Erasmus MC

Surgical or percutaneous aortic valve replacement ?

PPT de Jaegere

Cardiology & Vascular Medicine 2012

June 11-13, 2012

Female patient, 79 years

Erasmus MC

Antecedents

1996: Rheumatoid arthritis

1996: Hypertension

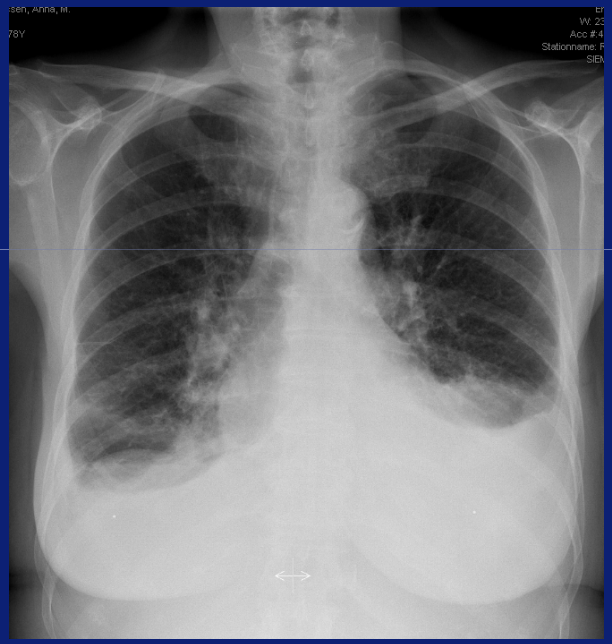
2004: bilateral renal artery stenosis (stent right)

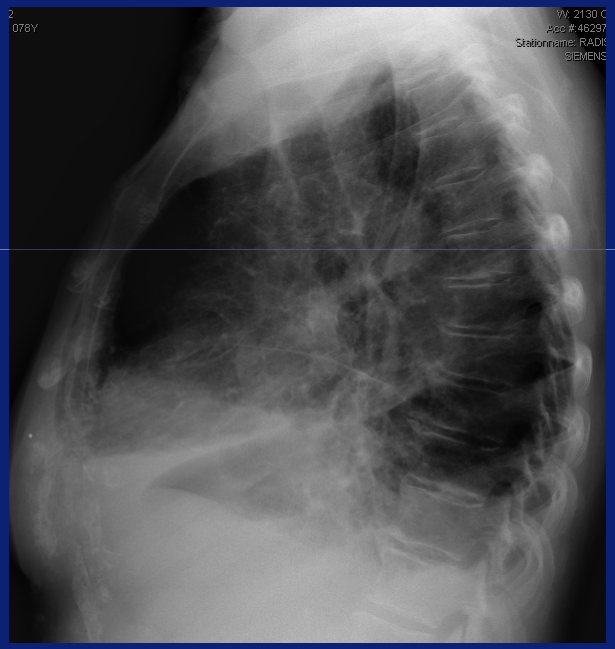
2010: internal medicine (hypertension)

2011: nephrology (GFR 25 → 15 ml/min)

Out-patient clinic Nephrology

- Heart failure after stopping bumetanide & enalapril because of serum sodium of 124 mmol/l





- Pro-BNP: 8181 pmol/l
- R/ bumetanide iv → po

Current situation

Except for claudication, well until August 2011 (swimming, gymnastics)

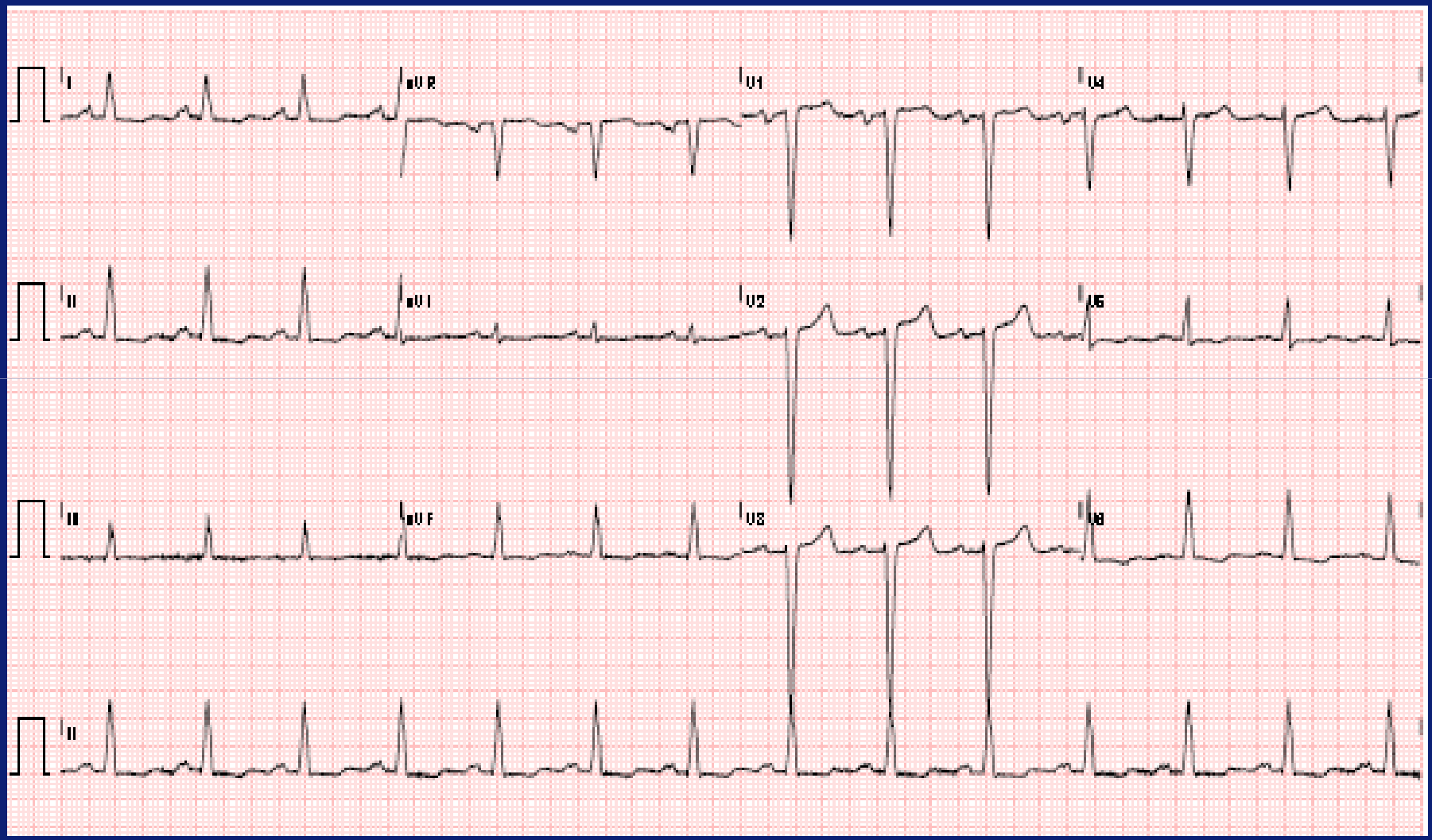
Frail, 163 cm, 52 kg (BMI: 20)
100 bpm, 135 / 70 mmHg

Heart: systolic murmur (max R2, 3/6)

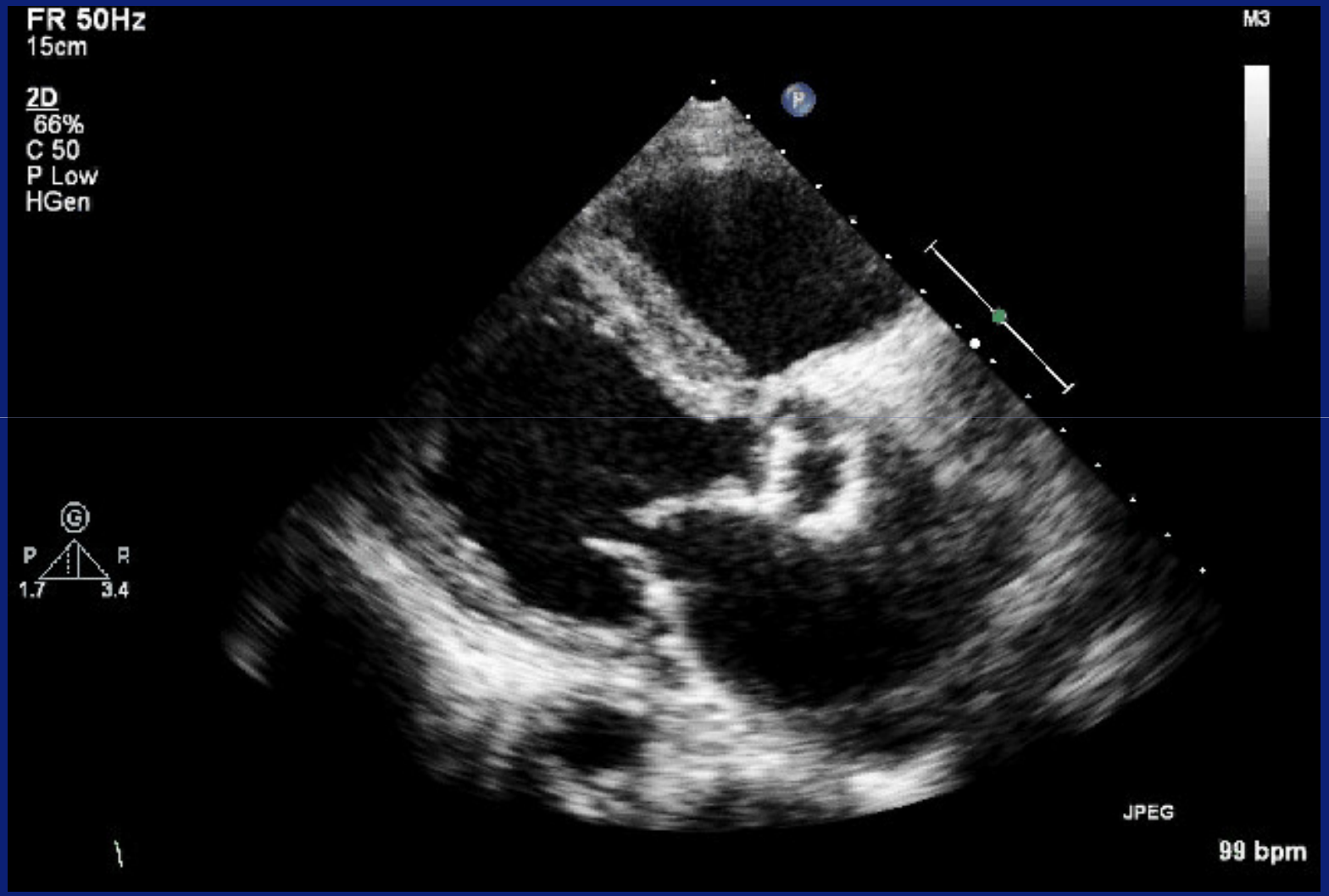
Lungs: some rales base both lung fields

No peripheral edema

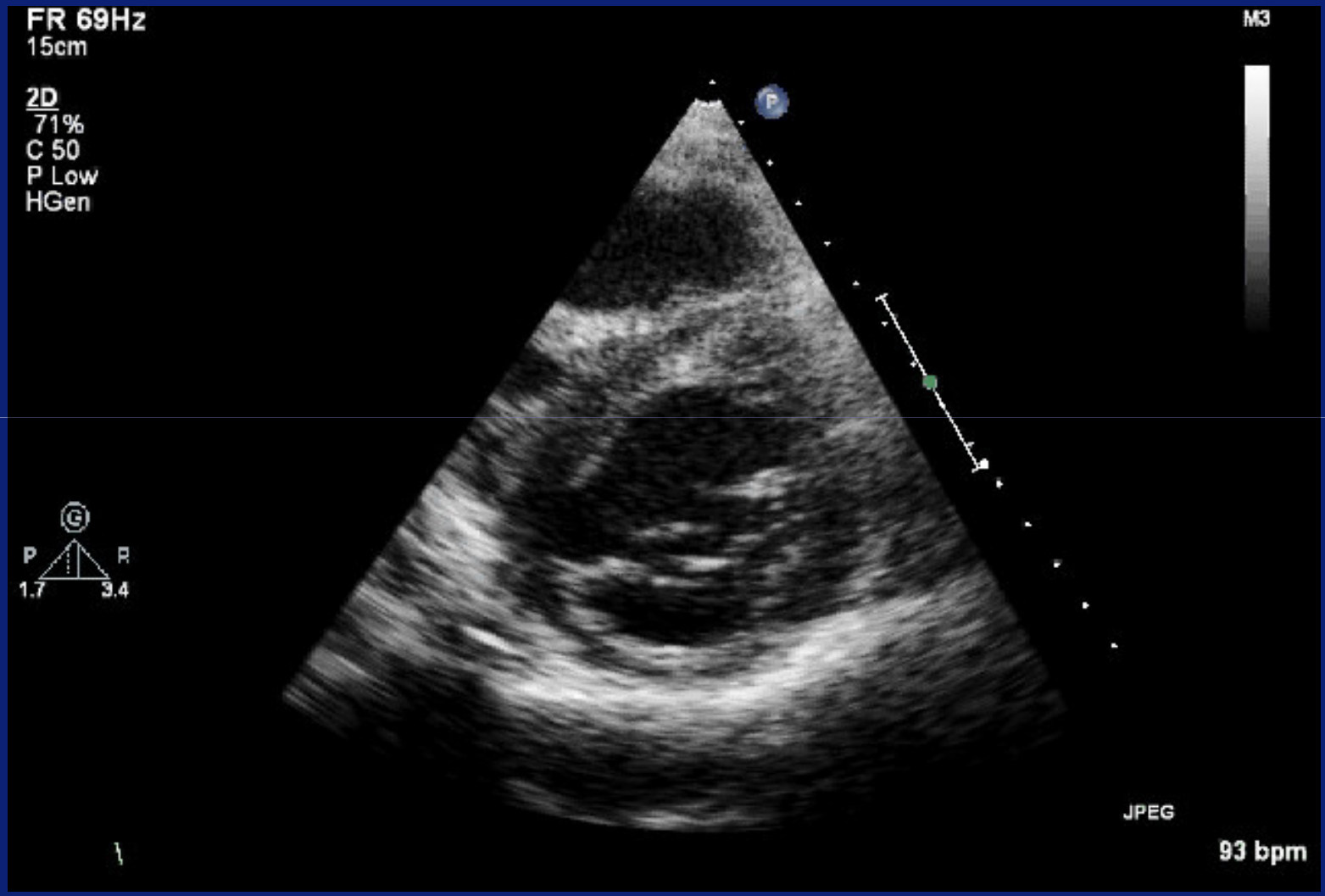
Peripheral arteries are not palpable


I
aV R
V1
V4
II
aV L
V2
V5
III
aV F
V3
V6
II

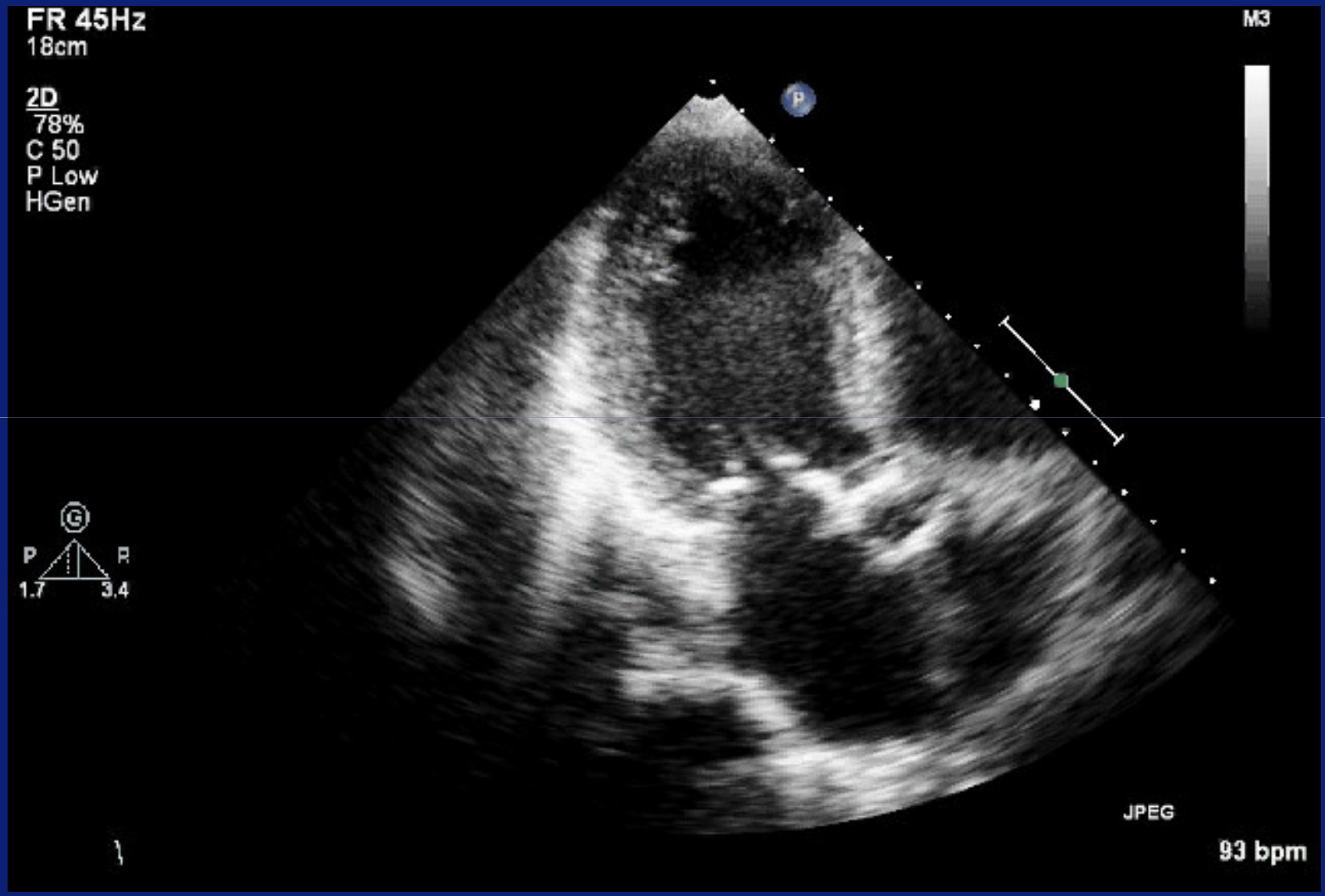
Erasmus MC



Erasmus MC



Erasmus MC



Echo

Erasmus MC

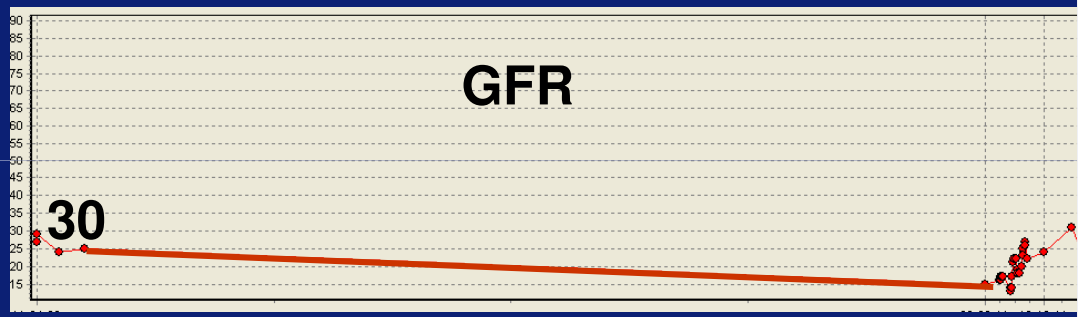
LVEF: 20%, global hypokinesia (RV: moderate)

Grade I insufficiency over all valves

Peak v aortic valve:	2.5 m/sec
LVOT velocity:	0.6 m/sec
VTI LVOT:	8 cm
VTI aortic valve:	40 cm
AVA:	0.5 cm^2

Lab

Sodium	132	mmol/l
Potassium	3.1	mmol/l
Urea	10.7	mmol/l
Creatinine	141	umol/l
GFR	31	ml/min
HB	6.3	mmol/l



2008

2011

Summary

Erasmus MC

Frail female patient, 79 years

163 cm, 52 kg (BMI 20)

Rheumatoid arthritis

Renal insufficiency (GFR: 31 ml/min)

Hypertension, atherosclerosis (renal & peripheral)

Aortic stenosis with severely impaired LV function

Episode of heart failure after stopping R/

LES: 47% (69% if critical preoperative state +)

Aetiology of systolic LV dysfunction

Causes	Effects	R/
Age	Degenerative changes	-
Hypertension	Hypertrophy → …	Antihypertenisve R/
Rheumatoid arthritis	Amyloidosis	-
Aortic stenosis	Hypertrophy → …	TAVI / AVR
Coronary artery disease	Ischemic cardiomyopathy	PCI / CABG
…	…	…

Annual mortality on dialysis?

1) 5 – 10%

2) 10 – 20%

3) 20 – 30%

4) > 30%

Q1

What is your strategy?

1) medical treatment

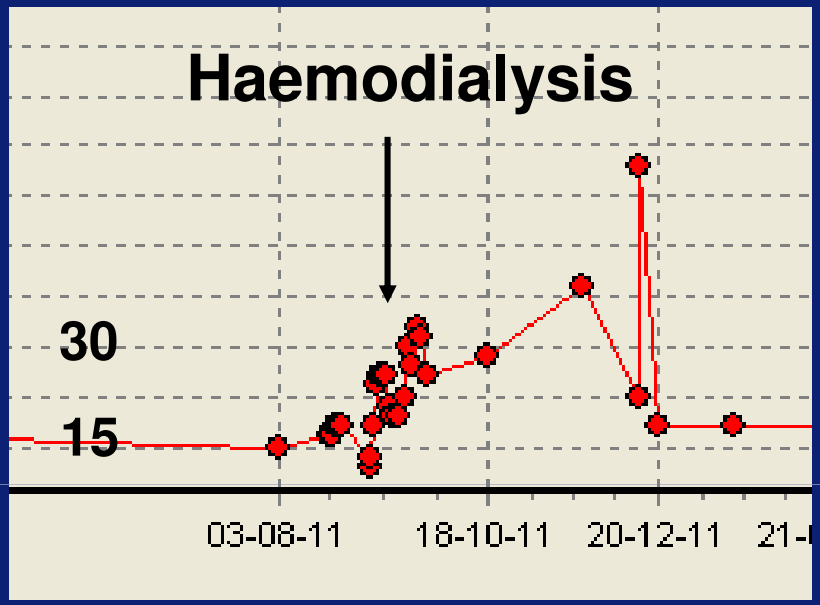
2) TAVI (coronary & peripheral angio)

3) AVR (coronary angio)

4) other…..

Q2

Nephrology



3 x 4 hrs (Tues- Thurs- Saturday)

Ultrafiltration: 500 – 1200 ml

Access: CVC shunt jugular right

Uncomplicated

What is your strategy?

1) medical treatment

2) TAVI (+/- PCI)

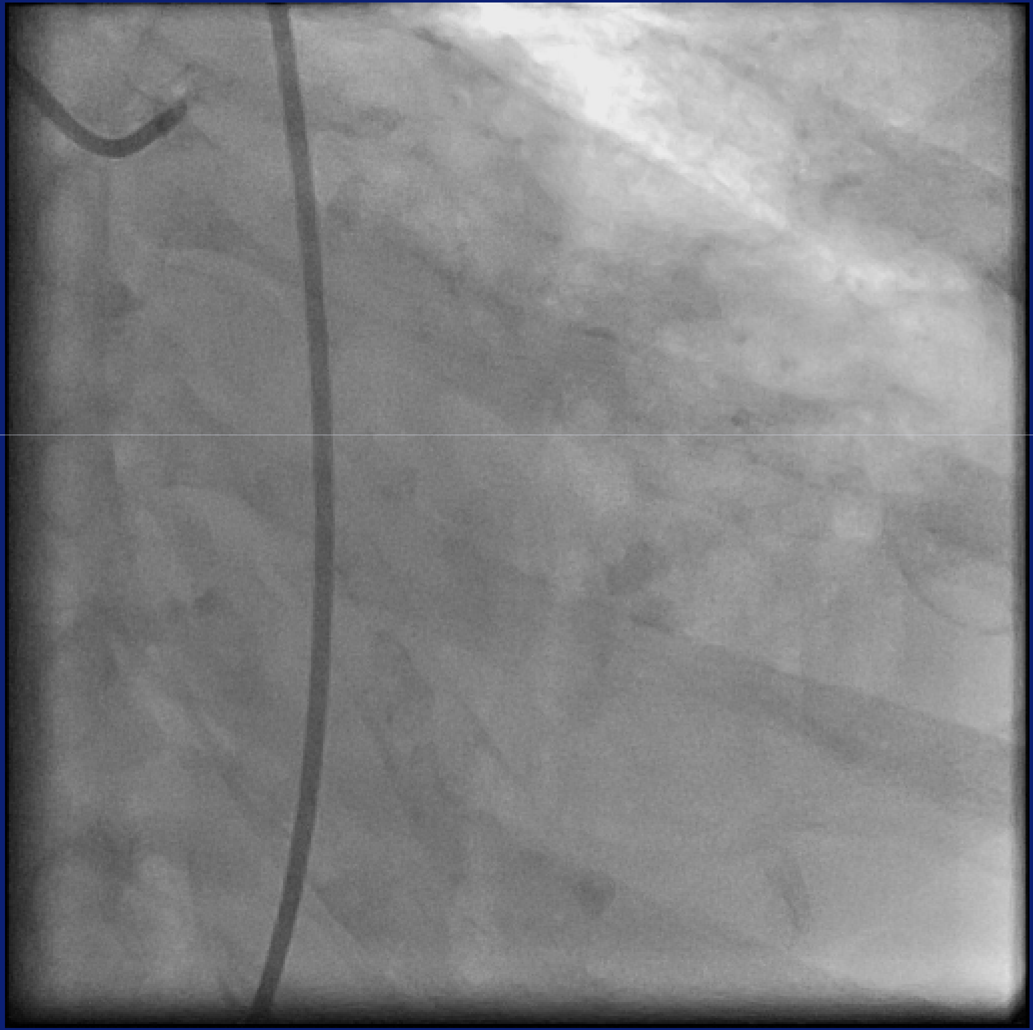
3) AVR (+/- CABG)

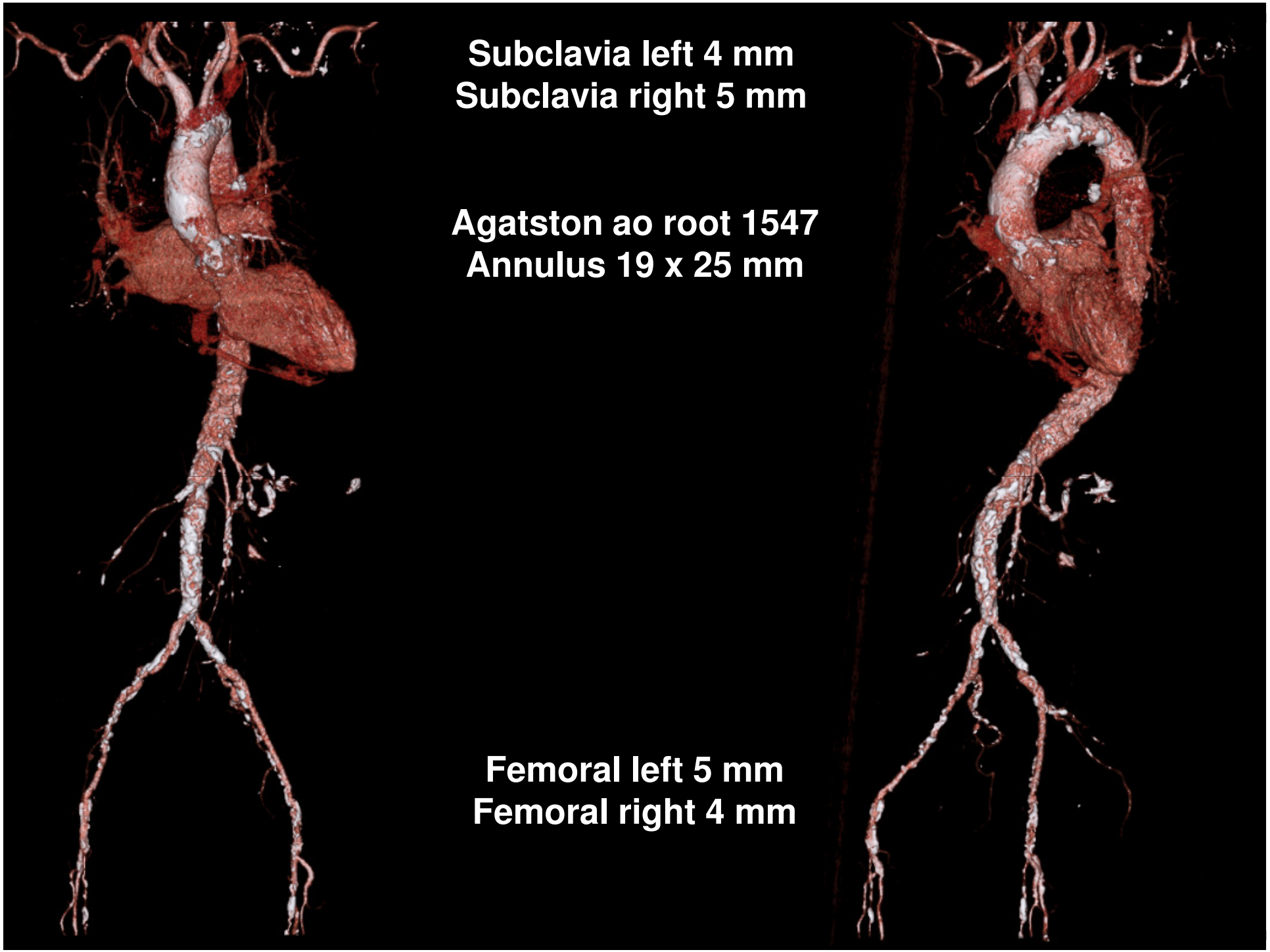
4) other……

Stress echo (20 & 40 mcg/kg/min)

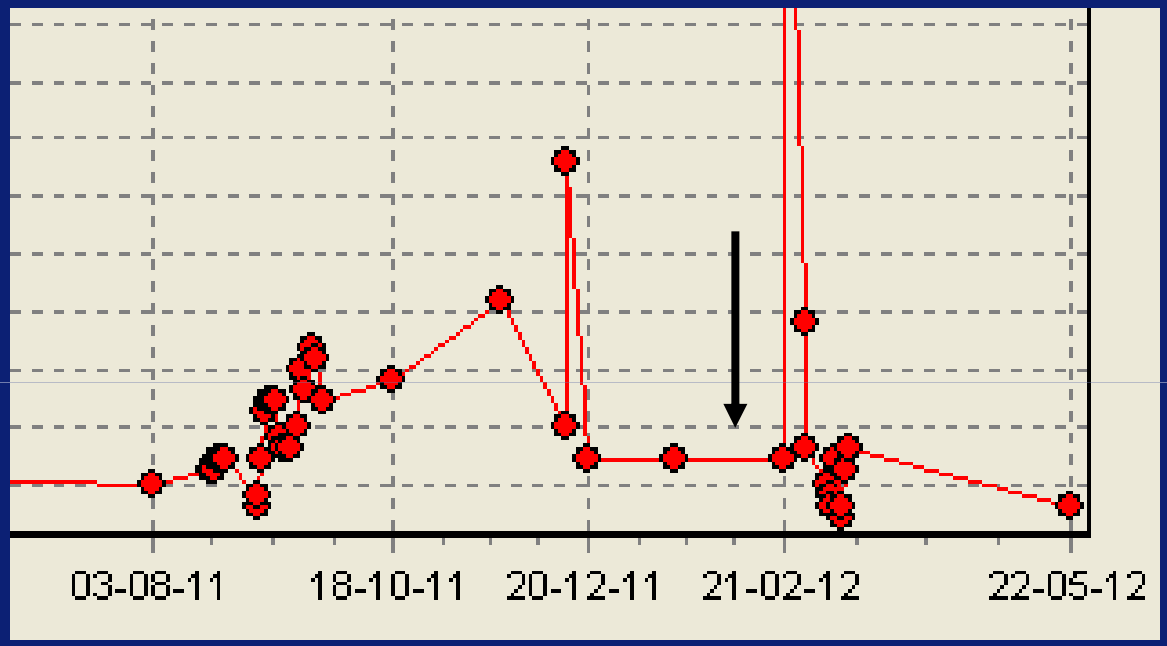
	LVOT		Aorta		
	V (m/sec)	VTI (cm)	V (m/sec)	VTI (cm)	AVA (cm2)
Baseline	0.5	6.4	2.4	37.4	0.5
20 mcg	0.9	13.5	3.9	6.1	0.7

40 mcg/kg/min dobutamine: no ischaemia




Subclavia left 4 mm
Subclavia right 5 mm
Agatston ao root 1547
Annulus 19 x 25 mm
Femoral left 5 mm
Femoral right 4 mm

Nephrology



Dialyse: 3 x 4 hrs →2 x 3 hrs (Tues- & Saturday)

What is your treatment strategy?

1) medical treatment

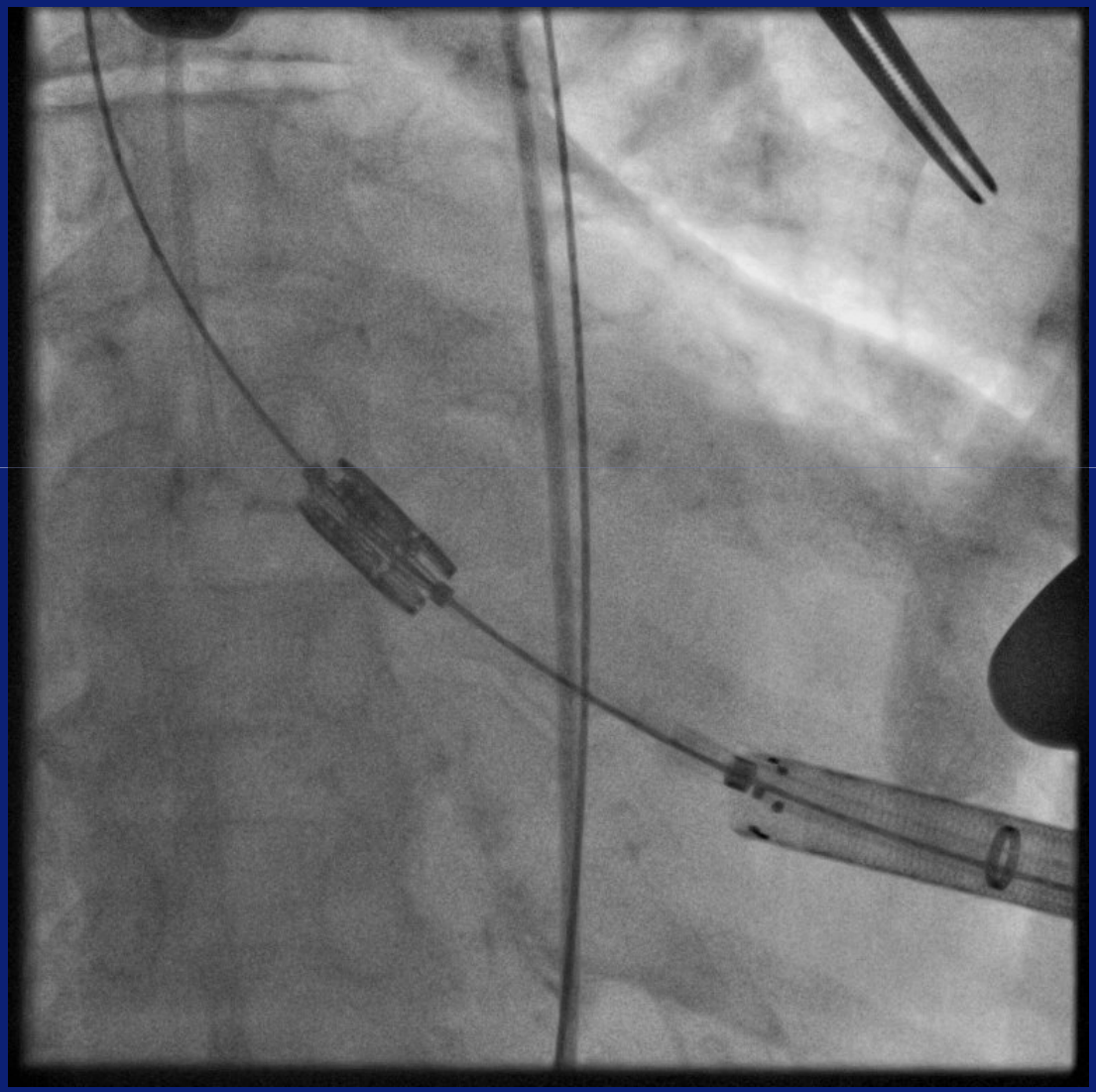
2) transapical TAVI

3) AVR

4) other……

Q4

EDWARDS Sapien XT 23 mm - transapical



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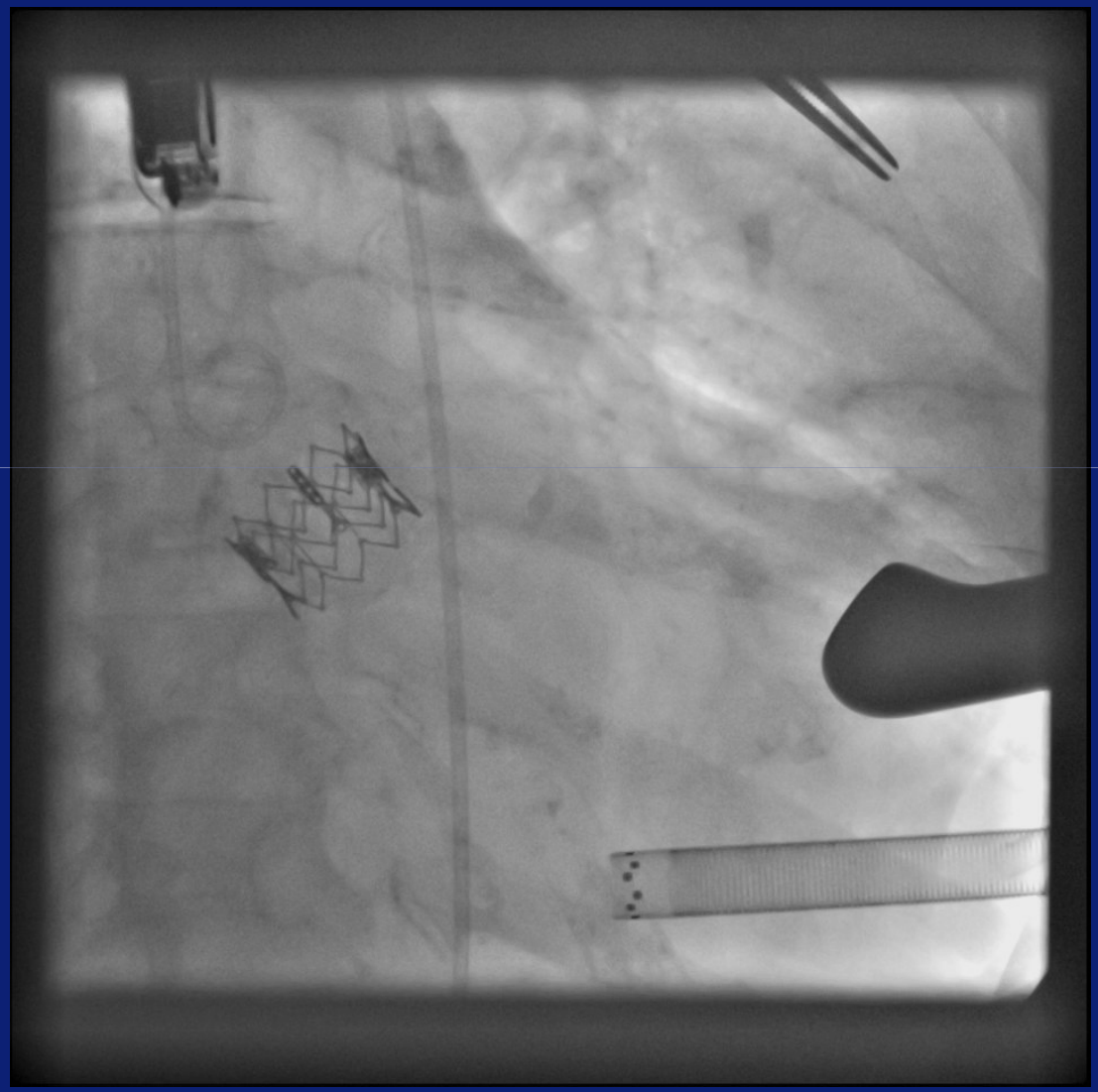

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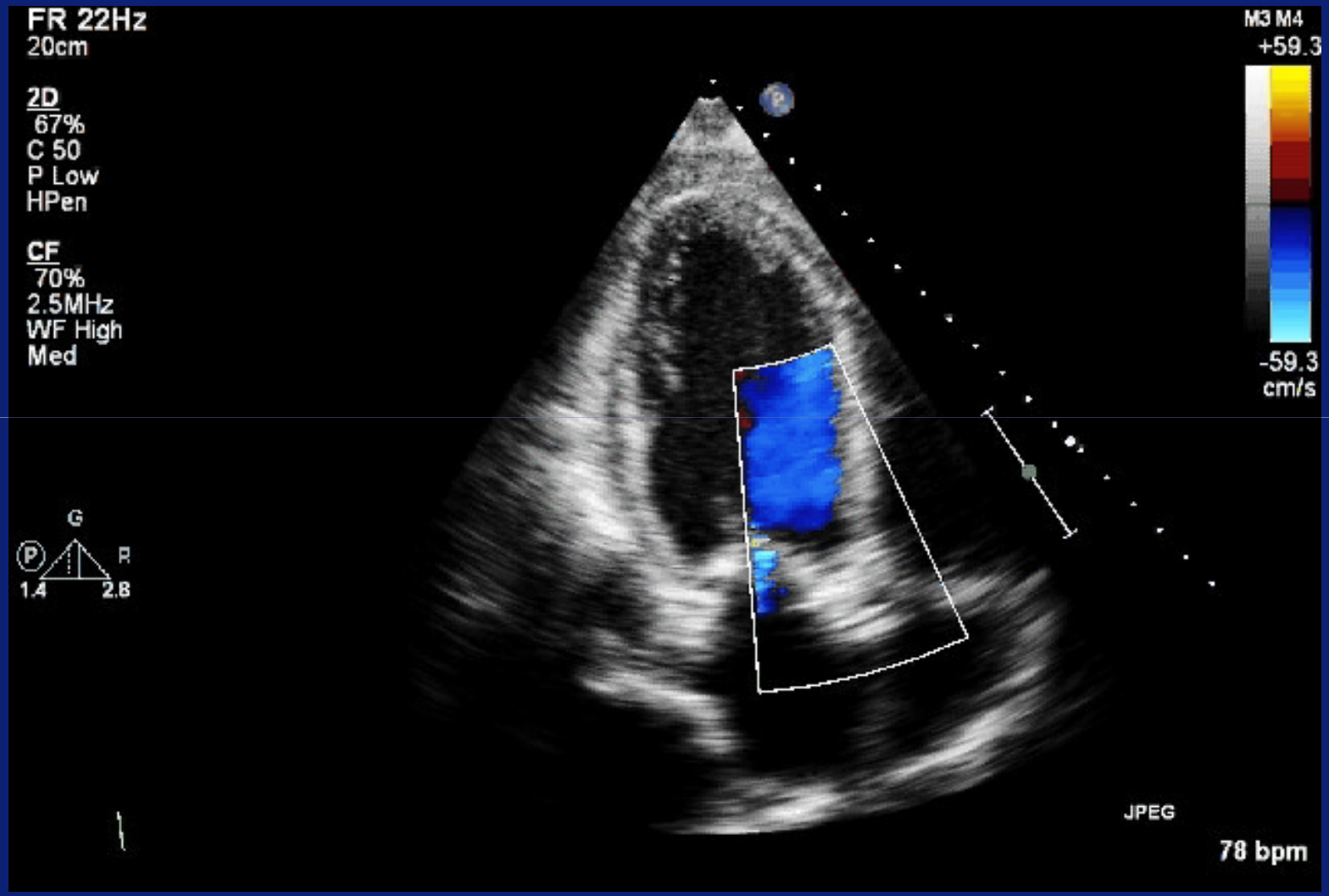
FR 22Hz
20cm
2D
67%
C 50
P Low
HPen
CF
70%
2.5MHz
WF High
Med
M3 M4
+59.3
-59.3
cm/s
G
P
R
1.4
2.8
JPEG
78 bpm

Take home message

Take home message

- The value of seeing the patient, certainly when it is a complex problem
- The value of the elucidation of factors that contribute to the clinical condition and whether its / their correction may lead to improvement
- The value of individual responsibility in a multidisciplinary team