INTERESTING CASES OF CT CORONARY ANGIOGRAPHY

Dr. Khushboo Singhania,
III year DNB,
Saifee Hospital
32 year old male patient
No co-morbidities
Occasional angina-like chest pain in the past
Referred for Pre operative cardiac screening for Laparoscopic Cholecystectomy
Screening ECG showed an abnormal AV conduction delay
Stress test was negative for inducible ischemia
3-DIMENSIONAL CT VIEW
Prominent Diagonal Branch
Left Main Coronary artery

Absent Left Circumflex Coronary Artery

Left Anterior descending Coronary artery (LAD)
Empty Atrioventricular Groove
Right Coronary Artery

Posterolateral branch

Posterior Descending Artery
Prominent Posterolateral Branch of RCA
Our findings:
Empty Atrioventricular Groove
Absent left circumflex artery
Prominent diagonal branch
Prominent Posterolateral branch of RCA
(Superdominant RCA)
CASE 2
• 24 Years old female patient
• No co-morbidities
• Family history of cardiac disease
• Presently experiencing angina like chest pain
Left Anterior descending Coronary artery (LAD)
Hypoplastic left Circumflex Coronary Artery

Left Circumflex Coronary artery
Right Coronary artery
Calcific Plaque

Posterior Descending Artery

Posterolateral branch

Right Coronary artery
Our Findings:

Hypoplastic left circumflex Artery

Prominent Posterolateral branch of RCA (Superdominent RCA).
Absent left circumflex artery
Hypoplastic left circumflex Artery

Extremely rare anomalies of coronary arteries

Congenital absence of the left circumflex artery (LCx) has only 66 cases reported in world medical literature.
These anomalies are almost always associated with a **superdominant right coronary artery** - Prominent posterolateral branch which runs in left atrioventricular groove and takes over the blood supply of the lateral wall of the left ventricle. Thus considered to be benign in past.
However in all the reported cases these patients experienced chest pain which ranged from typical angina to myocardial infarction.

*That got me thinking*-  
Is it really so benign?  
Can the absence of major coronary artery be of no clinical consequence?
‘Steal phenomenon’- increased arterial blood supply to the LCx territory and results in transient ischemia of other coronary arterial territories.

In presence of insignificant atherosclerotic plaques, patients may experience cardiac ischemia due to failure of compensatory mechanism.

Atherosclerotic or spasmodic occlusion of the single superdominant right coronary vessel- equivalent to double vessel disease.
With increasing use of multidetector CT coronary angiography we are likely to pick up this as well as other coronary anomalies more frequently than before.
Alert radiologist - To recognize this anomaly

Alert cardiologist - Close surveillance of such patients to avoid cardiac catastrophe

Alert Patients - To not ignore chest Pain.
With ultrasfast MDCT scanners, coronary anomalies are picked up with higher degree of confidence as compared to catheter angiography due to high resolution and 3D depiction of cardiac structures.
THANK YOU