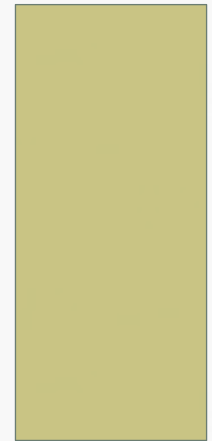




MANAGEMENT OF VARICOSE VEINS

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HISTORY

- 1550 BC – Ebers Papyrus
 - First described as “serpentine windings” – which are not to be operated on – fatal haemorrhage during surgery
 - Failed attempt at surgical treatment

- 460 BC – Hippocrates
 - Compression stockings after multiple puncture
 - Cautery



VARICOSE VEINS

DEFINITION

Varicose veins

- Dilated, tortuous and elongated deformity of the superficial venous system of the lower limb



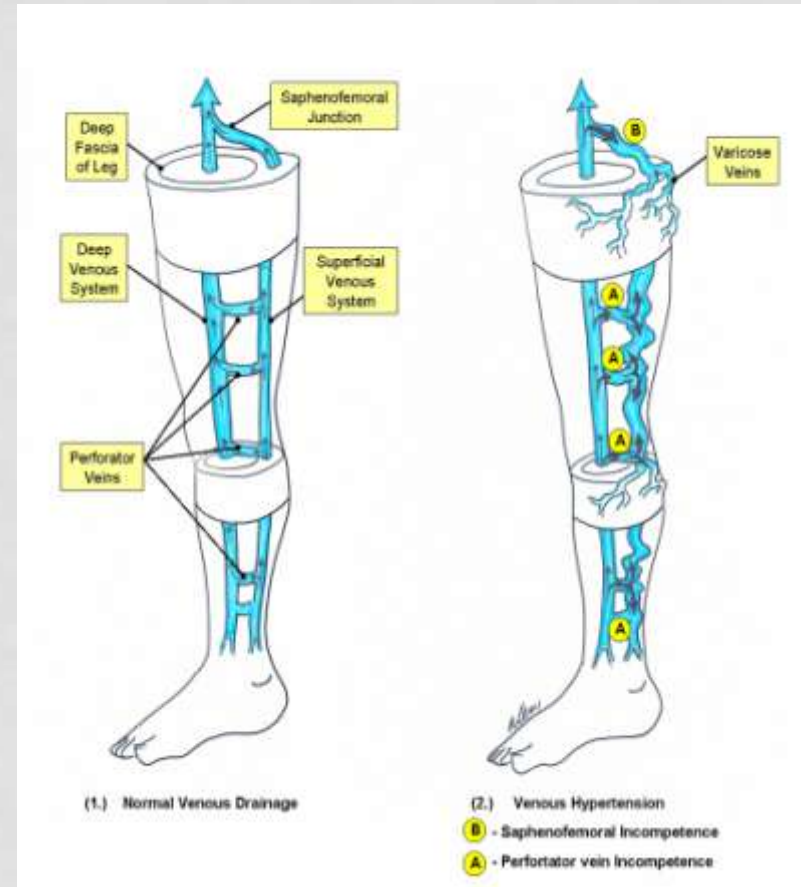
INTRODUCTION

- Most common venous disorder
- Affects 1 in every 3 population aged 18 – 64
- Women > men
- Health impact
 - Cosmesis
 - Socio-economic disability
- Primary
- Secondary
 - Pelvic mass
 - Post-phlebotic



INTRODUCTION

- Varicose veins
 - Incompetence
 - Valves
 - Sapheno-femoral junction (SFJ)
 - Sapheno-popliteal junction (SPJ)
 - Perforator
 - Reflux
 - Superficial veins
 - Long saphenous vein (LSV)
 - Short saphenous vein (SSV)
 - Deep veins
 - Femoral
 - Popliteal vein



PREDISPOSING FACTORS

- Age
- Obesity
- Hypertension
- Female
- Lower socio-economic status
- Lower limb trauma
- History of deep venous thrombosis
- Congestive heart failure

CLASSIFICATION

- CEAP Classification

C – Clinical signs (Grade 0-6) (A) or (S)

E – Cause (Congenital, Primary or Secondary)

A – Anatomic distribution (Superficial, Deep, Perforator or Combination)

P – Pathophysiologic condition (Reflux or Obstruction or Combination)

Reporting Standards in Venous Diseases – JVS 1995

CLASSIFICATION

- Clinical Signs, $C_{0-6, A}$ or $C_{0-6, S}$
 - 0 – No clinical signs
 - 1 – Telangiectasia, Reticular veins, Maleolar flare
 - 2 – Varicose veins
 - 3 – Edema without skin changes
 - 4 – Skin changes ascribed to venous disease
 - 5 – Skin changes with healed ulcer
 - 6 – Skin changes with active ulcer
- Further assign
 - A – asymptomatic
 - S – symptomatic

CLASSIFICATION

- Anatomic Classification

A_S – Superficial

A_D – Deep

A_P – Perforators

- Segmental Localisation

A_{S1-5}

A_{D6-16}

$A_{P17, 18}$

- Superficial

1 – Telangiectasias/Reticular veins

2 – Above knee LSV

3 – Below knee LSV

4 – SSV

5 – Non saphenous

CLASSIFICATION

- Deep veins
 - 6 – IVC
 - 7 – Common Iliac vein
 - 8 – Internal Iliac vein
 - 9 – External Iliac vein
 - 10 – Pelvic: gonadal, broad ligament
 - 11 – Common Femoral
 - 12 – Deep Femoral
 - 13 – Superficial Femoral
 - 14 – Popliteal vein
 - 15 – Tibial veins
 - 16 – Muscular veins
- Perforating veins
 - 17 – Thigh perforators
 - 18 – Calf perforators
- $C_{2A} E_P A_{S3} P_R$

MANAGEMENT

MANAGEMENT

- Define
 - Primary or secondary
 - Site of venous incompetence
 - SFJ / SPJ / Perforator
 - Deep veins
 - Patency
 - Reflux
 - Ulcer
 - Exclude arterial disease



HISTORY

- Symptoms
 - Typical of venous pooling
 - Calf heaviness after prolonged standing
 - Asymptomatic at the beginning of the day
- Any known abdominal pathology
- History to suggest previous DVT
- Family history

EXAMINATION

- Abdomen mass
- Peripheral pulses
- Pattern of varicosities
 - LSV / SSV
- Trendelenburg test
- Hand held continuous wave doppler
 - Reflux in the groin / popliteal fossa
- Complications
 - Venous hypertension
 - Bleeding



INVESTIGATIONS

- Duplex scan
 - Confirm SFJ / SPJ reflux
 - Perforator incompetence
 - Deep veins
 - Patency
 - Reflux
- USG abdomen / pelvic
- Ulcer
 - Swab cultures, TWDC



INVESTIGATIONS

- Air plethysmography
 - Venous refilling time
- Venogram



Update, 2011



TREATMENT

TREATMENT

- Non-surgical
 - Compression stockings
 - Wound dressings
 - Weight reduction
 - Pharmacotherapy
 - Micronised flavinoids
 - Antibiotics
 - Leg elevation at rest



TREATMENT

- Surgical
 - High saphenous ligation
 - Endovenous laser ablation
 - Endovenous radio-frequency ablation
 - Sclerotherapy

INDICATIONS

- Symptomatic
- Complications
 - Bleeding
 - Venous hypertension
- Aesthetic
 - Young women



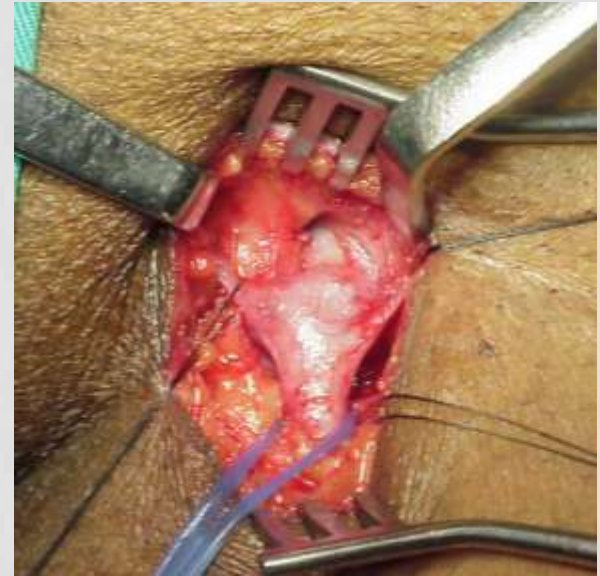
INDICATIONS

- Symptomatic
 - Heaviness in the calf muscles – after prolonged standing
 - Exclude other pathologies
 - DVT
 - Osteoarthritis of the knees
 - Muscle cramps
 - Prolapsed disc
 - Baker's cyst

HIGH SAPHENOUS LIGATION

- Time tested procedure
- LSV ligated close to the SFJ
- +/- Stripping down to knee level
- Multiple stab avulsions

- Complications
 - Thigh hematoma – stripping of LSV
 - Wound infection – groin
 - Sural nerve injury



HIGH SAPHENOUS LIGATION

- Advantages
 - Low recurrence
 - Low cost
- Disadvantages
 - Regional anesthesia / general anesthesia
 - Higher morbidity – post-op pain and bruises
 - Longer immobilisation
 - Longer hospital stay

LASER ABLATION

- Heat generated by laser
- Transmitted within the LSV via a fibreoptic catheter
- Vein collapsed and obliterates as the cath is withdrawn distally

- Complications
 - Bruises
 - Nerve injuries – transmitted heat
 - Deep vein thrombosis

LASER ABLATION

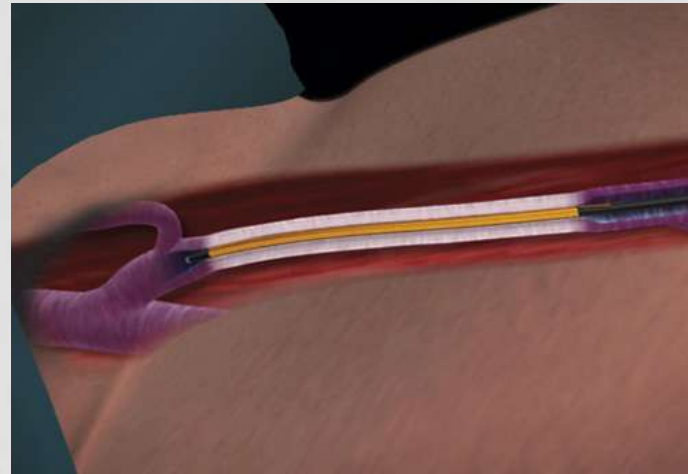
- Advantages:
 - Out-patient clinic procedure
 - Local anesthesia
 - Minimal surgical incision
 - Faster return to work
- Disadvantages
 - Cost



RADIOFREQUENCY ABLATION

- Similar to laser therapy
- Heat generated by radio-frequency waves

- Comparable results to laser ablation
 - Occlusion of GCV
 - Post-op pain
 - Return to work
 - Patient satisfaction
 - Complications
 - Recurrence



TAKE HOME MESSAGE

- Common venous disorder
- Not a life threatening condition
- Various treatment modalities



THANK YOU

www.hklvascular.com