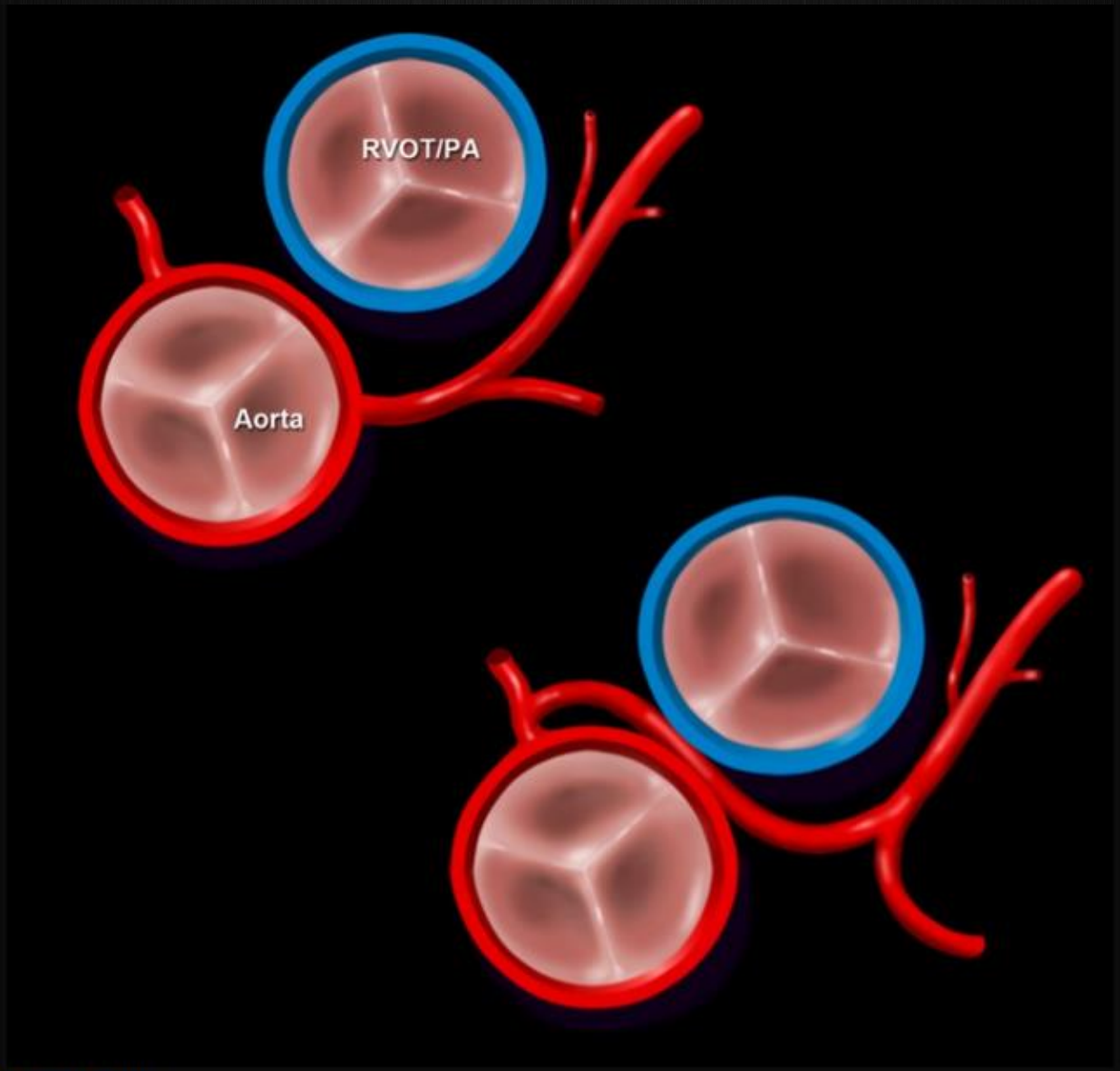
Coronary artery anomaly's

- Malignant variant: Anomalous artery courses between ascending aorta and pulmonary artery-interarterial
  - Associated with increased risk for myocardial infarction or sudden cardiac death
  - High risk assumed if left main follows interarterial course, while risk for RCA is uncertain; higher risk assumed if anomalous artery has slit-like ostium and takes intramural course
- Benign variant:
  - Anomalous coronary artery courses anterior to PA (prepulmonary), dorsal to aortic root (retroaortic), below right ventricular outflow tract through septum (subpulmonary/transseptal)

Coronary artery anomaly's

- Most coronary artery anomalies are clinically silent and do not affect the quality of life or lifespan of the affected individuals.
- Specific forms of anomaly, such as the origin of the left main coronary artery from the pulmonary trunk,
- And the aberrant course of the arteries between the great vessels (Aorta and PA), may be associated with sudden death, myocardial ischemia, or congestive heart failure.



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Graphic compares normal (top) and anomalous origin (bottom) of the left main (LM) coronary artery from the right coronary artery, i.e., opposite sinus. The anomalous LM then has a potentially malignant course between the aorta and pulmonary artery (PA), which is associated with a higher incidence of sudden cardiac death.

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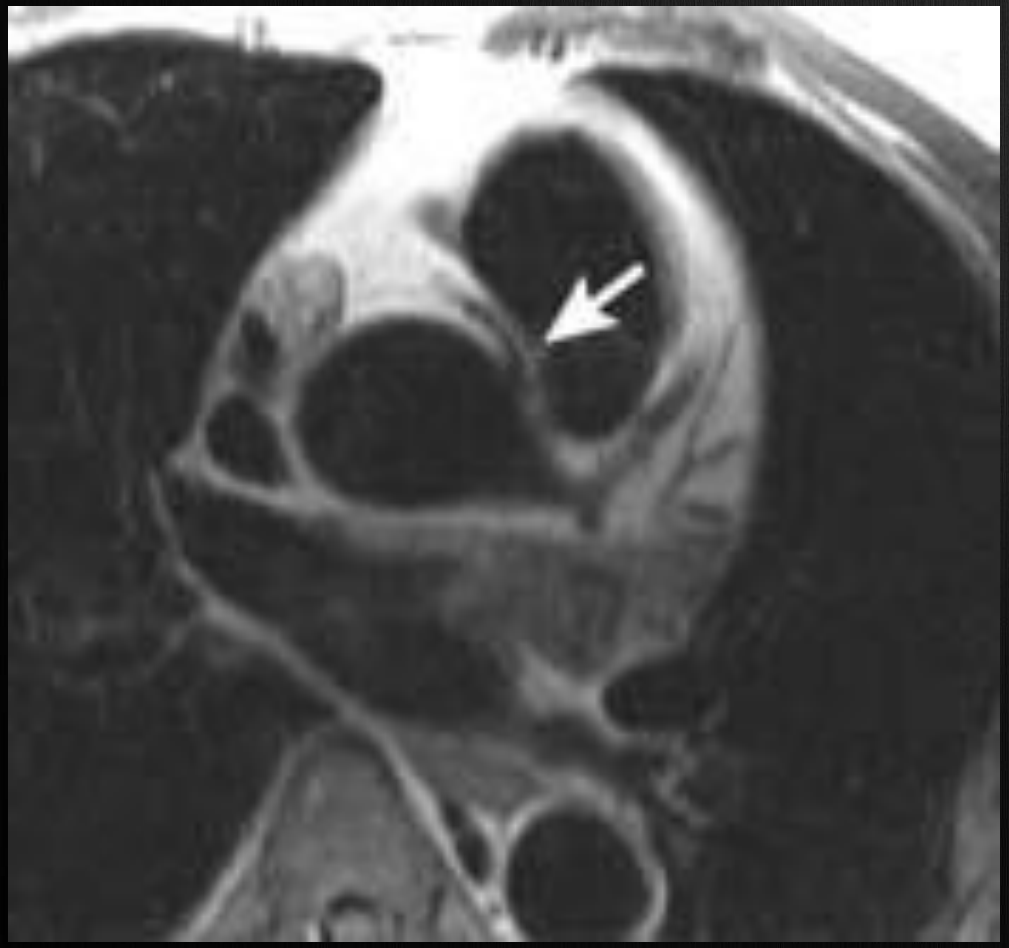
Left Main Coronary Artery from the Right Coronary Sinus (malignant)

Abnormal origin of the left coronary artery with a retro-aortic course

Should be benign, does not cross between the Aorta and PA

Right coronary artery anomaly



Breath hold double inversion recovery fast spin-echo (black blood) MR image of a patient with a life threatening coronary anomaly. The right coronary artery originates from the left aortic sinus and crossed to the left between the aorta and pulmonary trunk (arrows). This causes the coronary artery to be compressed and can cause myocardial infarction.