Vascular disorders

AORTIC DISSECTION (DISSECTING HEMATOMA)

Arterial dissection

- Arises when blood enters the wall of the artery, as a hematoma dissecting between its layers.
- Dissections may, but do not always, arise in aneurysmal arteries.
- Aneurysms and dissections are most important when they involve the aorta.
- Both true and false aneurysms, as well as dissections, can rupture.

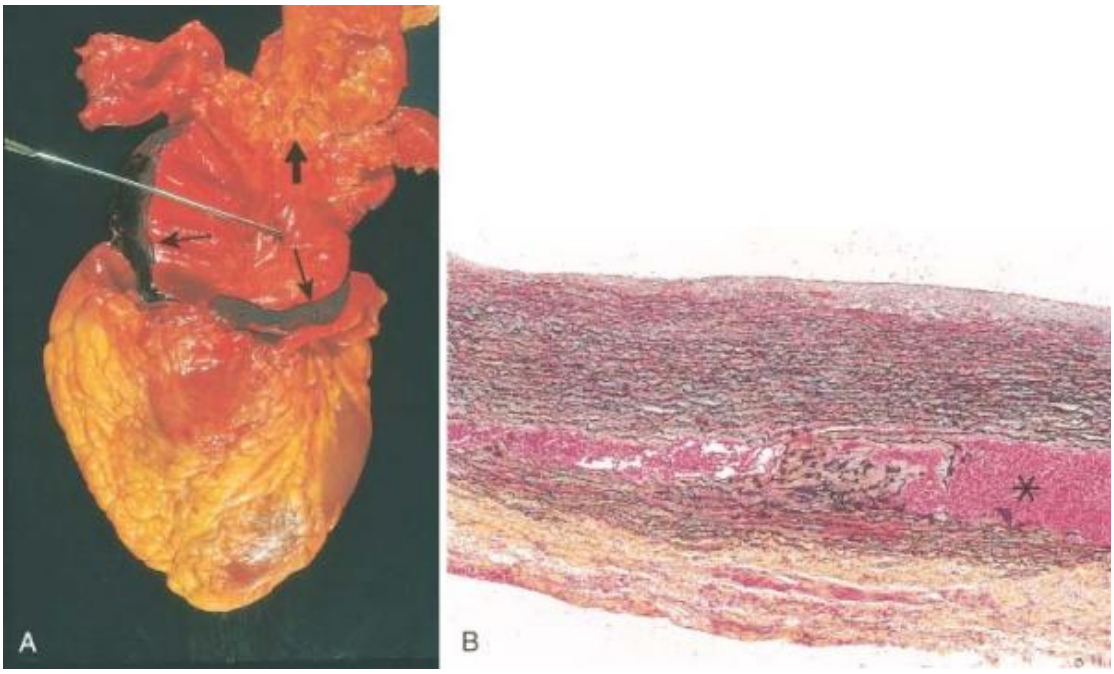


Figure: Aortic dissection

characterized by dissection of blood between and along the laminar planes of the media, with the formation of a blood-filled channel within the aortic wall, which often ruptures outward, causing massive hemorrhage

Causes:

- More than 90% of dissections occur in men between the ages of 40 and 60 with antecedent hypertension
- Younger patients with connective disorder such as Marfan syndrome
- iatrogenic, as a complication of arterial cannulation (e.g., during diagnostic catheterization or cardiopulmonary bypass)
- dissection of the aorta or its branches, including the coronary arteries, occurs during or following pregnancy

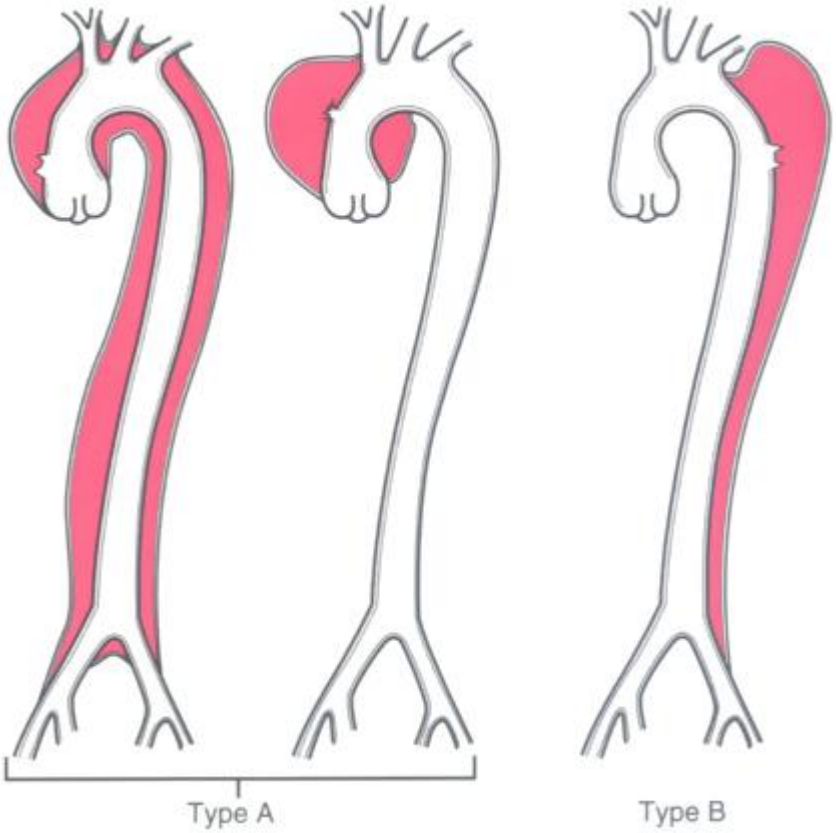
Aortic dissections are classified into two types:

proximal (Type A)

- The more common
- More serious
- Involving either the ascending portion only or both the ascending and the descending aorta

Distal (Type B)

- not involving the ascending part and usually beginning distal to the subclavian artery



C/F

- sudden onset of excruciating pain, usually beginning in the anterior chest, radiating to the back, and moving downward as the dissection progresses.
- Others
    - cardiac tamponade
    - aortic insufficiency
    - vascular obstruction: the coronary, renal, mesenteric, or iliac arteries
    - compression of spinal arteries may cause transverse myelitis
- Death usually follow rupture.

Raynaud Phenomenon

Primary:

- It reflects an exaggeration of normal central and local vasomotor responses to cold or emotion.
- Paroxysmal pallor or cyanosis of the digits of the hands or feet and the tips of the nose or ears owing to cold-induced vasoconstriction of the digital arteries, arterioles, and cutaneous arteriovenous shunts
- Clinically: change color in the sequence white—blue—red
- *Structural changes in the arterial walls are absent*
- The prevalence is approximately 3% to 5%
- The median age is 14 years
- Good prognosis: Ulceration and ischemic gangrene are rare

Secondary

- Due to arterial insufficiency of the extremities
- Causes: SLE, systemic sclerosis (scleroderma), atherosclerosis, or Buerger disease
- Features suggestive of secondary Raynaud phenomenon include:
    - age of onset >30 years,
    - more severe episodes,
    - associated skin lesions
    - clinical features of connective tissue disease.

Venous disorders

VARICOSE VEINS

Prevalence 15-20% of population

abnormally dilated, tortuous veins produced by prolonged, increased intraluminal pressure and loss of vessel wall support.

The *superficial veins* of the upper and lower leg are the main sites of involvement

Predisposing factor is occupation

Risk factors

persons >50 years old,

obese individuals,

women (owing to elevated venous pressure in the lower legs caused by pregnancy)

A *familial tendency*

Consequences

- The valves incompetent and leads to venous stasis, congestion, edema, pain, and thrombosis
- persistent edema in the extremity
- trophic changes in the skin that lead to stasis dermatitis, ulcerations, vulnerability to injury, and poorly healing wounds and infections that may become chronic *varicose ulcers.*

Esophageal varices?

Hemorrhoids?

THROMBOPHLEBITIS AND PHLEBOTHROMBOSIS

Sites:

- 90% seen in deep veins of the leg

- The periprostatic venous plexus in the male and the pelvic veins in the female
- large veins in the skull and the dural sinuses when these channels become inflamed by bacterial infections of the meninges, middle ears, or mastoids.
- The portal vein following:
    - peritonitis,
    - acute appendicitis,
    - acute salpingitis,
    - pelvic abscesses.

Predisposing factors

- Cardiac failure
- Neoplasia
- Pregnancy

- Obesity
- The postoperative state
- Prolonged bed rest or immobilization.
- Genetic hypercoagulability syndromes.

Migratory thrombophlebitis (Trousseau sign):

- a sign of malignancy
- adenocarcinomas of the pancreas, colon, or lung

C/F of DVT

- local manifestations
  - Edema distal to the occluded vein,
  - Dusky cyanosis,
  - Dilatation of superficial veins,
  - Heat,
  - Tenderness,
  - Redness,
  - Swelling,
  - Pain.

Pain can be elicited by forced dorsiflexion of the foot (Homan sign).

Pulmonary embolism is a common and serious clinical sequel to deep leg vein thrombosis.

Plegmasia alba dolens is iliofemoral venous thrombosis occurring in pregnant women.

SUPERIOR AND INFERIOR VENA CAVAL SYNDROMES

The superior vena caval syndrome

- A neoplasms that compress or invade the superior vena cava
  - bronchogenic carcinoma
  - mediastinal lymphoma.
- manifested by
  - dusky cyanosis
  - marked dilation of the veins of the head, neck, and arms.
  - the pulmonary vessels are also compressed, inducing respiratory distress.

The inferior vena caval syndrome

- caused by
  - neoplasms that either compress or penetrate the walls of the inferior vena cava
  - hepatocellular carcinoma and renal cell carcinoma, show a striking tendency to grow within veins, with ultimate extension into the inferior vena cava, and, occasionally, into the right atrium.
  - a thrombus from the femoral or iliac vein that propagates upward.
- C/F:
  - marked edema of the legs,
  - distention of the superficial collateral veins of the lower abdomen
  - when the renal veins are involved, massive proteinuria.

LYMPHANGITIS AND LYMPHEDEMA

Lymphangitis

- Bacterial infections of lymphatic channels (A beta-hemolytic streptococci)
- C/F:
    - Painful subcutaneous red streaks that extend along the course of lymphatics, with painful enlargement of the regional lymph nodes (acute lymphadenitis)
    - a bacteremia or septicemia may develop

lymphedema

- Occlusion of lymphatic drainage
- Causes
    - spread of malignant tumors obstructing either the lymphatic channels or the regional lymph nodes,
    - radical surgical procedures with removal of regional groups of lymph nodes (e.g., the axillary dissection of radical mastectomy),
    - postirradiation fibrosis,
    - filariasis,
    - postinflammatory thrombosis and scarring.