Varicose Veins – History, Clinical Examination, Treatment & Surgical Instruments

(Reference: S. Das Clinical Surgery)P

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1. History Taking

- **Chief Complaints**:
  - Swelling over legs (progressive, worse by evening).
  - Pain, heaviness, or aching sensation in legs.
  - Skin changes (pigmentation, ulcers).
  - History of bleeding from a vein.
  - History of trauma to the leg.
- **Past Medical History**:
  - Deep vein thrombosis (DVT).
  - Prior surgeries or injuries to the leg.
  - Family history of varicose veins.
- **Occupational & Lifestyle History**:
  - Prolonged standing (teachers, security guards, factory workers).
  - Sedentary lifestyle.
  - Obesity.
- **Obstetric History** (in females):
  - Number of pregnancies (common in multiparous women).
  - Use of hormone therapy or contraceptive pills.

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2. Clinical Examination

A. Inspection

- Patient is examined in **standing and supine positions**.
- Visible dilated, tortuous veins (usually in the great saphenous vein distribution).
- Skin changes:
  - Hyperpigmentation (due to hemosiderin deposition).
  - Lipodermatosclerosis (hard, woody skin due to chronic venous insufficiency).
  - Venous ulcers (medial malleolus area).

B. Palpation

- **Saphenofemoral junction (SFJ) reflux**: Check at the saphenofemoral junction (2.5 cm below and lateral to the pubic tubercle).
- **Saphenopopliteal junction reflux**: Palpate in the popliteal fossa.
- **Vein consistency**: Soft or hard (indicating thrombosis).
- **Tenderness**: Suggests thrombophlebitis.

C. Special Tests

1. **Trendelenburg Test**:
    - Assesses valvular incompetence at SFJ.
    - Steps:
        1. Patient lies down, leg elevated to empty veins.
        2. Tourniquet applied at SFJ.
        3. Patient stands up – If veins fill rapidly, perforators are incompetent.
2. **Perthes Test**:
    - Assesses deep venous patency.
    - Steps:
        1. Tourniquet applied at mid-thigh.
        2. Patient asked to walk.
        3. If varicosities empty → Deep veins are patent.
3. **Cough Impulse Test**:
    - Positive impulse at SFJ = Incompetent valve at SFJ.
4. **Schwartz Test**:
    - Percussion over SFJ produces a palpable thrill at lower veins = Incompetent valves.
5. **Morrissey's Test**:
    - Confirms SFJ incompetence by palpating a thrill on coughing.
6. **Doppler Ultrasound / Duplex Scan**:
    - Confirms venous reflux and assesses deep venous patency.

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3. Treatment

A. Conservative Management

- **Lifestyle Modifications**:
  - Avoid prolonged standing.
  - Elevate legs while resting.
  - Regular exercise (walking).
- **Compression Therapy**:
  - Graduated compression stockings (Class II or III).
- **Medications**:
  - Venoactive drugs (Diosmin, Horse chestnut extract).
  - Pain relief (NSAIDs).

B. Minimally Invasive Treatment

- **Sclerotherapy**:
  - Injection of sclerosant (polidocanol) into small varicose veins.
- **Endovenous Ablation**:
  - **Endovenous Laser Ablation (EVLA)**
  - **Radiofrequency Ablation (RFA)**
  - **Mechanochemical Ablation (MOCA)**

C. Surgical Treatment

- **Indications for Surgery**:
  - Large varicose veins with symptoms.
  - Recurrent thrombophlebitis.
  - Skin changes/ulcers.
  - Bleeding varicosities.
- **Types of Surgery**:
  1. **Trendelenburg's Operation (High Saphenous Ligation)**
     - Ligation of the great saphenous vein at SFJ.
  2. **Saphenous Stripping**
     - Removal of the great saphenous vein using a stripping device.
  3. **Ambulatory Phlebectomy**
     - Removal of varicose veins through small incisions.
  4. **Subfascial Endoscopic Perforator Surgery (SEPS)**
     - For incompetent perforators.

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4. Surgical Instruments for Varicose Vein Surgery

1. **Scalpel (#11 or #15 blade)** – For making small incisions.
2. **Venous Hook (Oesch Hook, Muller Hook)** – Used for vein avulsion.
3. **Vein Stripper** – For stripping the great saphenous vein.
4. **Mosquito Forceps** – For gentle dissection.
5. **Curved Mayo Scissors** – For deep tissue dissection.
6. **Needle Holder & Sutures** – For skin closure.
7. **Tourniquet** – To reduce venous bleeding.
8. **Doppler Ultrasound Probe** – Used intraoperatively to locate incompetent veins.

Clinical Case of Varicose Veins

Case Presentation

Patient Name: Mr. Ramesh Kumar
Age/Sex: 45-year-old male
Occupation: Security guard (standing for long hours)
Chief Complaint:

- Progressive **swelling** and **pain** in the left leg for **5 years**.
- **Worsening in the evening**, relieved by elevating the leg.
- Recently noticed **skin darkening** and a **small ulcer** near the ankle.

History

Past Medical History:

- No history of deep vein thrombosis (DVT).
- No history of trauma or previous leg surgery.

Family History:

- Mother had varicose veins.

Lifestyle History:

- Stands for **8-10 hours daily**.
- No history of smoking or alcohol consumption.

Clinical Examination

Inspection:

- **Dilated, tortuous veins** along the medial aspect of the left leg.
- **Hyperpigmentation** near the medial malleolus.
- **Venous ulcer** (3 × 2 cm) present at the ankle, with **yellowish discharge**.

Palpation:

- No tenderness.
- **Positive cough impulse** at the saphenofemoral junction (SFJ incompetence).

Special Tests:

- **Trendelenburg Test**: Rapid filling of veins after releasing the tourniquet → **Incompetent perforators**.
- **Doppler Ultrasound**:
  - **Reflux in great saphenous vein (GSV)**.
  - **Deep veins patent (no DVT)**.

Diagnosis

☑ Primary Varicose Veins with Venous Ulcer (CEAP Classification: C6)

Management Plan

🔹 **Conservative Treatment**:
✅ **Leg elevation** while resting.
✅ **Compression stockings (Class II)**.
✅ **Analgesics (NSAIDs)** for pain.
✅ **Diosmin** for venous tone improvement.
✅ **Daily wound care** for the ulcer.

🔹 **Definitive Treatment**:
💉 **Endovenous Laser Ablation (EVLA)** – Preferred for **saphenous vein incompetence**.
🔪 **Surgery (Saphenous Stripping + Perforator Ligation)** – If EVLA is unavailable.

Follow-up Plan

🗓️ **Review after 4 weeks** – Monitor ulcer healing and symptoms.
🗓️ **Repeat Doppler Ultrasound** – Post-surgical assessment.

Key Learning Points

✅ **Long-standing occupations with prolonged standing** increase the risk.
✅ **Skin changes & ulcer formation** indicate chronic venous insufficiency.
✅ **Compression therapy & leg elevation** are essential first-line treatments.
✅ **EVLA & surgery** provide long-term relief for symptomatic cases.