

THROMBOSED GIANT CORONARY ARTERY ANEURYSM

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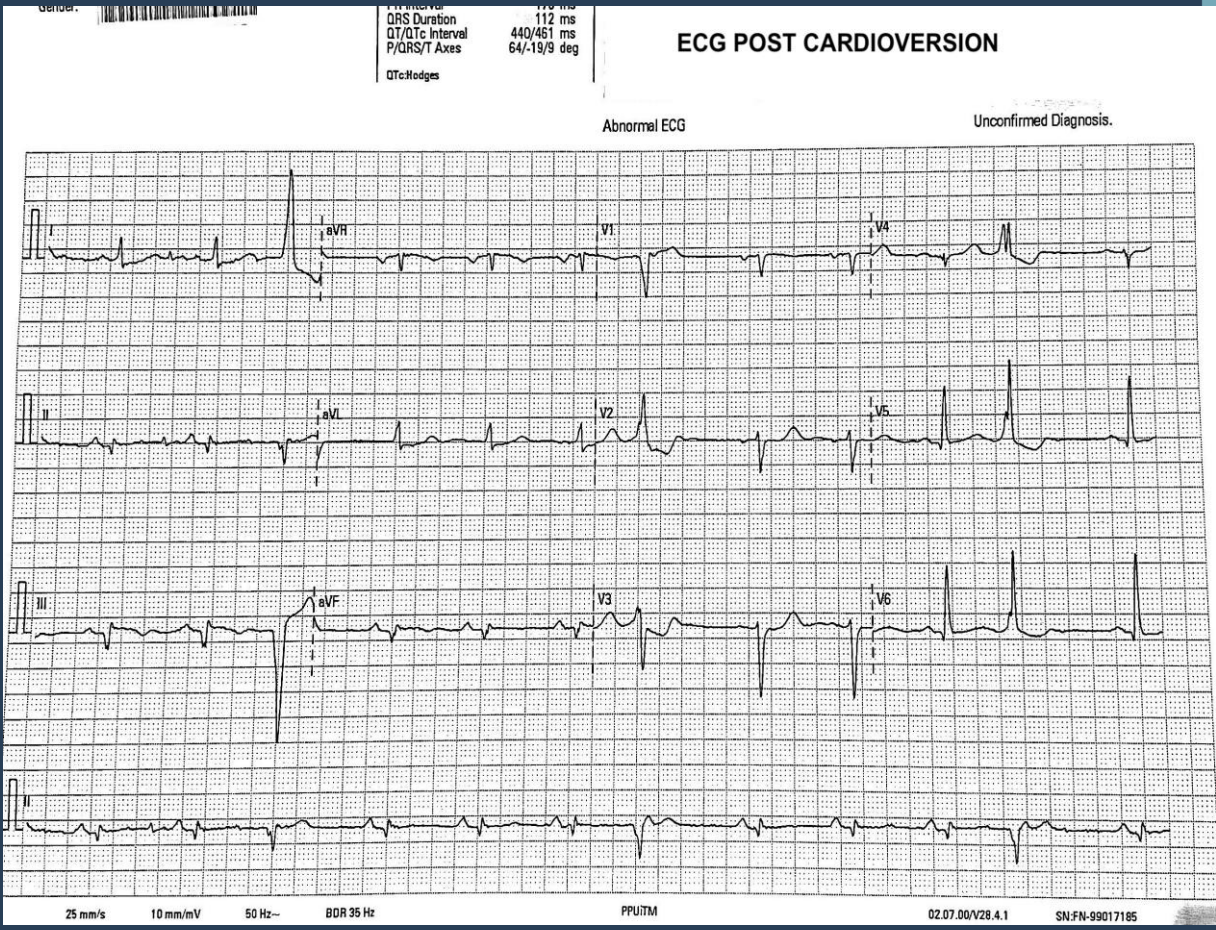
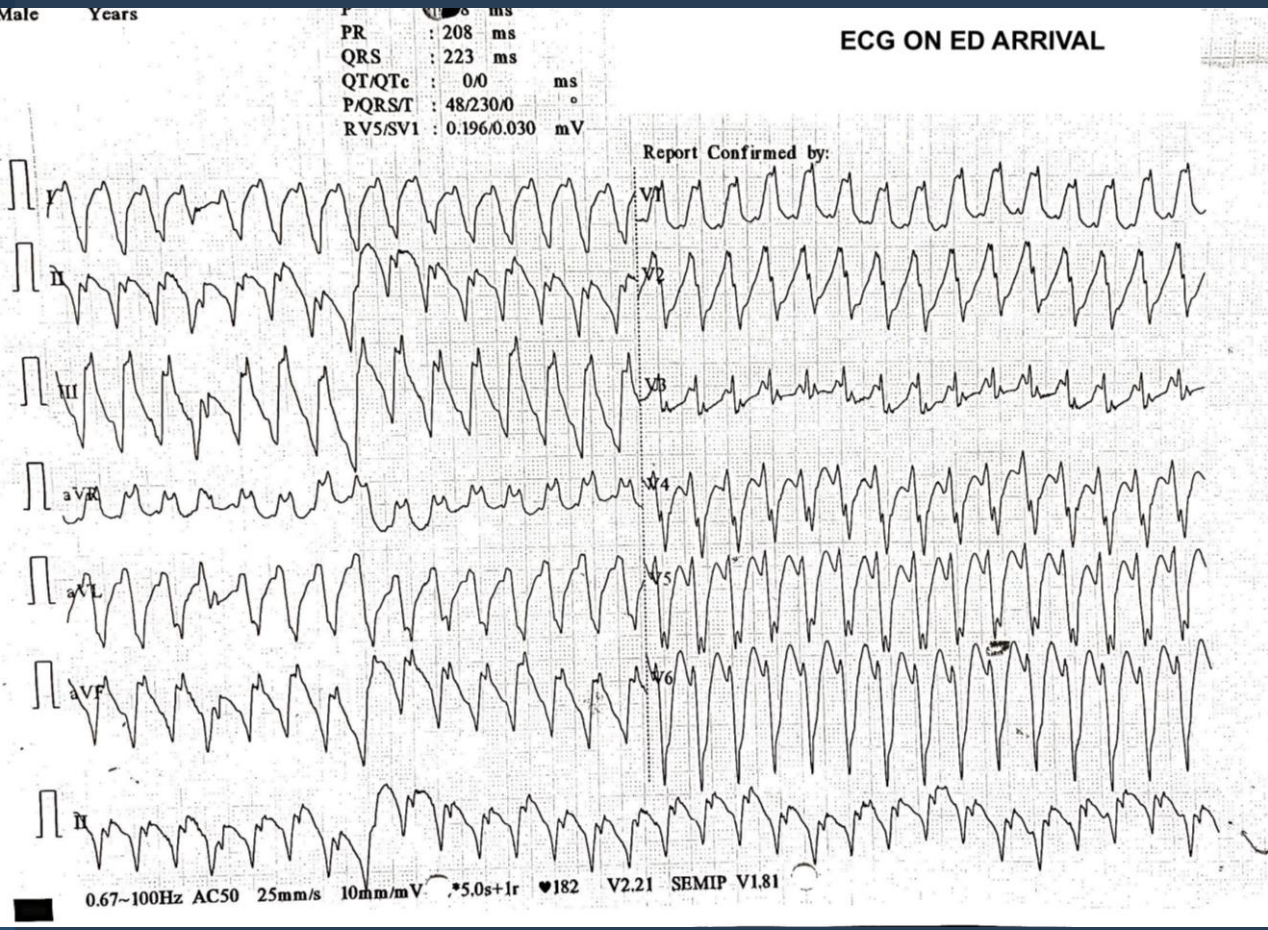
Disclosure

- No conflict of interest.

History and Physical Examination

- 65y.o man / smoker / diabetes / hypertension / dyslipidemia
- Sudden onset palpitation and dizziness for 3 hours
- Dyspnea, orthopnea and bilateral lower limb swelling for 1 month
- BP 108/80mmHg, HR 200beats/min, RR 40 breath/min, SpO2 90% on high flow mask.
- Bilateral lung crepitations up to middle zones

Electrocardiogram



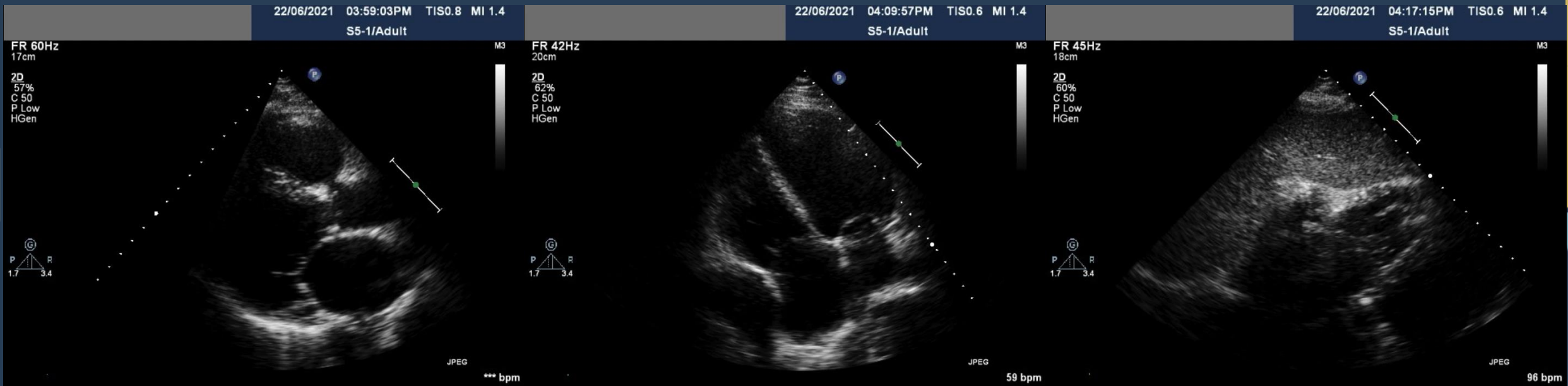
Investigations

Serum	mmol/L
Urea	9.2
Creatinine	120
Sodium	134
Potassium	4.2
Calcium	2.2
Magnesium	1.3
T. Cholesterol	5.8
LDL-C	3.9
HDL-C	0.8
Triglyceride	2.4

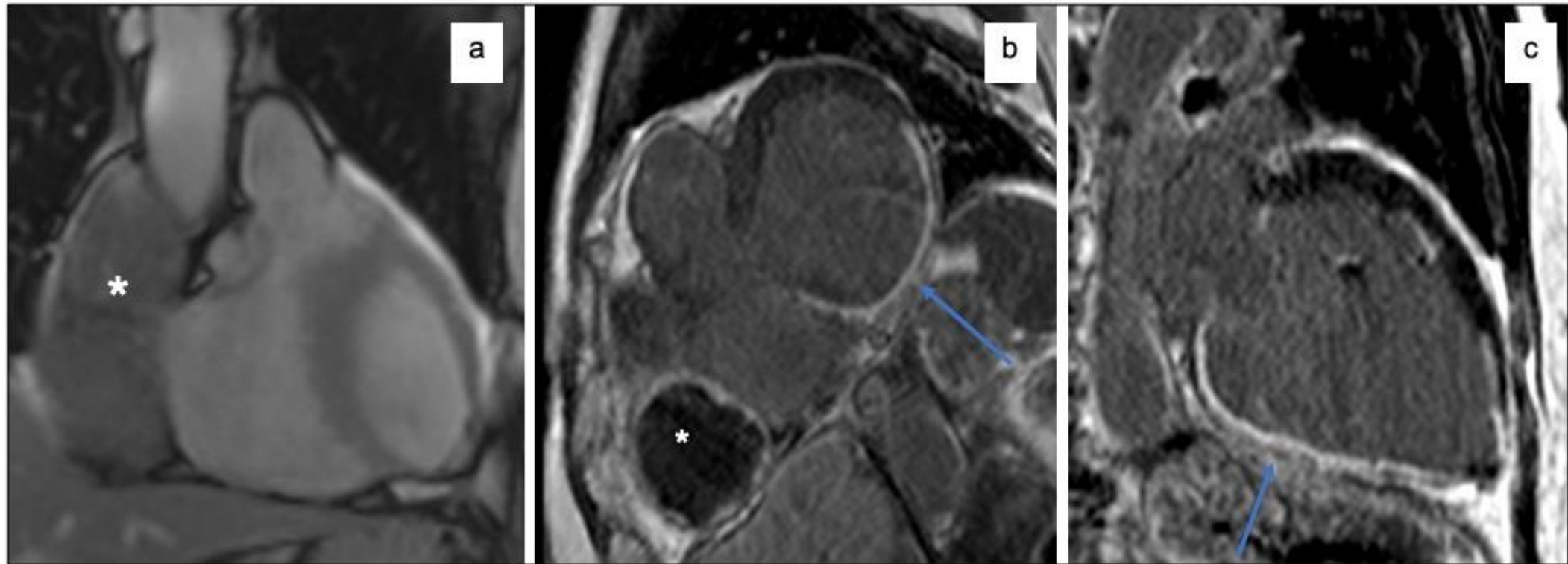
HbA1c	8.8%
Free T4	15.8 pmol/L
TSH	2.1 mIU/L

Progress (ECHO)

- Patient was cardioverted and intubated in view of respiratory distress
- Extubated after 4 days of IV diuresis
- Echocardiography: LVEF 21%. RWMA. Presence of epicardial mass



Progress (Cardiac MRI)



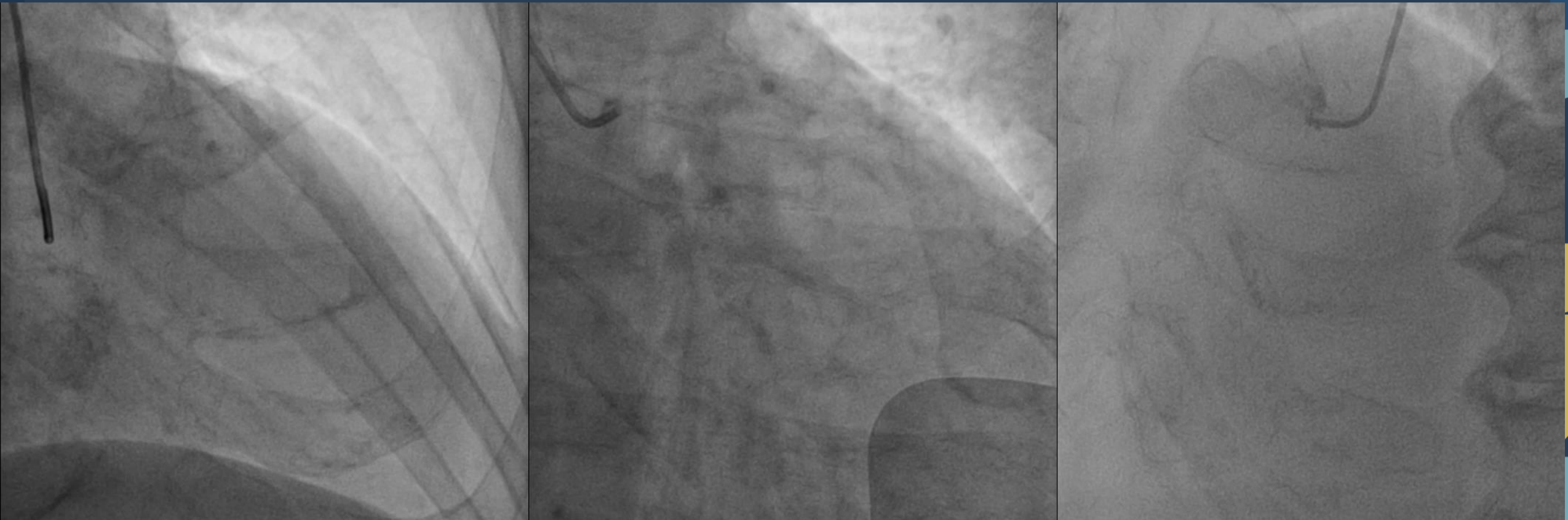
a. T2W image in axial view

b. Short axis late gadolinium image (LGI)

c. 2-chamber long axis view LGI

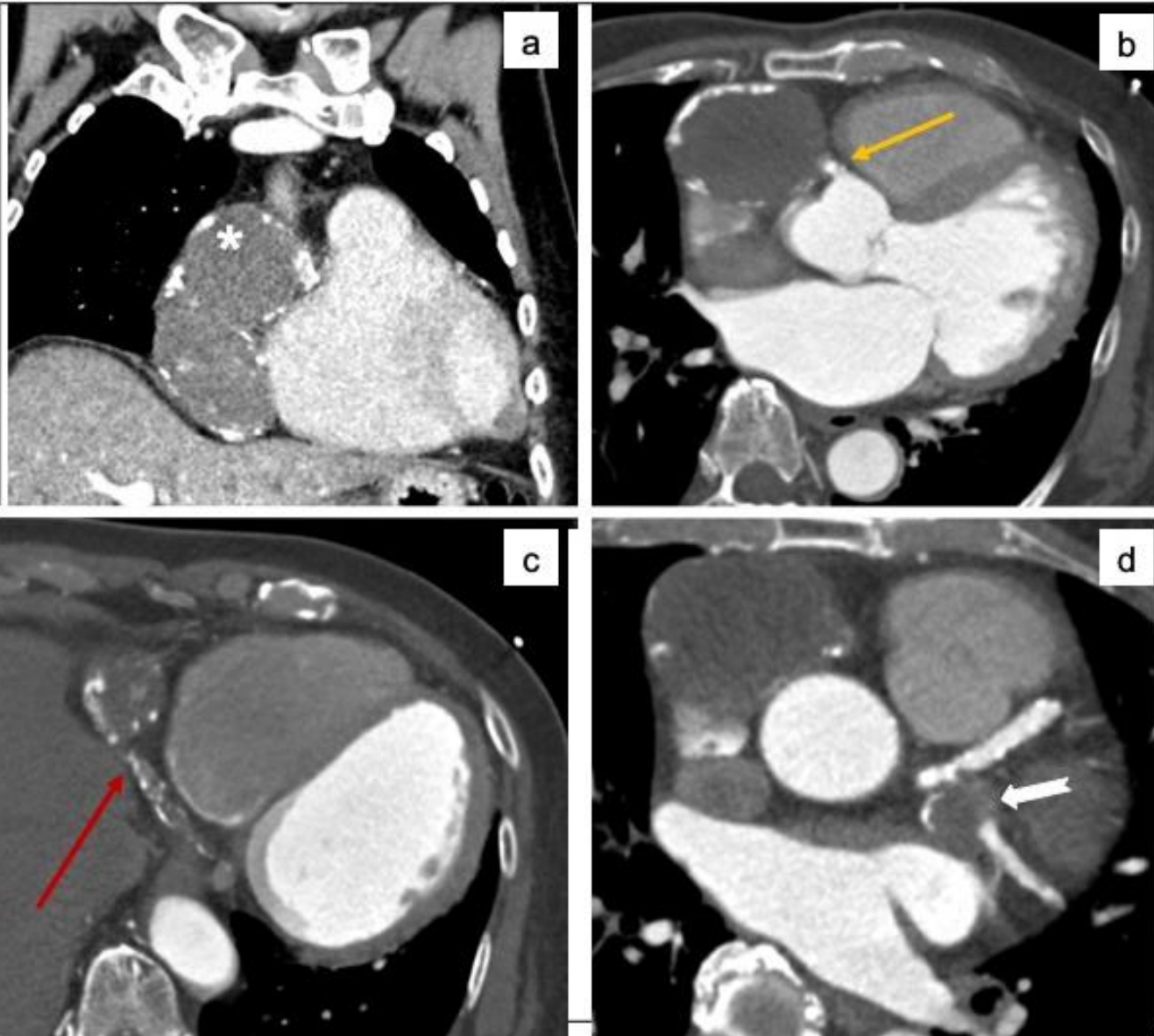
- Tubular mass (10x6x5cm) under the pericardium adjacent to the right atrioventricular groove with internal heterogenous signal (*a,b)
- Transmural subendocardial enhancement of inferoseptal, inferolateral and inferior wall -> non-viable RCA territory. (b,c)

Progress (Coronary Angiogram)



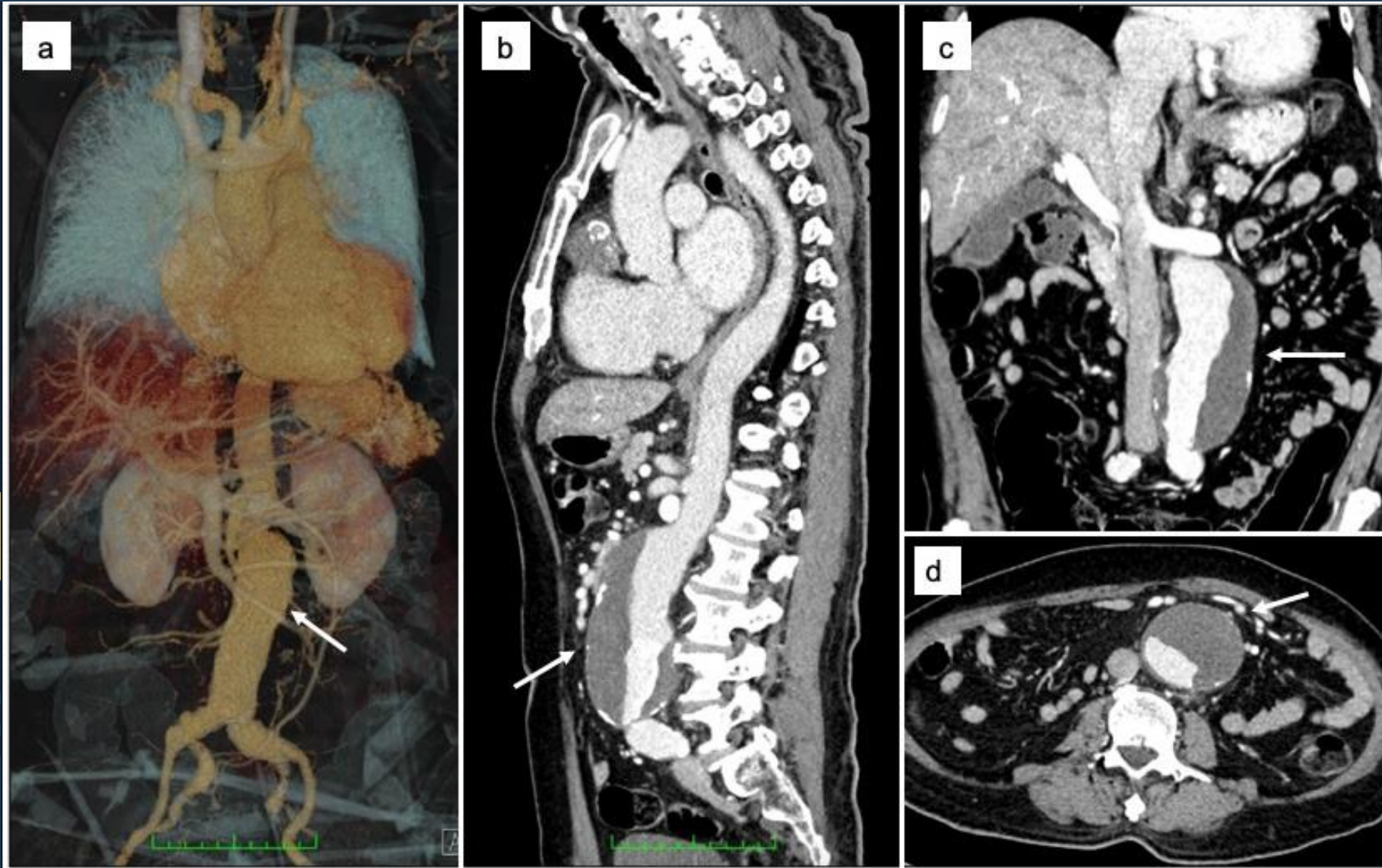
- Diffusely calcified ectatic coronary artery disease
- CTO distal LAD and proximal RCA
- Subtotal occlusion mid LCx.

Progress (CT Coronary Angiography)



- Superior margin of the mass communicates with the proximal RCA (b)
- Inferior margin of the mass communicates with thrombosed and calcified distal RCA (c)
- Another smaller mass (2x2x1.5cm) with wall calcification communicates with proximal and distal LCx (d)

Progress (CT Aortography)



Infrarenal
fusiform
abdominal aortic
aneurysm
(12x6x5.6cm)
with mural
thrombus

Discussion

- Coronary artery aneurysm : Focal dilation of coronary segment $>1.5x$ adjacent normal segment. (Giant if $>4x$)
- Commonest cause in adult : Atherosclerosis, in young : Kawasaki
- RCA (40%) $>$ LAD (30%) $>$ Lcx (20%) $>$ LM (5%)
- Main diagnostic tool: Coronary catheterization +- IVUS
- CT Coronary Angiography / Magnetic Resonance Angiography
 - Less invasive
 - Complement pitfall of endoluminal view from coronary catheterization alone.
 - More accurate evaluation of aneurysm size, relation to other heart structures, degree of thrombus and calcification
- Management of CAA : Very limited evidence-based.

Conclusion

Multimodality imaging approach is essential in diagnosis and management of giant thrombosed coronary artery aneurysm.