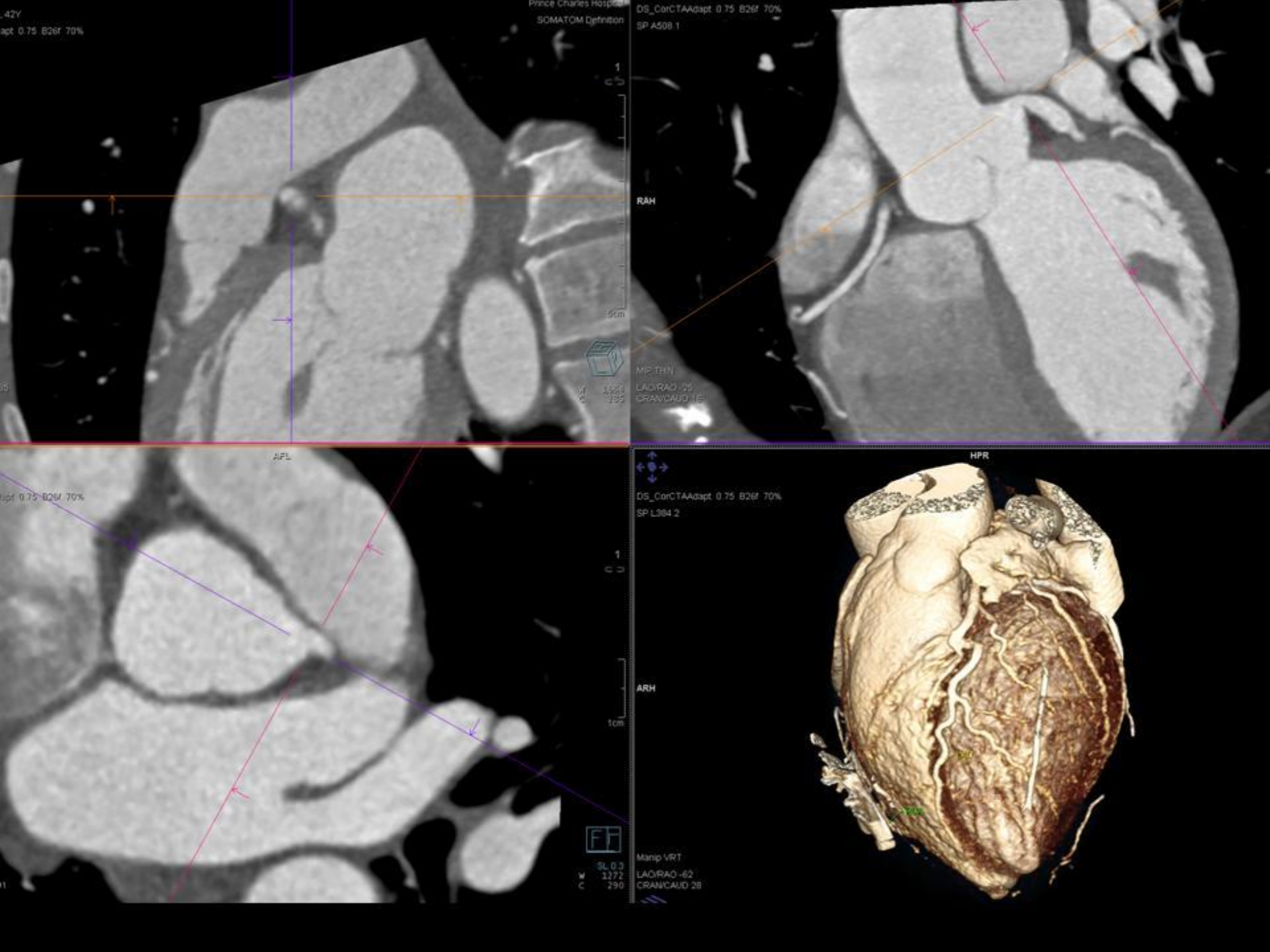
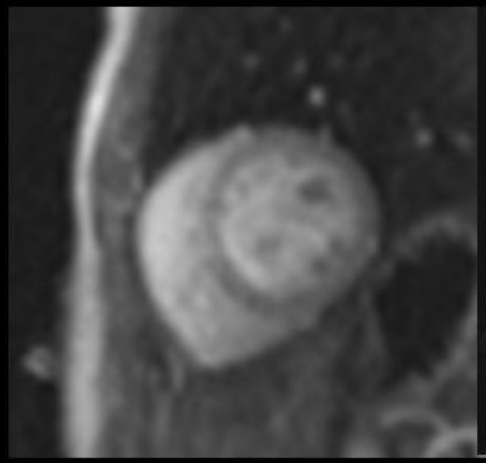
- A 42 year old female presented with exertional dyspnoea. Exercise stress echocardiography revealed normal resting LV function of 60%. On tthe treadmill she had mildly reduced exercise capacity at 7minutes Bruce protocol achieving 8 METs of workload and 90% maximal heart rate, limited by symptomatic dyspnoea but no chest pain. There was 2mm upsloping ST depression in the chest leads. Peak echo images showed global dilation of the LV cavity and reduction in ejection fraction (lack of contractile reserve) suggestive of multi-vessel or left main ischaemia.
  The patient was reluctant to proceed to invasive catheter angiography. Coronary CT angiogram was performed on a dual-source Siemens SOMATOM Definition scanner, tube voltage 100kVp, effective dose 1mSv. This showed ostial kinking of the left main, with a minimal luminal area of 9mm2 compared to a reference diameter of 18mm2. There was no visible atherosclerotic plaque.
  Invasive coronary angiography showed a geometric "kink" in the left main origin, with intra-vascular ultrasound (IVUS) confirming absence of coronary atherosclerotic plaque and a highly-concordant minimal luminal area of 9mm2 with reference diameter 19mm2.
  Cardiac MRI on a 1.5Tesla Siemens AERA magnet was peformed with adenosine stress perfusion imaging to assess for inducible ischaemia, LV function and presence of fibrosis. This showed normal homogenous perfusion at stress, normal LVEF 58%, and no late gadolinium enhancement.
  The patient was diagnosed with an early, non-ischaemic cardiomyopathy not requiring any revascularization.


Prince Charles Hospital
SOMATOM Definition
DS_CorCTAAdapt 0.75 B26f 70%
SP A508.1
RAH
MIP THIN
LAO/RAO -20
CRAN/CAUD 16
AFL
DS_CorCTAAdapt 0.75 B26f 70%
SP L384.2
HPR
ARH
Manip VRT
LAO/RAO -62
CRAN/CAUD 28
SL 0.3
W 1272
C 290


HRA
M
F, 42Y
Adapt 0.75 B26f 70%
Prince Charles Hospital
SOMATOM Definition
ROI11
Min / Max: 316 HU/688 HU
Area: 9.32 mm2
1cm
135
W 1684
C 285



Stress MRI
normal perfusion

Late gadolinium enhancement images – no scar