Goitre

Defn.: Diffuse enlargement of the thyroid gland

1. Simple - Puberty
   - Colloid goitre, iodine def. goitre
   - MNG

2. Toxic - Causes: Diffuse toxic goitre
   Sec. thyrotoxicosis
   Toxic nodules

3. Neoplastic - Benign adenoma
   - Malignant Primary
     - Mets = Malignant melanoma
       - RCC
       - Breast

4. Thyroiditis - Granulomatous
   Autoimmune
   Riedel's

5. Rare - Acute bacterial
   Thyroid cyst
   Thyroid abscess
   Amyloid goitre
Peripheral Aneurysm

- Popliteal Aneurysm - M1c

  - Elderly - Atherosclerotic mall
  - Swelly behind knee
  - Dull acmy pain, severe bursty
  - Pain indicates rapid expansion
  - Size on knee extension as
    Aneurysm is deep to popliteal fossa.
  - Proximal compression demonstrated
  - Size
  - Doppler Vsy
  - Angiography

  P1T1 = Proximal & distal ligation of
  Aneurysy
  followed by Reversed Saphenous
  vein grafting POC
- Excision of the sac is better avoided as chances to injury to popliteal vein & nerves.

- Leg ulcer 1ID

1. Arterial ulcer: - Rare as compared to venous ulcer.
   - Punched out
   - Destruction of deep fascia
   - May expose the deep tendon
   - Associated with intermittent claudication and discoloration of one or more toes.

2. Venous ulcer: - W > M
   - 40 - 60 years
   - Preceded by discomfort & tenderness for months
   - Painful in beginning but later painless.
- Lower limb on medial malleolus
- Never above junction of middle & upper third of the leg.
- Sloping edge
- Pale granulation tissue at base
- May give rise to marjolin's ulcers

3) Topical ulcer
   - Painless
   - On dependent parts
   - Neurologic ulcers

4) Bazin's abscess
   - Also with erythromyelitis frigida
   - Young women - Subcutaneous fat
   - Thick ankles

5) Insect bite ulcers: Stop aneurysm
   - Repetitive trauma
6. Mucocutaneous ulcer = Hyperextensive ulcers

Atherosclerotic male org
SUDDEN OBSTRUCTION of ENDARTERECESIS

7. Tropical ulcer = Vincent's organism
Varicose Veins

Primary:
- Congenital weakness of the vein wall
- Absence of the wall
  e.g., Kupfer-Trenaunay syndrome

Secondary:
- Pregnancy
- AV fistula
- DVT

CLF:
- Dilated veins
- Dragging pain
- Ulcer/eczema/pigmentation

Classification:

CEAP
1. Clinical
   a. NO
   b. Ulcerated flare
   c. Varicose veins
   d. Oedema
   e. Oedema & skin change
   f. Skin change with healed ulceration
   g. Skin change with active ulceration
Sign 1. Inspection: Dilated veins.
Localised dilated veins are an indication of blowout.
Signifies underlying perforator incompetence.

2. Palpation:
   - Renderness signifies phlebitis.
(i) Cough Impulse Test:
   - Standing
   - Finger at SF junction
   - Cough
   - If thrill felt
   - SF incompetence
(ii) Trendelenburg Test:
   - 2 parts
   - Supine
   - Empty the vein
   - Thumb at SF
   - Ask to stand
   - Pause I
   - Release thumb
   - Gushing of filling
   - (SF Incompetence)
   - Perforator Incompetence
(iii) Multiple Tourniquet test = Dodd's = Thigh
Perforator?
Incompetent?
Boyd = Knee
Cocke = Ankle

(iv) Schwartz = Palpable Impulse Suggest Viscoelasticity

(v) Modified fascette = Very not emptied
To rule out DVR

(vi) Regan's = Methylene blue maker up of veins
Severe pain = Significant DVR

Imp.
1. Doppler = Reflux at SFJ or Sephanous-iliofemoral junction can be assessed.

2. Duplex USG = Doppler + B mode USG
   - Mickey mouse sign
   - Long Sephanous vein
   - Femoral
   - Femorally
   - Sephanous eye sign
     - Distracted Sephanous vein in thigh → in cross section resemble an eye

3. Vemography = Rarely done

4. Plethysmography = Volume change in leg

11. Elastic Compression Stocking

Ind = Asymptomatic pt.
Paed be's positive pt.
AV fistula
Pregnancy
- From ankle to below knee (not above knee, because difficult to put on and tend to roll down)

- During workup time, remove at night

\[ (\text{Compression Sclerotherapy}) \]

\[ \text{Ind} = \text{Below knee varicosity} \]

\[ \text{Recurred after surgery} \]

\[ \text{veins < 3 mm diameter.} \]

\[ \Rightarrow \text{Sclerosant = 3\% Sodium tetradecyl sulfate or Ethanolamine olate} \]

\[ \text{Injected in empty vein} \]

\[ \text{and then Compression followed by} \]

\[ \text{Exercises.} \]

\[ \text{SLE = Allergy, pigmentation, DVR, skin necrosis} \]

3. US - Guided foam Sclerotherapy

\[ \text{Ind} = \text{Small to medium vein} \]

\[ \text{Foam = Poliacoanal} \]
- SLE = Ulceration, DVT, Stroke

- 4) Endovenous Laser Ablation
   - Ind - Junctional & focal incompetence
   - Minimally invasive, OPD procedure
   - Supine

   - Passing of guidewire than
     catheter in vein - position 1 cm
distal to SF junction

   - Perivenous Jammed Anaesthetic Agent
     (Xylocaine + Adrenaline + Bicarbonate)

   - Laser fibre

   - Fire → Compression

   - Not ideal for smaller veins, tortuous
   vein & thrombophlebitic veins

- 5) Radio Frequency Ablation

   Steps similar to EVLA but cannulation
   is by 7F sheath and catheter not
   position near 2 cm to SF junction
SE: Phlebitis, pain, skin bruising.

1. Trendelenburg's operation
   - Inguinal Incision
   - Junction and 3 tributaries need to identify first before ligating
   - Long sephamous vein
   - Another incision at medial side of upper leg
   - Isolate long sephamous vein
   - Ligate & Incise
   - Amputation by metallic stripper
   - Tight crepe bandage
   - Perforator also get thrombosed
2) Subfascial ligation of cockeet & Doold

Sph. SF competence + perforator incompetence

- Endoscopically: Identify perforators
- Subfascially & ligate.

3) Subfascial Endoscopic Perforator Surgery (SEPS)

Ind: for Below Knee perforators

- Endoscope, CO₂, 2-6 perforator are ligated.

7) Newex

- Ultrasonic ablation catheter
- Insertion at SF
- Slowly withdrawn
- Radio frequency
- Veins are identified by subcutaneous detumescence
- Followed by fluid suction

5/3: DVF

- Sucking it out
- Like liposuction
Complications of varicose veins

1. Eczema/dermatitis - RBC breakdown products

2. Lipodermatosclerosis = Thickening + wooden feel + pigmentation due to Hemosiderin

3. Haemorrhage

4. Phlebitis

5. Ulcer - Calcification of vein's wall

6. periostitis of tibia near ulcer

7. Equinovarus deformity

8. marjolin ulcer

9. Ulcers - Gravitational ulcer - Venous stasis + Anoxia

10. Tissue pressure + Free Radicals + Hemosiderin
Fibrotic cuff

2 hypotheses

White cell trapping

All above lead to nonhealing ulcers

Features: Small, painless, superficial ulcers

Bisgaard method

- Elevate limb
- Crepe bandage to control oozing
- Active exercise first
- Heel down

For Infection: Antibiotic

Wound care by dressing

Rule out DVT by doppler

Surgery after infection control

All perforators are ligated

Also, look for accessory long saphenous vein. Should correct WHT.
Tumours of Thyroid

Goeitre

Benign
- Adenoma

Malign
- Papillary
- Follicular
- Medullary
- Anaplastic

Complications of
- Radioiodine
- Thyroidectomy
Complications of Thyroidectomy

1. Haemorrhage
   - Primary
   - Reactively: After 6-8 hrs
     - Hematoma formation
     - Slippage of ligature
   - I/I: Hematoma evacuation
   - I/G: Dribbble

2. Respiratory obstruction

3. Daryngeal N. palsy = Tracheostomy

4. Permanent hypothyroidism

5. Permanent hypoparathyroidism

6. Thyroid storm
   - O2
   - Intravenous fluid
   - Spongy
   - PPN
   - Hydrocortisone
   - Catechin
1. Serum Calcitomin = Screening test

2. Urine = 24 hrs collection to exclude chronic pyelonephritis

3. USG - IOC

Features suggestive of malignancy
- Solvent cyst with projections
- Rich vascularity
- Rich micocalcification
- Irregular U/S

4. CT = in doubtful or intrathoracic extension

5. Isotope scan: Not routinely done (I\(^{123}\))
   - Hot
   - Only nodules take up
   - Solitary toxic

6. FNAC
   - Warm
   - Entire gland take up
   - No take up
   - Not these cases likely malignant

7. I\(^{131}\) for distant mets
1. FNAC
   - Papillary ca.
   - Medullary
   - Total Thy + Central neck dissection
   - Papillary ca.
   - Medullary ca.
   - Total + MRN
   - Adenoma
     - Total Thy (+ lobectomy)
   - Toxic
     - Young
     - Elderly
     - Lobectomy
     - (Lobectomy or I'3)
     - Simple cyst
     - Aspiration → wait if febr
     - lobectomy
   - Colloid goitre
     - Observe L Thyroxine
   - FNAC inconclusive
     - Repeat → sonoguided FNAC
     - If this also proved inconclusive
       Then TLt as
       If Follicular cells seen = overtreat
       Total Thyroidectomy
       Male & solid = Expose Total Thyroidectomy