

Sudden death

Done by: Ghayda Abu-Assaf



Sudden death

- A death occurring within 24 hours of the onset of symptoms.
- The medical examiner is charged with investigating all sudden or unexpected deaths; the determination of what qualifies as either sudden or unexpected is somewhat subjective.

Causes of sudden death:

- Cardiovascular system.
- Pulmonary system.
- Central nervous system.
- Gastrointestinal system.
- Genitourinary system.

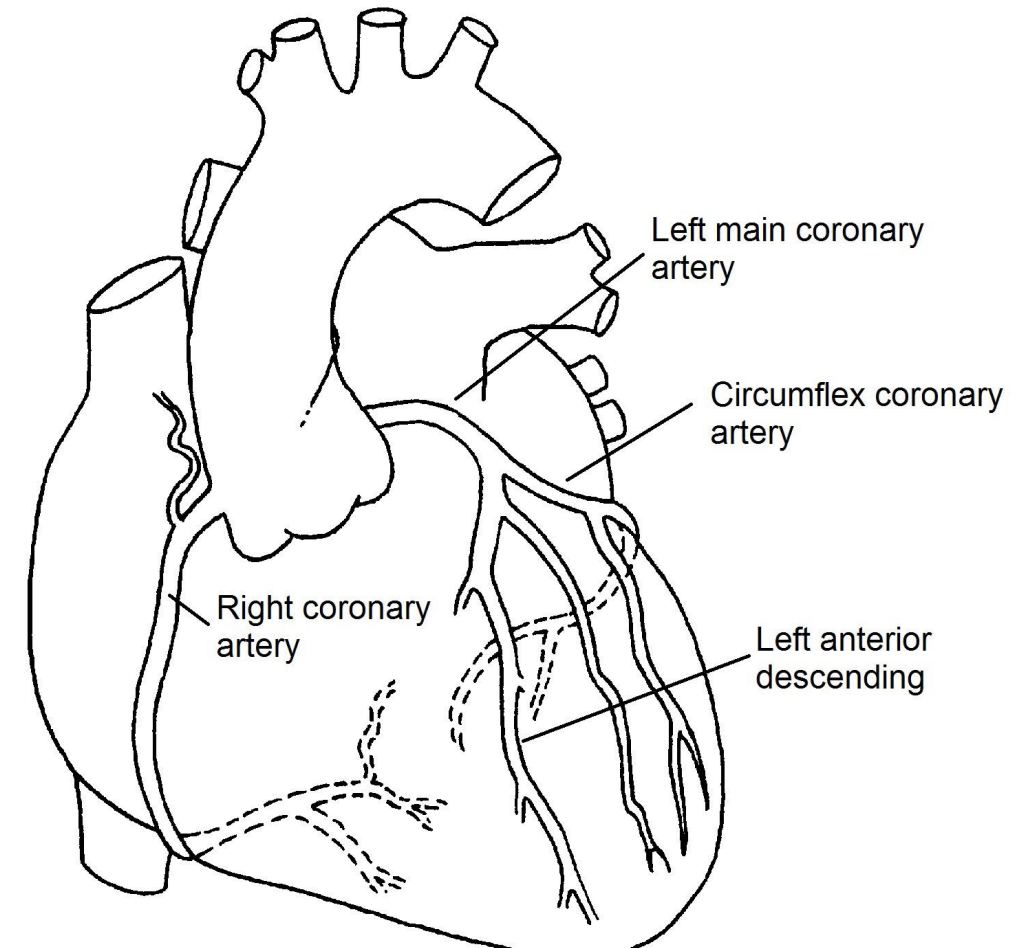


1- Cardiovascular causes

- Coronary artery occlusion.
- Cardiomyopathies.
- Hypertensive heart disease.
- Valvular diseases.

Coronary artery disease

- Findings on autopsy?
 1. Occluded lumen.
 2. Myocardial fibrosis (due to ischemia).
 3. Infarcts.
- Most sudden deaths from coronary insufficiency don't have MI.
- Most common cause of death post MI is arrhythmias (V.fib, A.fib, cardiac arrest, ectopic beats.)

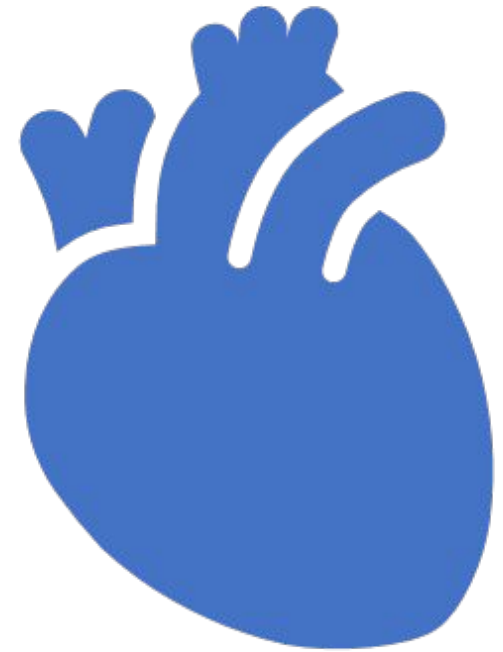


Hypertensive heart disease.

- Findings on autopsy?
 1. Concentric hypertrophy.
 2. Changes in organs and blood vessels.
 3. Heart becomes heavier.
- Ischemia of the inner layer of the myocardium causes death in HTN and aortic valve disease.

Valvular disease

- Most common: idiopathic calcification aortic stenosis.
- Findings on autopsy?
 1. Left ventricular hypertrophy.



Cardiomyopathies.

- Findings on autopsy?
 1. Huge heart without hypertension or valvular problems.

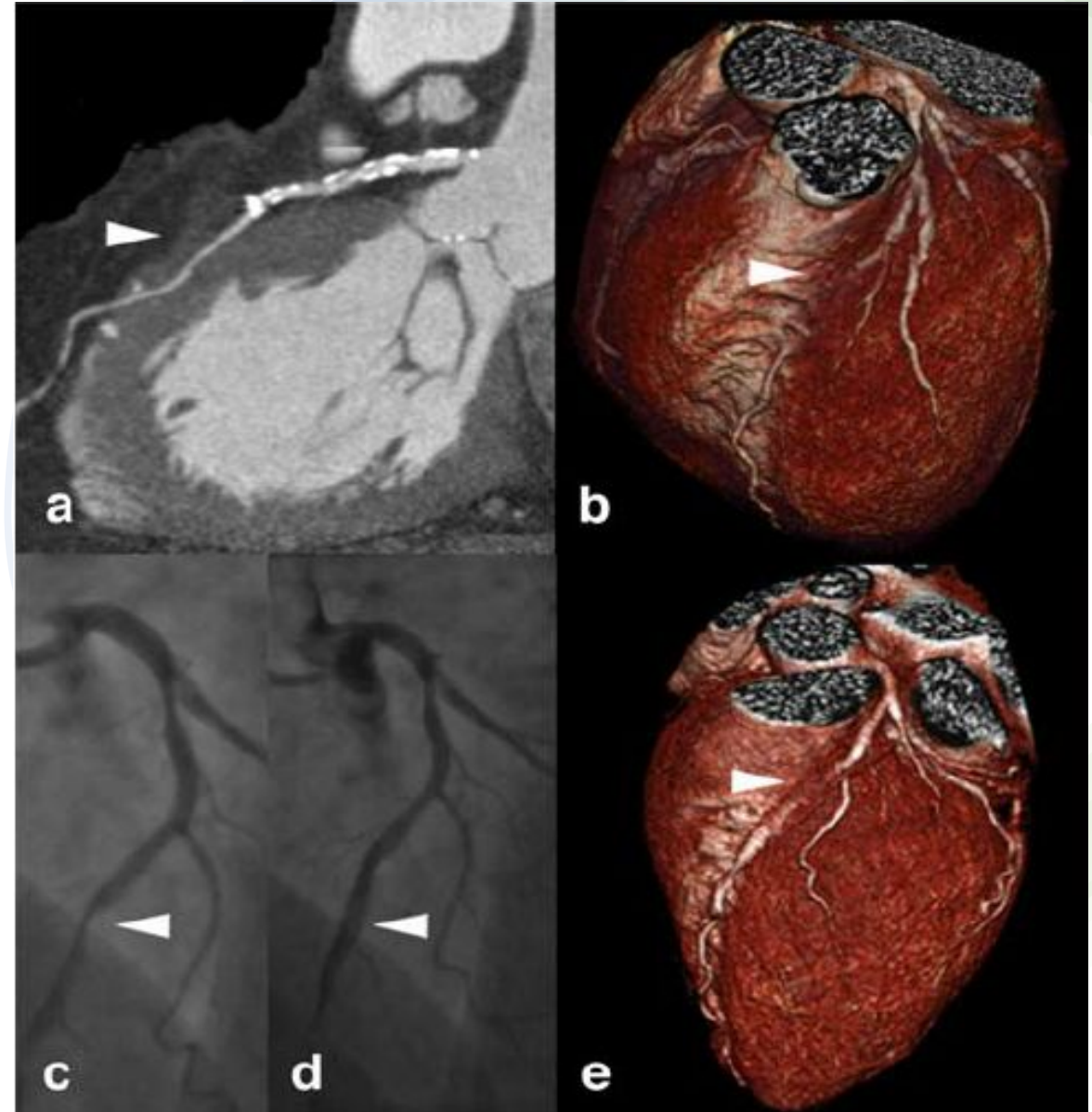
- Most common cause of sudden death in an apparently healthy athlete is HOCM.

Death in old age.

- Findings on autopsy?
 1. Tortuous coronary vessels on epicardium.
 2. Atrophied heart.
 3. Myocardium: brown, soft.

Myocardial bridging.

- The muscles overlying the intramyocardial segment of the epicardial coronary artery (tunnel artery).
- With myocardial contraction, coronary blood flow becomes compromised leading to sudden death.

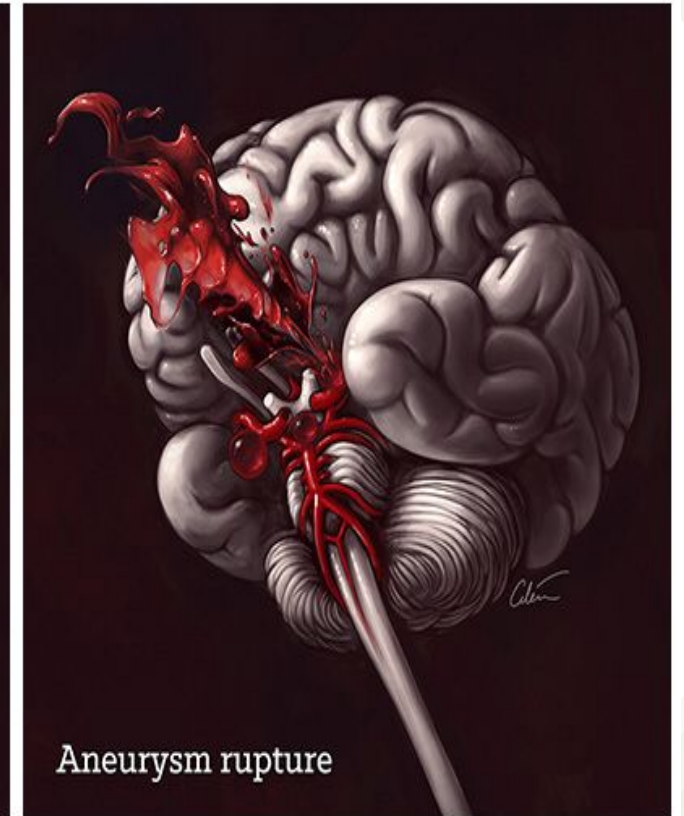
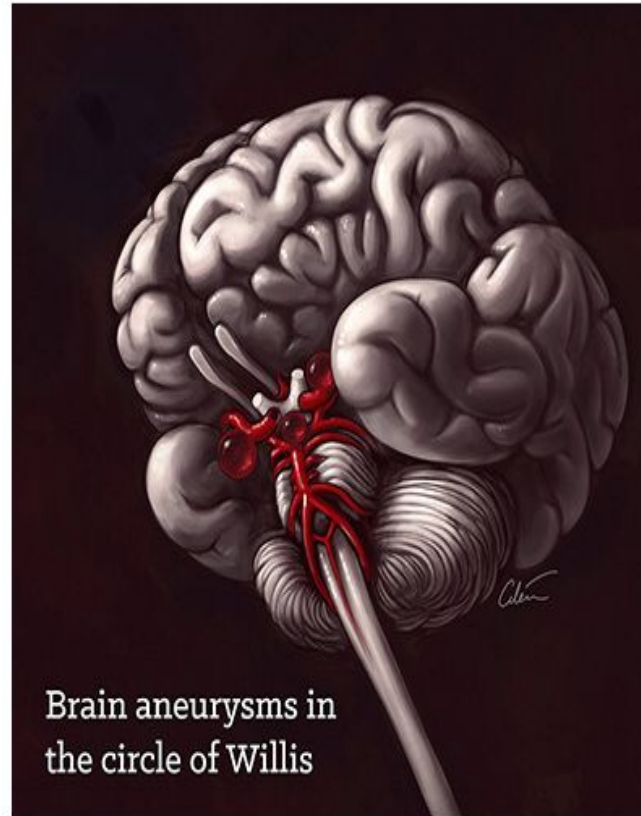


Aortic aneurysm.

- The most frequent extra cardiac cause in CVS is ruptured aortic aneurysm.
- 3 types?
 1. Atheromatous aneurysm.
 2. Dissecting aortic aneurysm.
 3. Syphilitic aneurysm.

Cerebral aneurysm.

- The rupture of a Berry aneurysm causes death in females more than males.
- Findings on autopsy?
 1. Subarachnoid hemorrhage.
 2. Aneurysm.
 3. Vascular malformations.





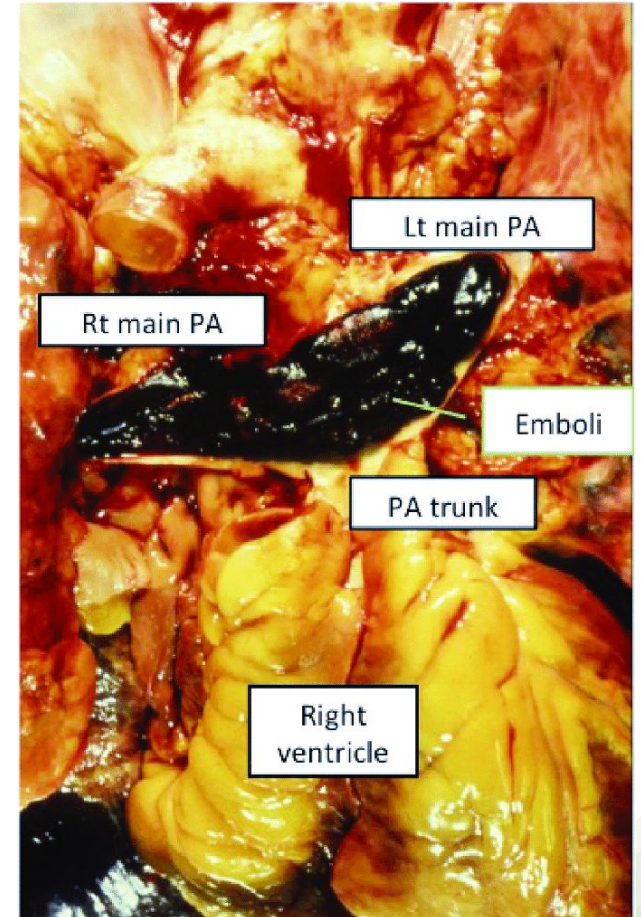
2- Respiratory causes.

- Pulmonary embolism.
- Chest infections.
- Bronchial asthma.
- Tuberculosis.

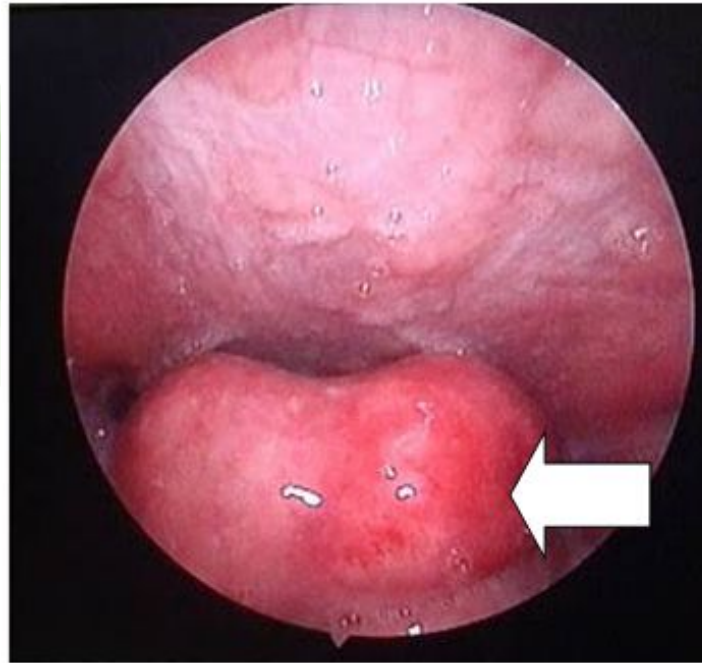
Pulmonary embolism.

- Causes?
 1. Old age.
 2. Immobility.
 3. Surgery.
 4. Obese.

- Findings on autopsy?
 1. An occlusive thrombus on the bifurcation of the pulmonary artery.

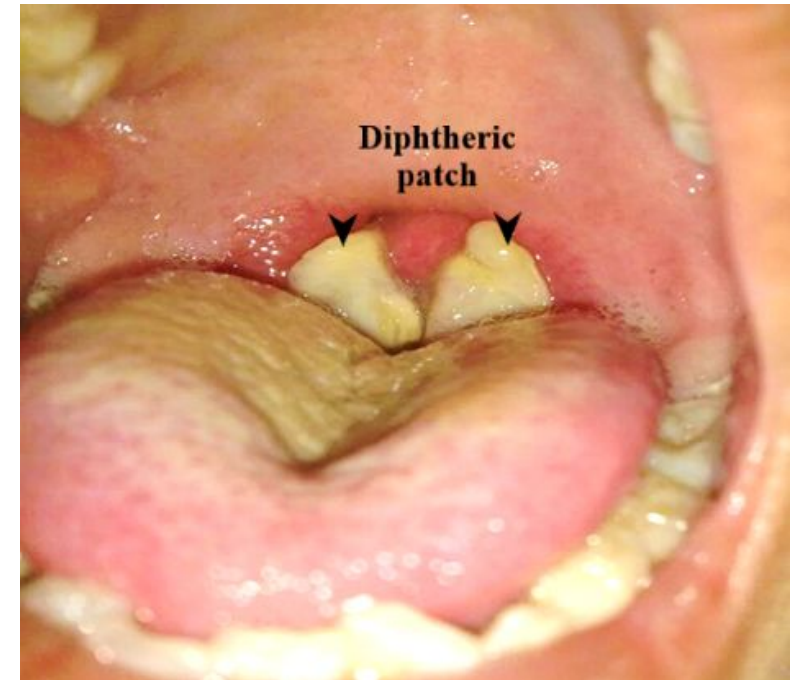


Chest infections.



- Causes?

1. H. Influenza
2. Diphtheria.

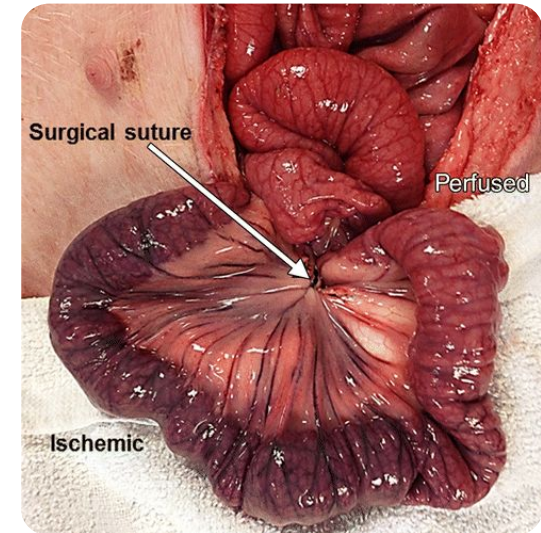
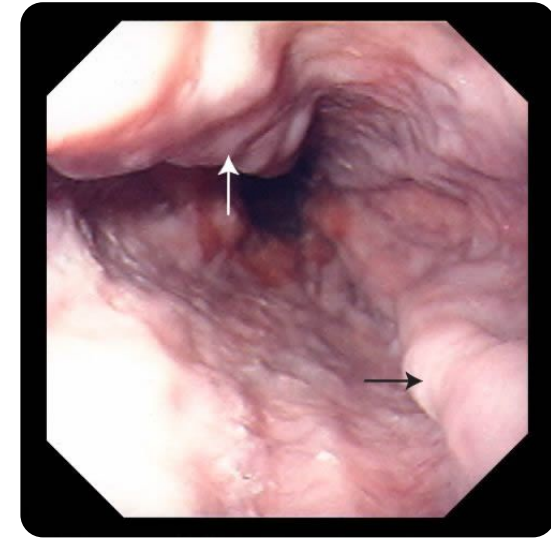


Bronchial asthma.

- May die suddenly without being in acute attack.
- It may be either because: hypoxia and respiratory acidosis, or drugs like Theophylline may cause V.fib.

3-Gastrointestinal system.

- Bleeding.
- Mesenteric infarction.
- Strangulated intestinal hernia.
- Fulminating peritonitis.



4-Genitourinary system.

- Induced abortion.
- Ectopic pregnancy.

5-Central nervous system.

- Epilepsy.
- Falls on objects, accidents while driving.
- On autopsy: look for bite marks.
- It can be a negative autopsy: where epilepsy is an acceptable cause of death.