EuroValve 2021 Liège

Heart Failure and Mitral Regurgitation

Case presentation

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Nothing to declare regarding this presentation

Case Presentation

- 53 years, male
- Risk factors: smoking, HTA, Hypercholesterolemia, type 2 DM
- Ischemic heart disease (2010: CABG LIMA+Dg1+Dg2 + LAD; RIMA + Cx and Mg1)
- 2010: acute MI
- Ischemic stroke 2004, 2010, 2016
- 2016: NSTEMI
- 2016: occlusion of the posterior descending artery with collaterals from the LAD, arterial grafts patent
- 2017: Acute heart failure episode
- DCMP ischemic, (EF 40%), LV apical thrombus (2016), severe secondary MR
- CKD (GFR 43ml/min/m^2)
- Obesity with sleeve gastrectomy

Euroscore II

Patient related factors			Cardiac related factors		
Age [1] (years)	53	0.03	NYHA	III	.2958358
Gender	male	0	CCS class 4 angina [8]	no	0
Renal impairment [2] *See calculator below for creatinine clearance*	severe (CC <50)	.8592256	LV function	moderate (LVEF 31%-50%)	.3150652
Extracardiac arteriopathy [3]	no	0	Recent MI [9]	yes	.1528943
Poor mobility [4]	no	0	Pulmonary hypertension [10]	moderate (PA systolic 31-55 mmHg)	.1788899
Previous cardiac surgery	yes	1.118599	**Operation related factors**		
Chronic lung disease [5]	no	0	Urgency [11]	elective	0
Active endocarditis [6]	no	0	Weight of the intervention [12]	single non CABG	.0062118
Critical preoperative state [7]	no	0	Surgery on thoracic aorta	no	0
Diabetes on insulin	no	0			
EuroSCORE II	***Euro*SCORE II**	8.55 %			
	Note: This is the 2011 EuroSCORE II	Calculate Clear			

EuroSCORE = 8.55%

STS score

STS Adult Cardiac Surgery Database Version 4.20

RISK SCORES

Procedure: MV Repair

CALCULATE

Risk of Mortality:	1.181%
Renal Failure:	0.457%
Permanent Stroke:	2.474%
Prolonged Ventilation:	6.467%
DSW Infection:	0.072%
Reoperation:	2.271%
Morbidity or Mortality:	11.156%
Short Length of Stay:	53.582%
Long Length of Stay:	3.674%

PRINT CLEAR

STS Adult Cardiac Surgery Database Version 4.20

RISK SCORES

Procedure: Isolated MVR

CALCULATE

Risk of Mortality:	1.831%
Renal Failure:	0.832%
Permanent Stroke:	1.902%
Prolonged Ventilation:	9.121%
DSW Infection:	0.139%
Reoperation:	2.875%
Morbidity or Mortality:	13.875%
Short Length of Stay:	31.171%
Long Length of Stay:	6.386%

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Treatment

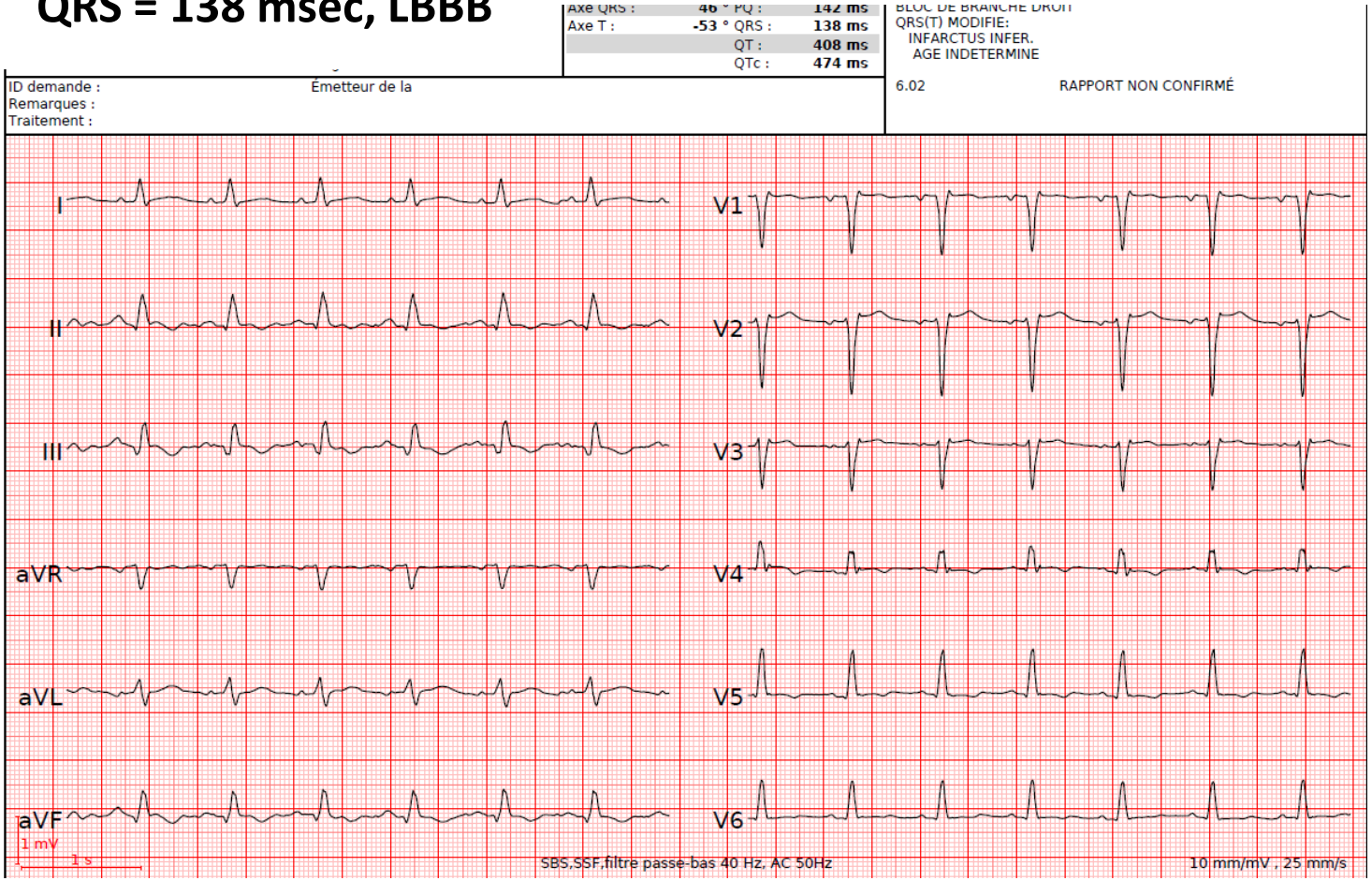
- Aspirin 80 mg/d
- Simvastatin 40 mg/d
- Acenocumarol (Sintrom)
- Perindopril 2,5 mg/d
- Bisoprolol 2,5 mg*2/d
- Furosemide 40 mg/d
- Spironolactone 25 mg/d

Clinical examination

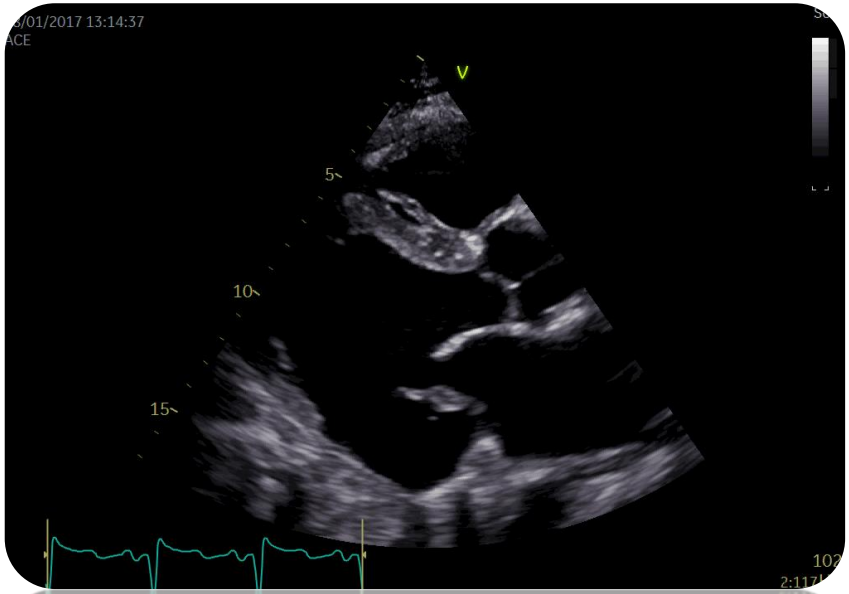
- No dyspnoea at rest
- NYHA II-III
- Regular heart rhythm , soft apical systolic murmur
- HR 80 bpm, regular
- BP=95/60 mmHg
- No signs of congestion

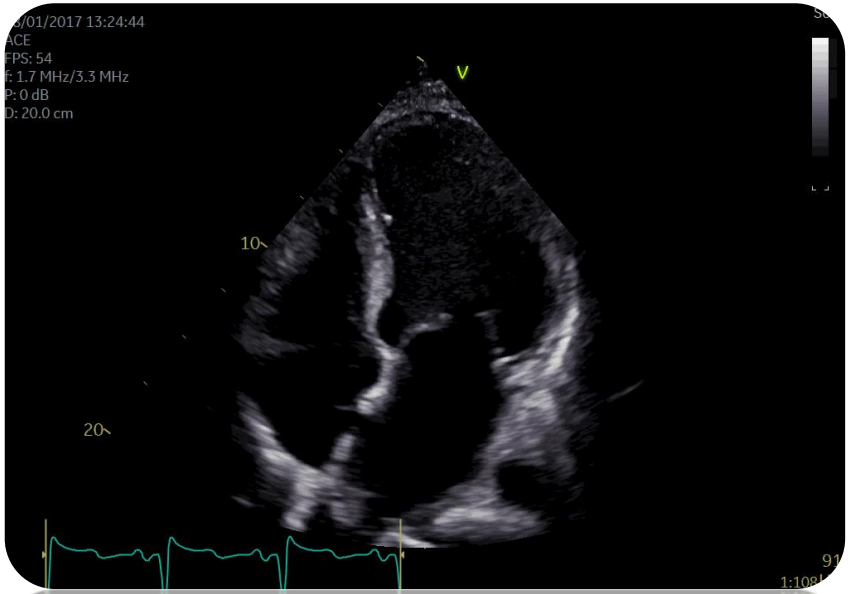
ECG

QRS = 138 msec, LBBB



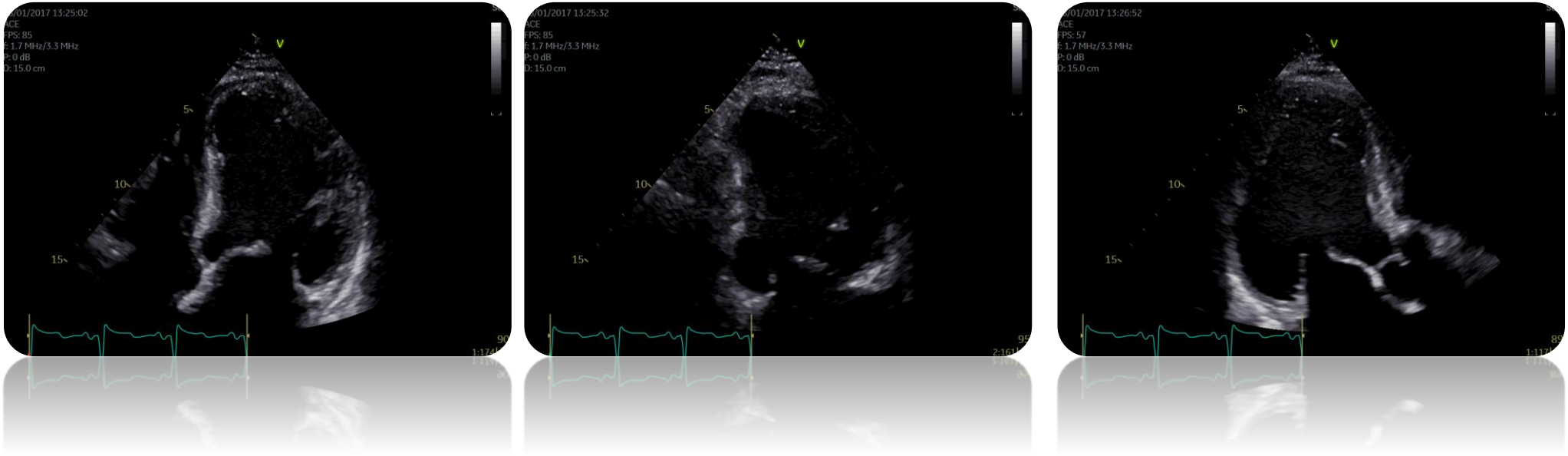
Rest echocardiography





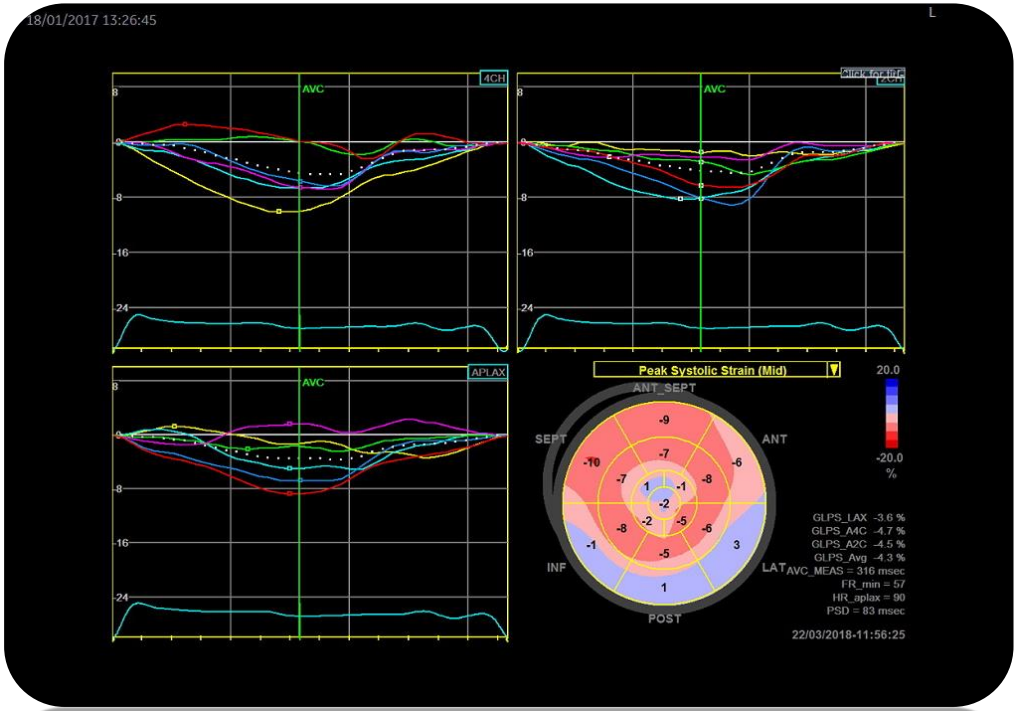
Dilated ischemic cardiomyopathy
LVEDd=79 mm, LVED vol= 274 ml

Rest echocardiography

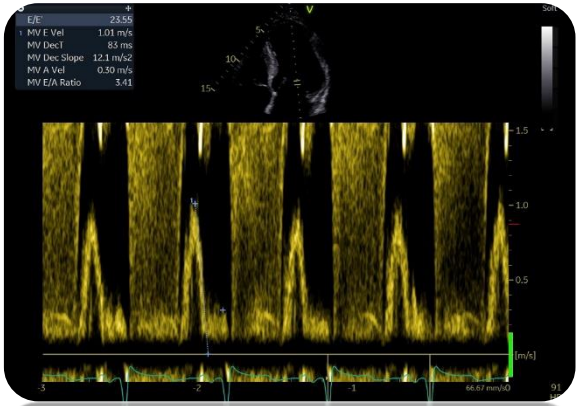


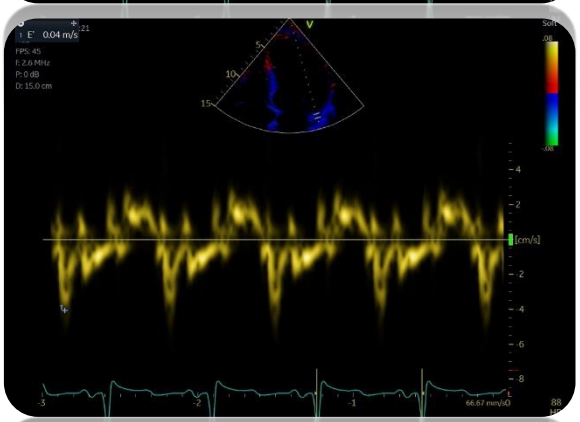
LVEF 28%

Rest echocardiography



Apical and infero-postero-lateral akinesis (MI) + diffuse hypo kinesis

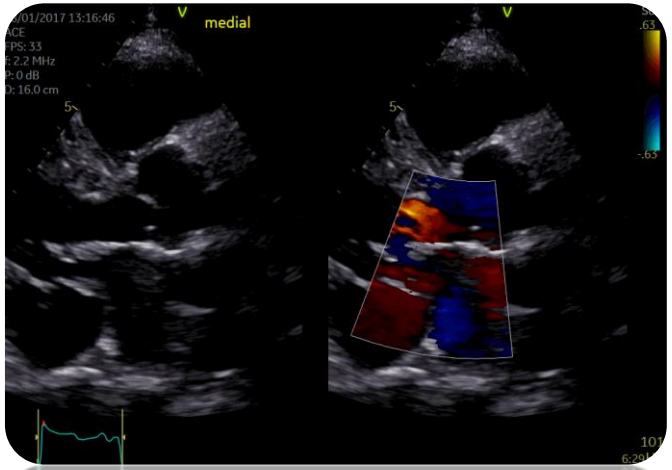


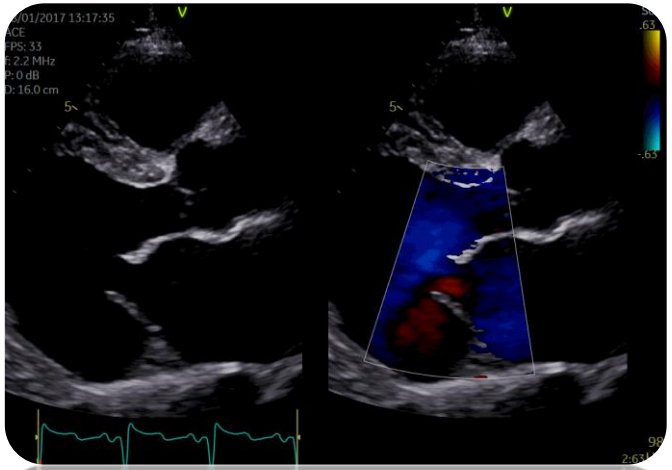


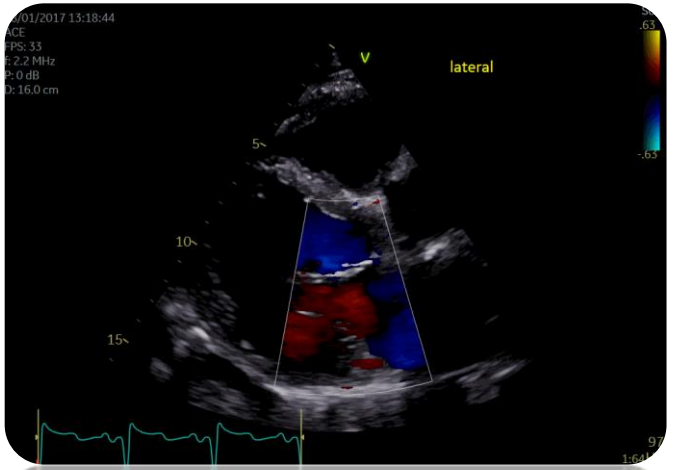
E/A=3.4
E’ = 4 cm/s
E/E’= 23

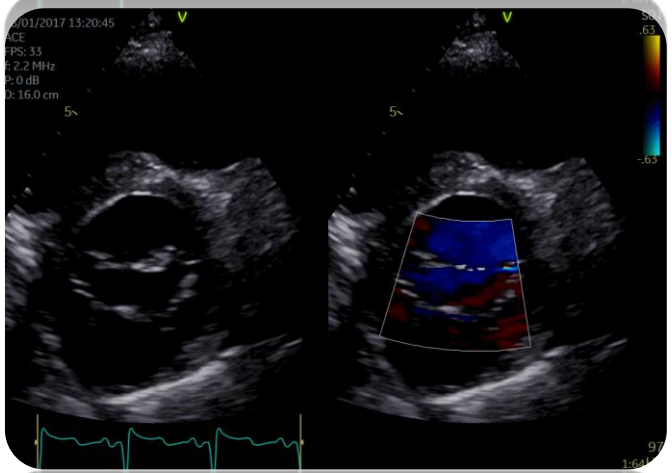
LV diastolic dysfunction (grade 3)?

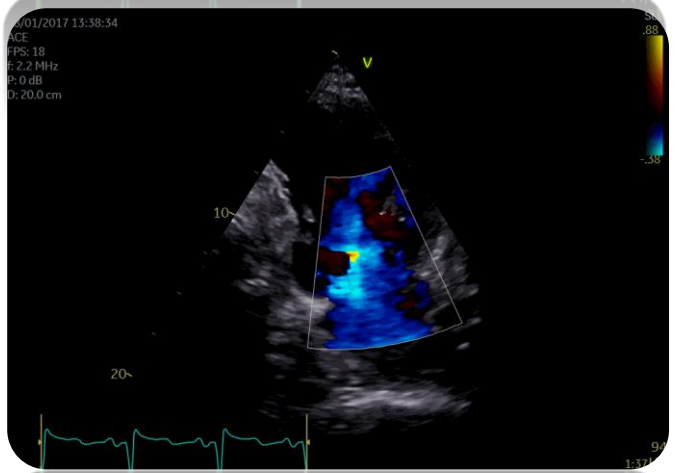
Rest echocardiography



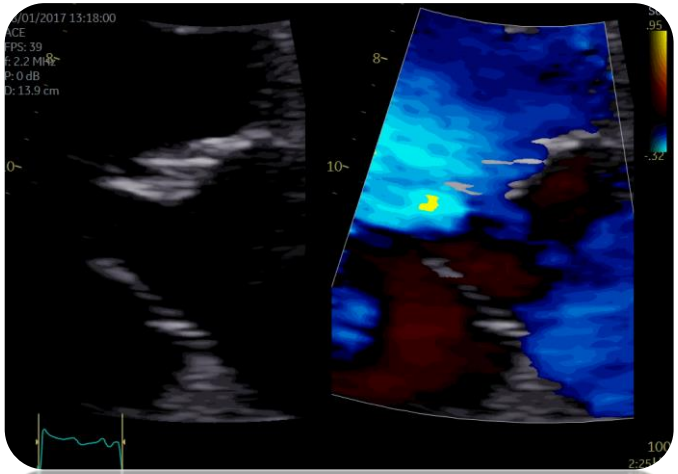




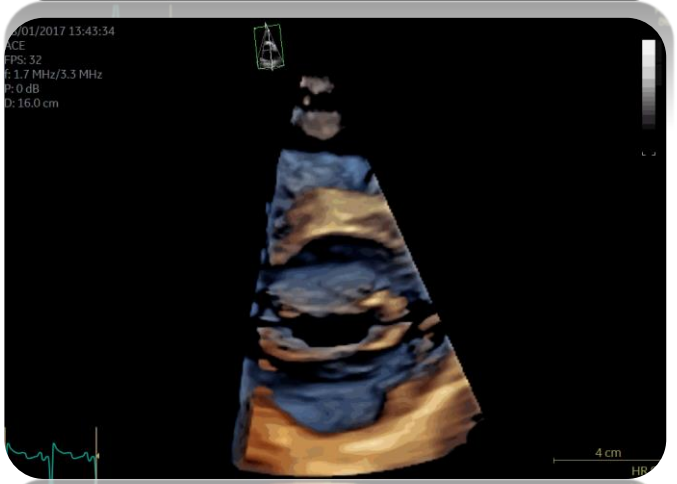


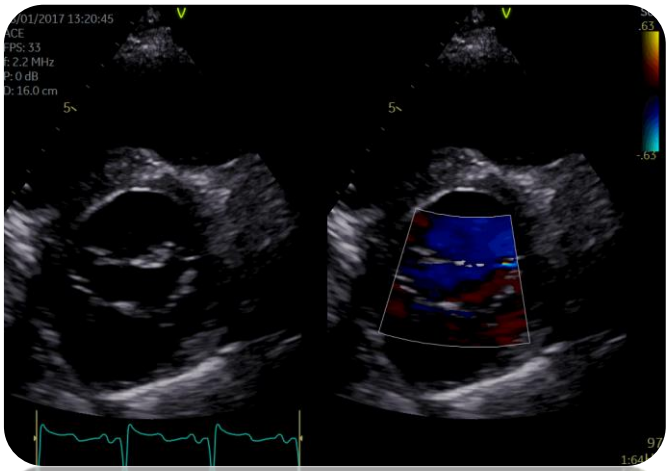


Rest echocardiography

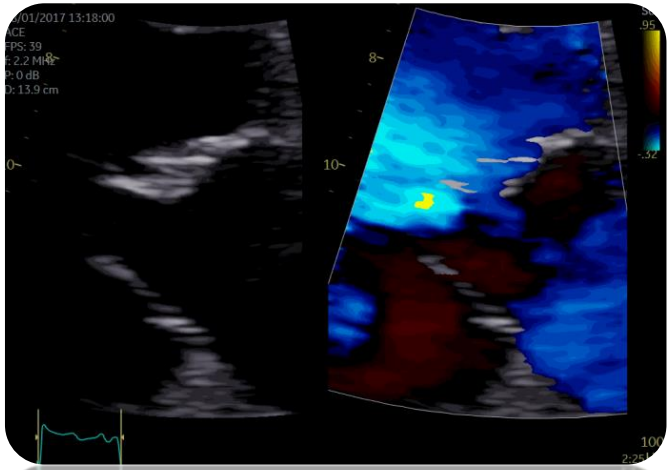


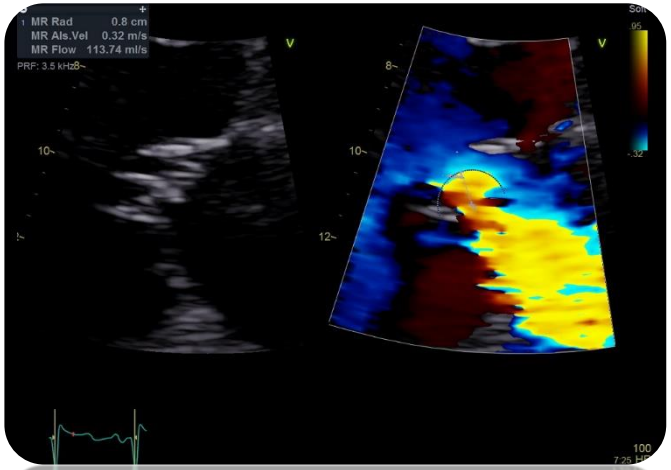
Severe leaflet systolic restriction
Carpentier IIIb
Severe deformation of the valve geometry
Jet ‘en croissant’ along the commissural line (A2-P2 mainly)

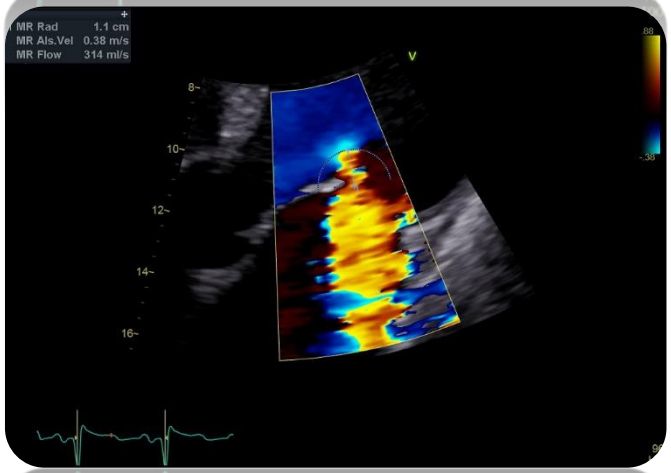


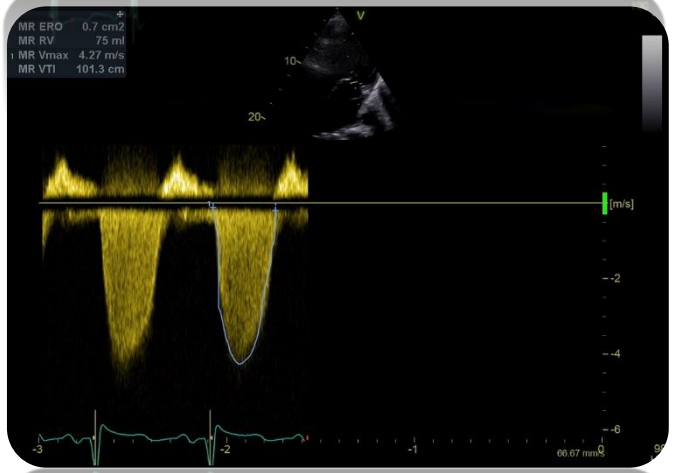


Rest echocardiography





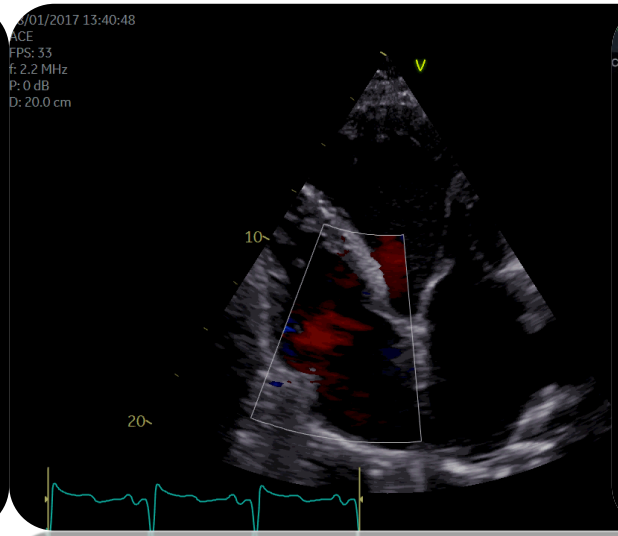


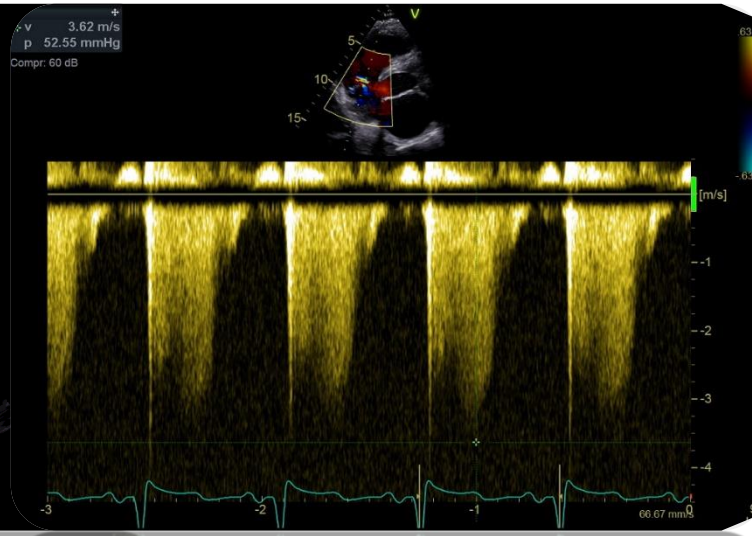


MR quantification of severity by PISA method:

Severe secondary MR
SOR 0,7 cm^2, RV 75 ml

Rest echocardiography



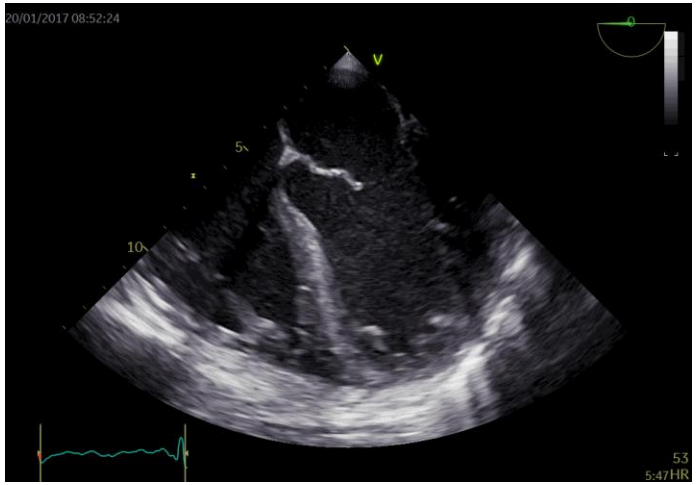


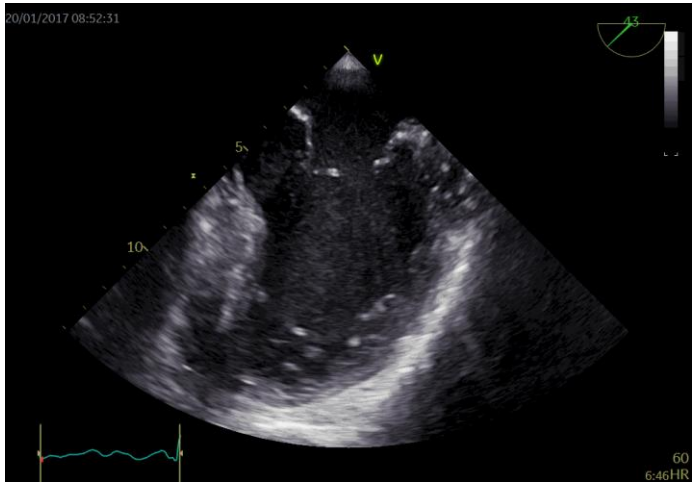
Low flow state

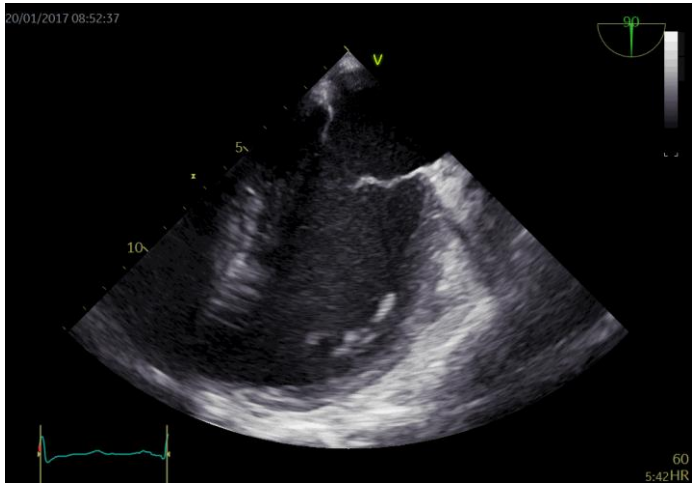
TTG = 52 mmHG

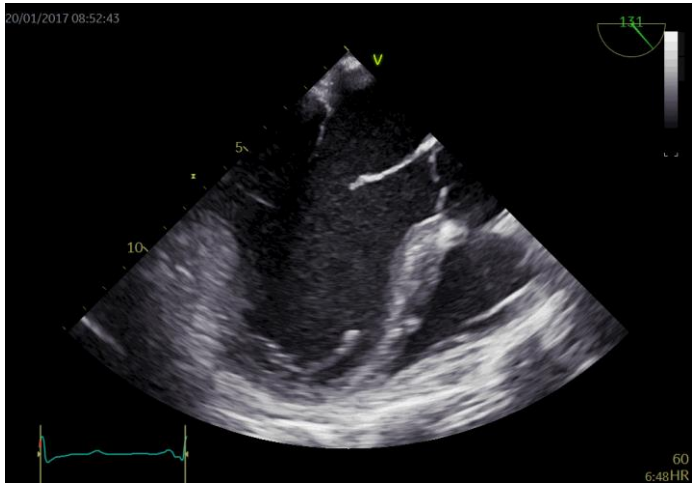
PHT

Teansoesophageal echocardiography









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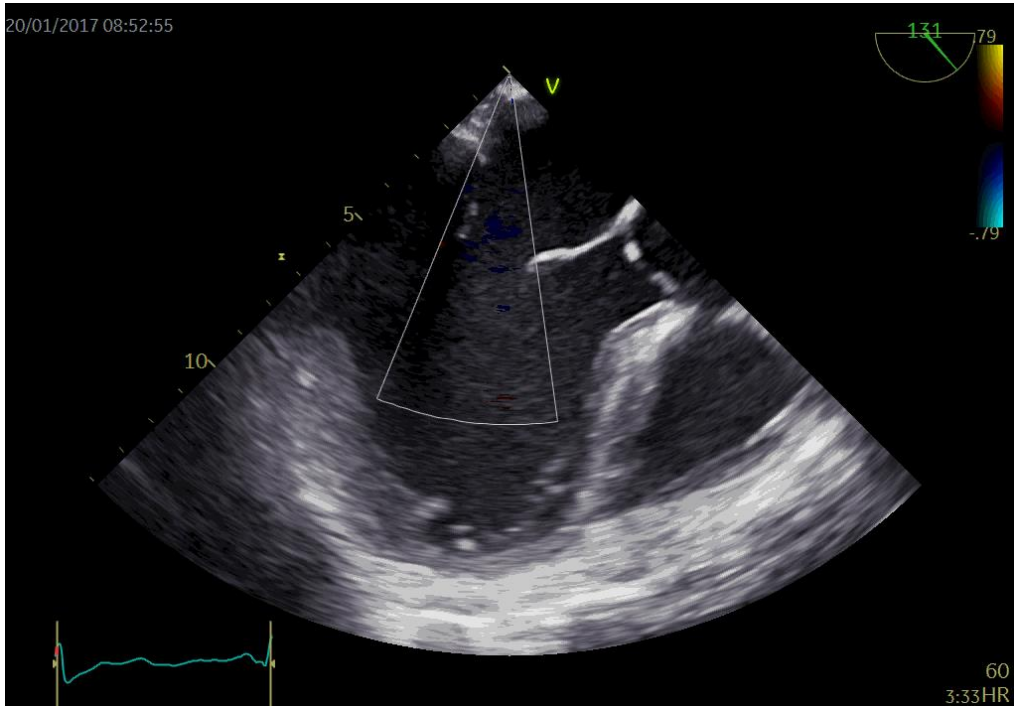
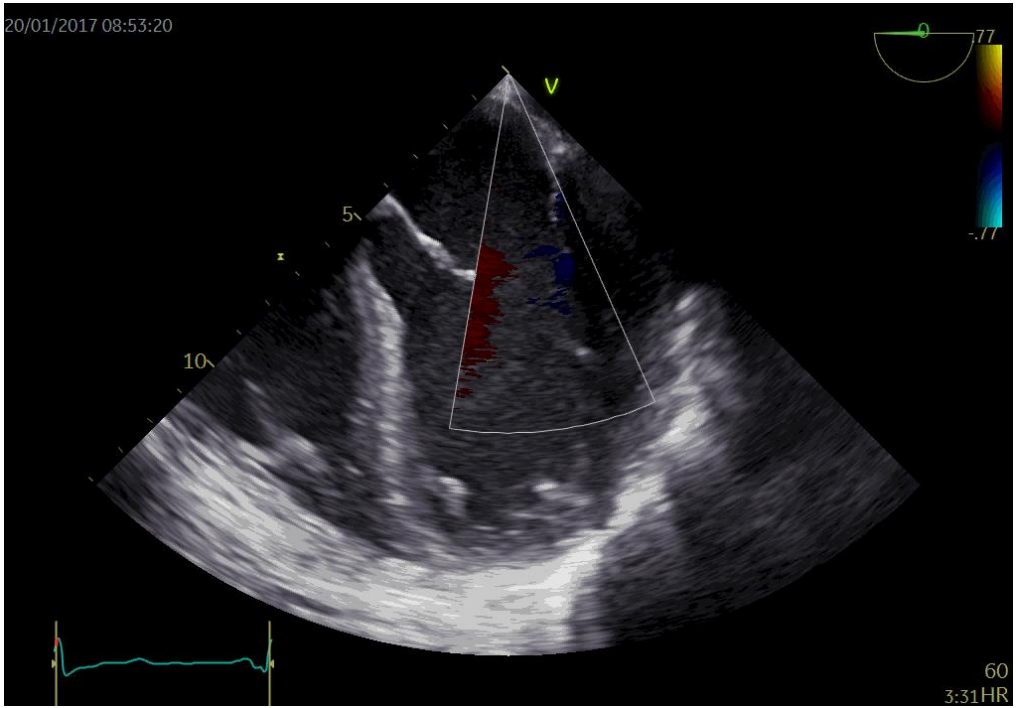
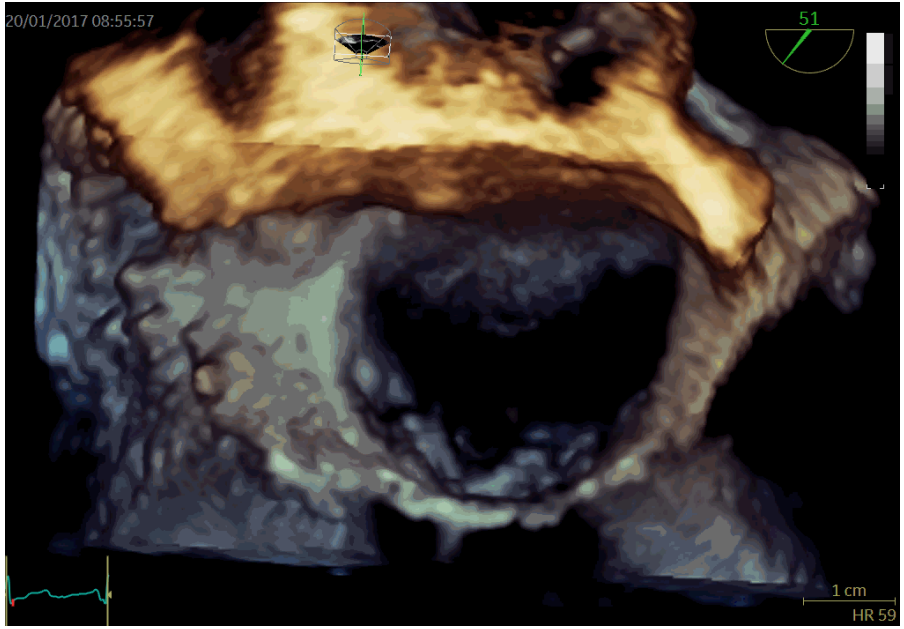
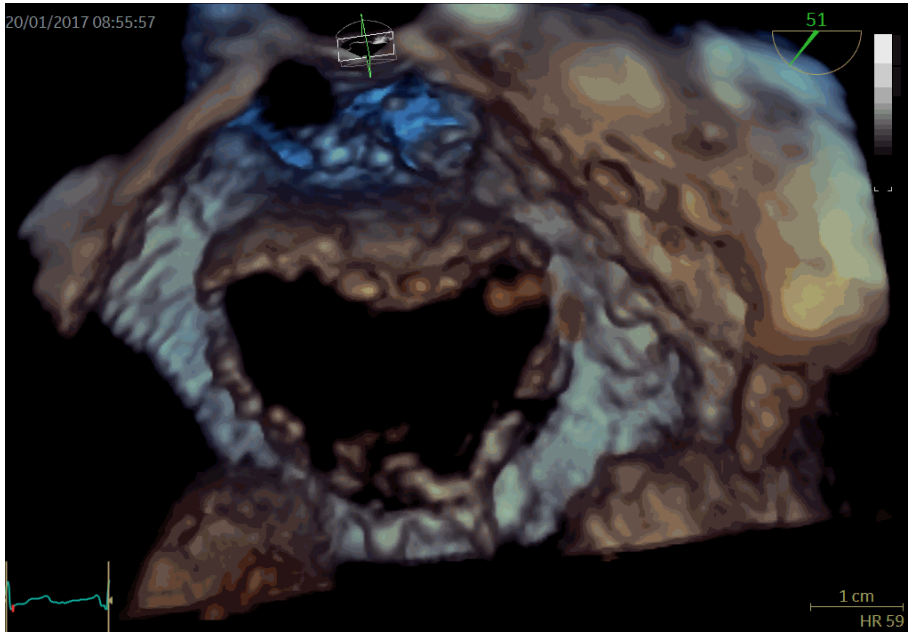


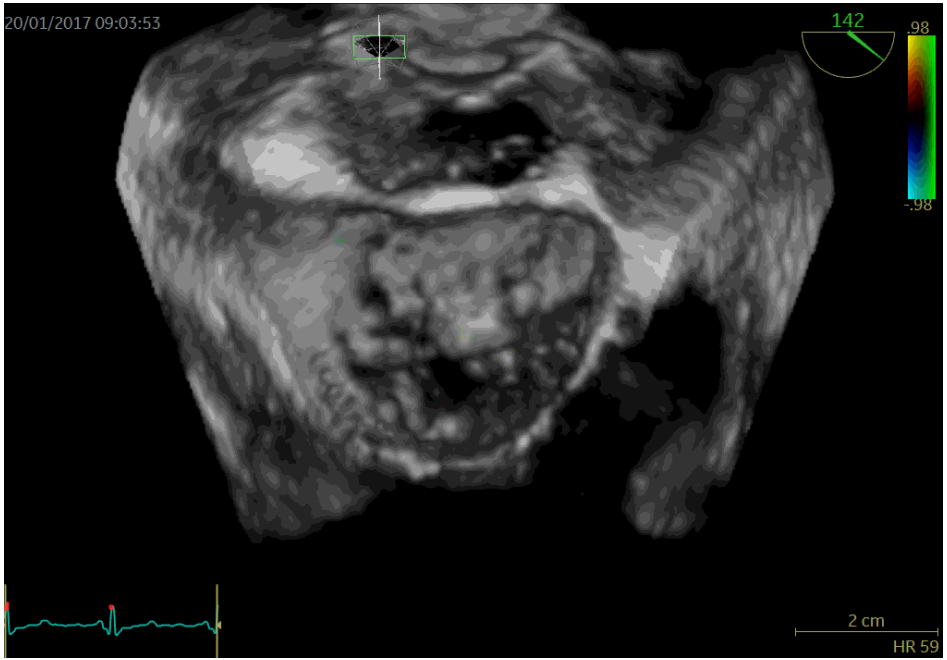


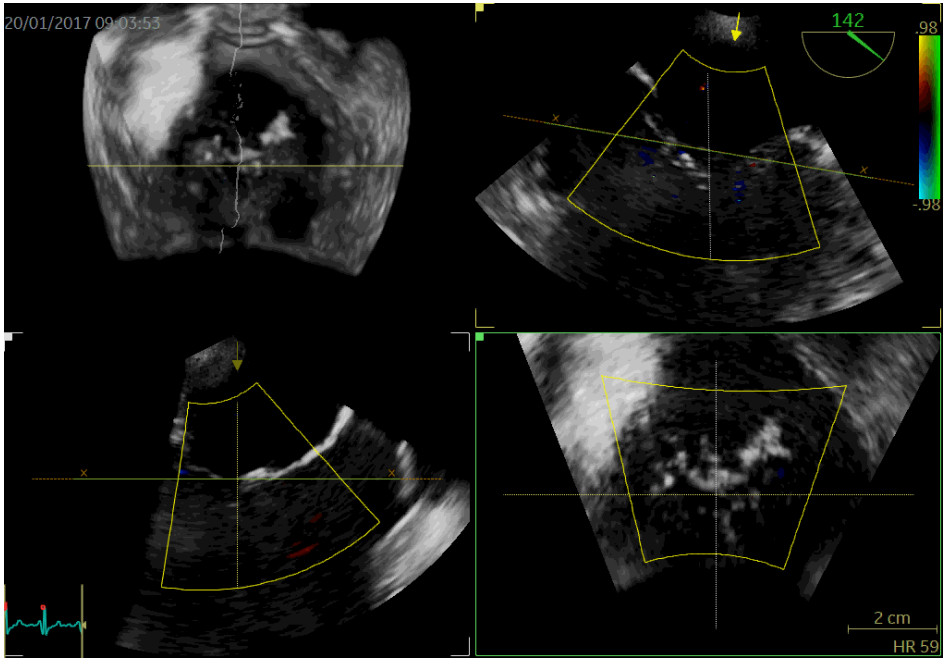
Teansoesophageal echocardiography





Teansoesophageal echocardiography





Questions:

(How to optimize treatment to minimize symptoms and prolong life?)

- Should I switch to ARNI? Should I add a SGLT2 inhibitor?
- Is there a place for CRT?
- Should I address the MR?
- How should I correct MR surgically or by trans-catheter therapy?
- Is the MV anatomy suitable for edge-to-edge therapy and will my patient have a decrease in the risk of mortality and heart failure-related hospitalisation?
- If surgically, should I perform a mitral valve annuloplasty or a MVR?