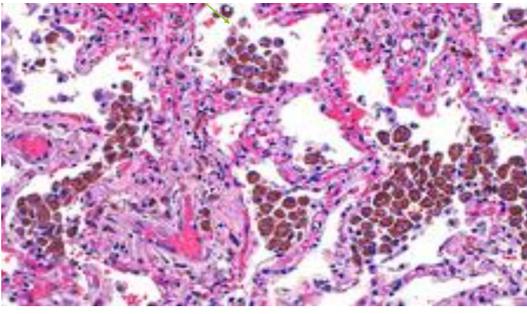


#Heart diseases:-

1. Heart failure

Left sided

- The clinical and morphologic effects of left-sided CHF are a consequence of passive congestion (blood backing up in the pulmonary circulation), stasis of blood in the left-sided chambers, and inadequate perfusion of downstream tissues leading to organ dysfunction.
- Morphology:
 - The most commonly affected organ in LVF is the lung
 - Lung findings: heart failure cells (hemosiderin containing macrophages). ↓



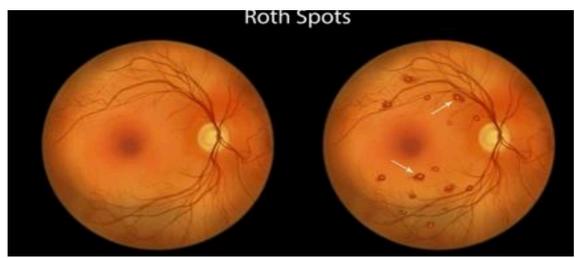
Right sided

- most commonly caused by left-sided heart failure.
- The clinical and morphologic effects of right-sided CHF are a consequence of Engorgement of the systemic and portal venous systems.
- The hallmark of RVF is peripheral edema of the dependent parts of the body particularly pedal and pretibial edema. , so called Pitting edema.

2. Infective endocarditis:

- The aortic valve and the mitral valve are most commonly infected
- Most infections are bacterial (bacterial endocarditis)
- Blood culture is the investigation of choice in IE
- clinical features:
 - Fever is the most consistent feature of IE.
 - Cardiac murmur.
 - Roth spot (Retinal emboli).
 - Osler nodes (painful subcutaneous nodules on fingers and toes).
 - Janeway lesions (red, painless lesions on palms and soles).
 - Splinter hemorrhage.

Acute infective endocarditis	Subacute infective endocarditis
- Narcotizing, ulcerative	- Less destructive
- Previously normal valve	- Previously damaged valve
- Highly virulent organism	- Low virulence organism
- Most common cause is staph. aureus	- Most common cause is α-hemolytic (viridans) streptococcus
- Death of patient within days to weeks	- Recover after antibiotic therapy



3. Rheumatic heart disease:

An acute, immunologically mediated, multisystem inflammatory disease classically occurring a few weeks after group A streptococcal pharyngitis.

- RF is the most common cause of heart disease in 5-30 age groups throughout the world.
- Rheumatic fever accounts for 99% of mitral stenosis.
- Clinical features:
 - Migratory polyarthritis of the large joints
 - Pancarditis (myocarditis, pericarditis, or endocarditis)
 - Subcutaneous nodules

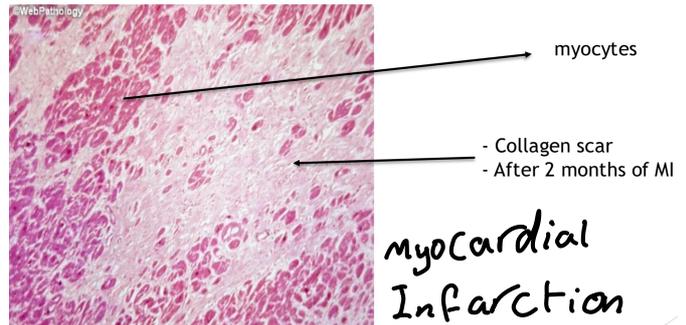
4. Ischemic heart disease:

A. Angina

B. Myocardial infarction:

• An infarct usually achieves its full extent within 3 to 6 hours; in the absence of intervention, an infarct caused by occlusion of an epicardial vessel can involve the entire wall thickness (transmural infarct). Clinical intervention within this critical window of time can lessen the size of the infarct within the territory at risk.

- The most important points:
 - Neutrophils predominate within 48-72 hours.
 - Macrophages predominate after 72 hours.
 - Most fatal MI's are transmural.
- ❖ Cardiac enzymes:
 - Myoglobin: earliest enzyme to increase after MI.
 - Troponin: most sensitive and specific for MI.

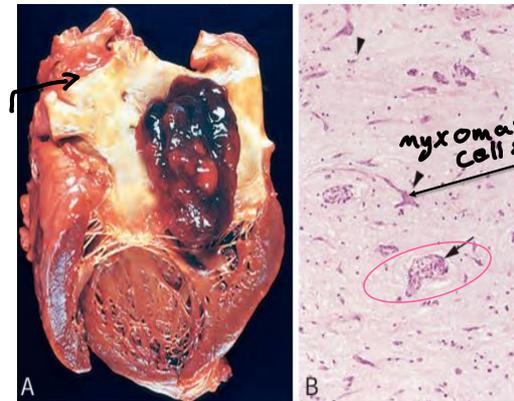


5. Cardiac tumor:

A. Myxomas are the most common primary tumor of the adult heart.

B. Rhabdomyomas are the most frequent primary tumor of the pediatric heart.

C. Metastatic tumors to the heart.



#vascular diseases:

1. Aortic aneurysm and dissection:-

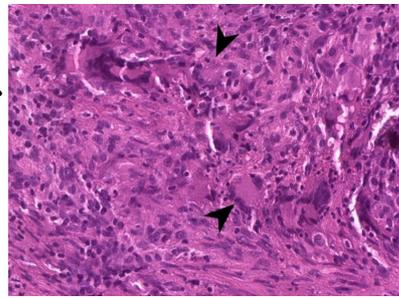
- Aneurysm: a localized abnormal dilation of aorta.
- Classified into two forms:
 - 1) True aneurysm: involves intact, attenuated arterial wall. Caused by Atherosclerosis.
 - 2) False/pseudo-aneurysm: breach in the vascular wall leading to extravascular hematoma communicating with intravascular space.
- Dissection: it occurs when blood separates apart the laminar planes of the media with the formation of a blood-filled channel within the aortic wall.

2. Vasculitis

- Inflammation of the vessel wall
- The most important types:

A. Giant cell (temporal) arteritis:

- Large vessel vasculitis.
- the most common vasculitis in adult (usually > 50yrs)
- the most common involved vessel: Superficial temporal artery.
- Clinically: Jaw pain, Facial pain, localized headache sudden onset of blindness.



Multinucleated giant cells seen in the wall of blood vessel

B. Kawasaki's disease:

- Medium vessel vasculitis
- Vasculitis affecting children < 5yrs old.
- Long term complication is Myocardial infarction in children.

C. Henoch–Schönlein purpura (HSP):

- The most common vasculitis in children
- Small vessel vasculitis.

3. Atherosclerosis

4. Vascular tumors

- Benign tumors:

A. Capillary hemangioma: the most common type of vascular tumor

- Example: Strawberry hemangioma

B. Cavernous hemangioma:

- Composed of large vascular spaces.

C. Glomus tumor

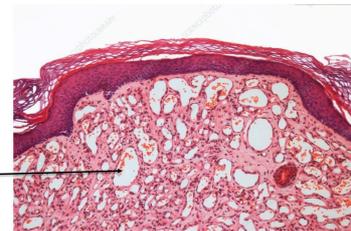
- Malignant tumors:

• Angiosarcoma:

- Malignant endothelial cell neoplasm.

A

Capillary sized blood vessel



B

Large vascular space

