spasm
 - Disperses further
 - Enhanced sclerosis

Foam Sclerotherapy: Complications

- Phlebitis
- Skin staining
- Failure
- Residual lumps
- Matting
- Systemic effects

Foam Sclerotherapy: Results

- Variable depending on series
- Occasionally doesn't work
- Large veins a problem
- Currently randomised trial
- Part of the arsenal