Veins and lymphatics
Veins and lymphatics

Varicose Veins
- are abnormally dilated, tortuous veins produced by prolonged increase in intraluminal pressure and loss of vessel wall support.
- The superficial veins of the leg are typically involved
- venous pressures in these sites can be markedly elevated → venous stasis and pedal edema (simple orthostatic edema).
- Some 10% to 20% of adult males and 25% to 33% of adult females develop lower extremity varicose veins
RISK FACTORS

- obesity
- Female gender
- pregnancy.
- **familial tendency** (premature varicosities results from imperfect venous wall development)

**Morphology**
- wall thinning
- intimal fibrosis in adjacent segments
- spotty medial calcifications (phlebosclerosis)
- Focal intraluminal thrombosis
- venous valve deformities (rolling and shortening)
COMPLICATIONS

- stasis, congestion, edema, pain, and thrombosis
- chronic *varicose ulcers*
- *embolism is very rare.*
THROMBOPHLEBITIS AND PHLEBOTHEMORBOSIS

- The deep leg veins account for more than 90% of cases (DVT)
- The most important clinical predispositions are: congestive heart failure, neoplasia, pregnancy, obesity, the postoperative state, and prolonged bed rest or immobilization
- Local manifestations: distal edema, cyanosis, superficial vein dilation, heat, tenderness, redness, swelling, and pain
- Migratory thrombophlebitis (Trousseau sign): hypercoagulability occurs as a paraneoplastic syndrome related to tumor elaboration of procoagulant factors
THE SUPERIOR VENA CAVAL SYNDROME

- caused by neoplasms that compress or invade the superior vena cava.
- A characteristic clinical complex including marked dilation of the veins of the head, neck, and arms with cyanosis.
**THE INFERIOR VENA CAVAL SYNDROME**

- can be caused by neoplasms that compress or invade the inferior vena cava (IVC)- particularly hepatocellular carcinoma and renal cell carcinoma, which show a striking tendency to grow within veins-

- induces marked lower extremity edema, distention of the superficial collateral veins of the lower abdomen, and-with renal vein involvement-massive proteinuria.
LYMPHANGITIS AND LYMPHEDEMA

- **Lymphangitis**
  - is the acute inflammation due to bacterial infections spread into the lymphatics
  - most common are group A β-hemolytic streptococci.
  - lymphatics are dilated and filled with an exudate of neutrophils and monocytes.
  - red, painful subcutaneous streaks (the inflamed lymphatics), with painful enlargement of the draining lymph nodes (*acute lymphadenitis*).
  - subsequent passage into the venous circulation can result in bacteremia or sepsis.
**PRIMARY LYMPHEDEMA**

- can occur as:

1- **A congenital defect**, resulting from lymphatic agenesis or hypoplasia.

2- **Secondary or obstructive lymphedema**
   - blockage of a previously normal lymphatic; e.g. Malignant tumors
   - Surgical procedures that remove lymph nodes
   - Postirradiation
   - Fibrosis
   - Filariasis
   - Postinflammatory thrombosis and scarring
CHYLOUS

- Milky accumulations of lymph in various body cavities
- caused by rupture of dilated lymphatics, typically obstructed secondary to an infiltrating tumor mass
  - chyrous ascites (abdomen)
  - Chylothorax (chest)
  - Chylopericardium (pericardium)