

NO CONFLICT OF INTEREST TO DECLARE

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- Normal origin and distribution
- Abnormal origins → from aorta  
 → from pulmonary trunk
- Anomalous epicardial course
- Abnormal communications
- Others

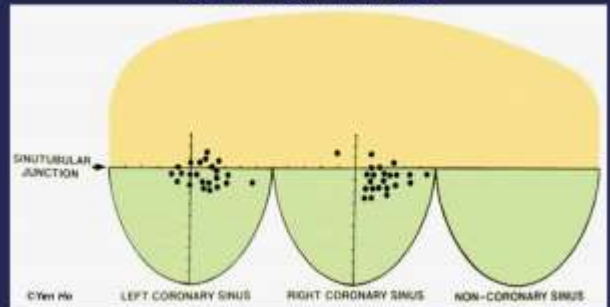
RCA, separate origin of infundibular branch



CT Images courtesy of Dr Francesco Faletta, Lugano

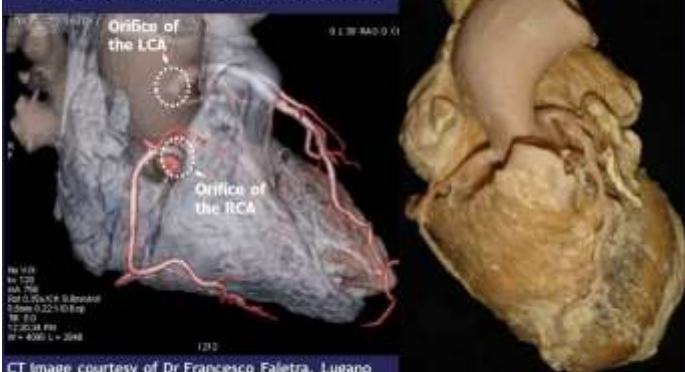
Sites of coronary orifices

23 normal hearts



Muriago et al. Clin Anat 1997; 10:1-6

Distribution - epicardial course



CT image courtesy of Dr Francesco Faletta, Lugano

Distribution - epicardial course

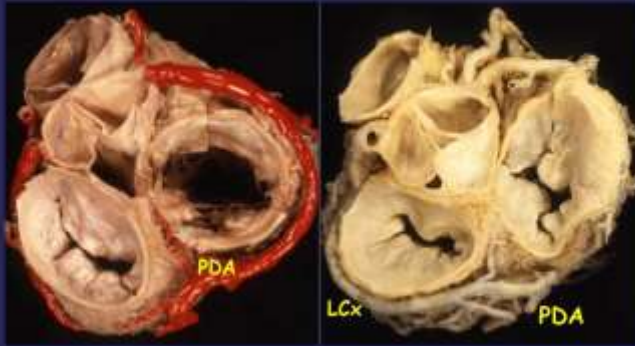


Myocardial bridge

## Coronary Arteries

### RIGHT DOMINANCE

### LEFT DOMINANCE



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## Coronary Arteries

### ABNORMAL ORIGIN FROM AORTA

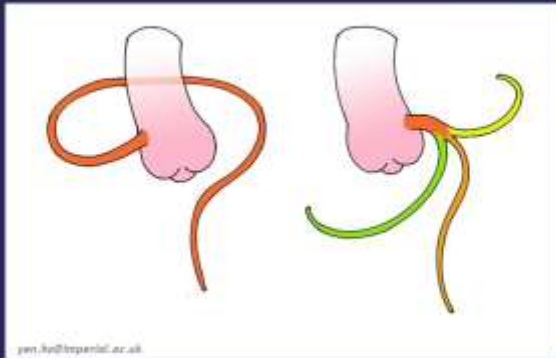
- How many? eg. Solitary orifice
- Ostial stenosis / shelf / atresia
- High take-off (above sinotubular junction)

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## Coronary Arteries

### Single orifice, solitary coronary artery

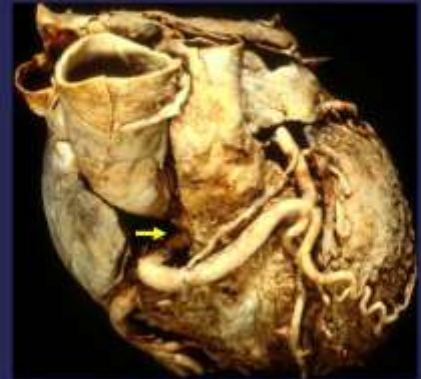


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## Coronary Arteries

### Single orifice, solitary coronary artery

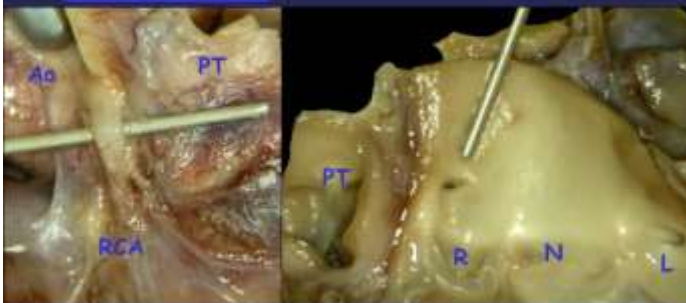


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## Coronary Arteries

### High take-off

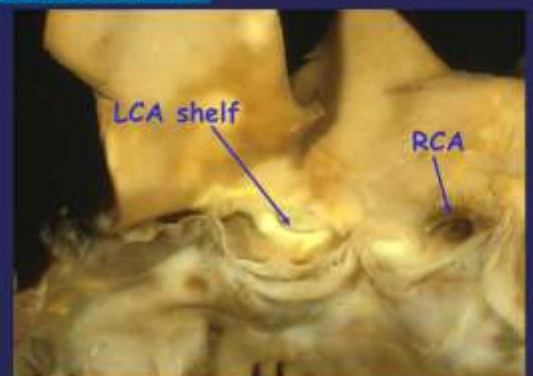


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## Coronary Arteries

### Shelf at orifice

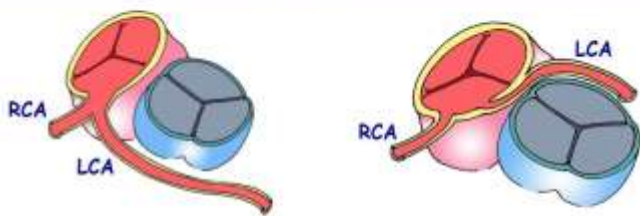


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## Coronary Arteries

### Left coronary from the wrong aortic sinus



Anomalous origin of intervent. artery (LAD)

Anomalous course between trunks

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## Coronary Arteries

### Right coronary from left coronary sinus



CT images courtesy of Dr Francesco Faletta, Lugano

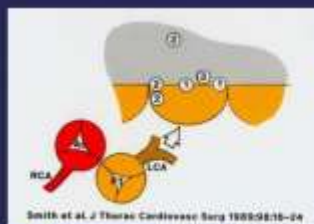
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## Coronary Arteries

### ABNORMAL ORIGIN FROM PULM. TRUNK

- Isolated lesion / with cong. heart defect
- Usually from facing sinus of pulm. trunk
- Usually LCA, sometimes RCA, rarely both
- Severity depends on collateral circulation



ALCAPA  
SCD in ~40%



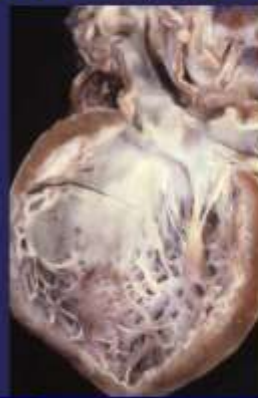
Male : Female = 1:2

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## Coronary Arteries

### Left coronary from Pulmonary valve sinus



- Dilated and fibrotic LV
- Differentiate from DCM

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## Coronary Arteries

- Patterns in congenital heart disease

Relevant to surgical repair

eg. tetralogy of Fallot, complete transposition, pulmonary atresia with intact ventricular septum.



- ★ Origin
- ★ Epicardial course
- ★ Fistulous communications

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## Coronary Arteries

### Summary:

- Normal - arterial dominance
- Abnormal - origin, orifice, epicardial course, fistulous communications
- Other - arteriopathy

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## Coronary Arteries



### Arteriopathy - Kawasaki

#### Coronary aneurysms

occurring mostly in infants and children younger than 5 years of age

3 linked processes:

- necrotizing arteritis - from luminal endothelium (resolves within 2 weeks of fever onset) forms saccular aneurysms, thrombus)
- subacute chronic arteritis - from adventitia, some intact media, fusiform dilatation
- luminal myofibroblastic proliferation - from media - progressive arterial stenosis with or without thrombosis



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## Coronary Arteries



Arteriopathy - idiopathic arterial calcification - autosome recessive - loss of function mutation in *ENPP1* gene in 80% cases.



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## Coronary Arteries: summary



- Normal - arterial dominance
- Abnormal - origin, orifice, epicardial course, fistulous communications
- Other - arteriopathy

Thank you

Terima kasih

jumpa lagi

Yen Ho

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