

Insuficiencia cardíaca con fracción de eyección normal: luces y sombras

Miguel Quintana Rendón M.D., Ph.D.
The Karolinska Institute at the Servicio de Cardiología,
Departamento de Medicina Interna
Hospital de Torre Vieja



TORREVIEJA SALUD - UTE

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COOPER, SUSAN

51S13M,O,395842

10337-0

CHEST

N.º cuenta 070158437010100

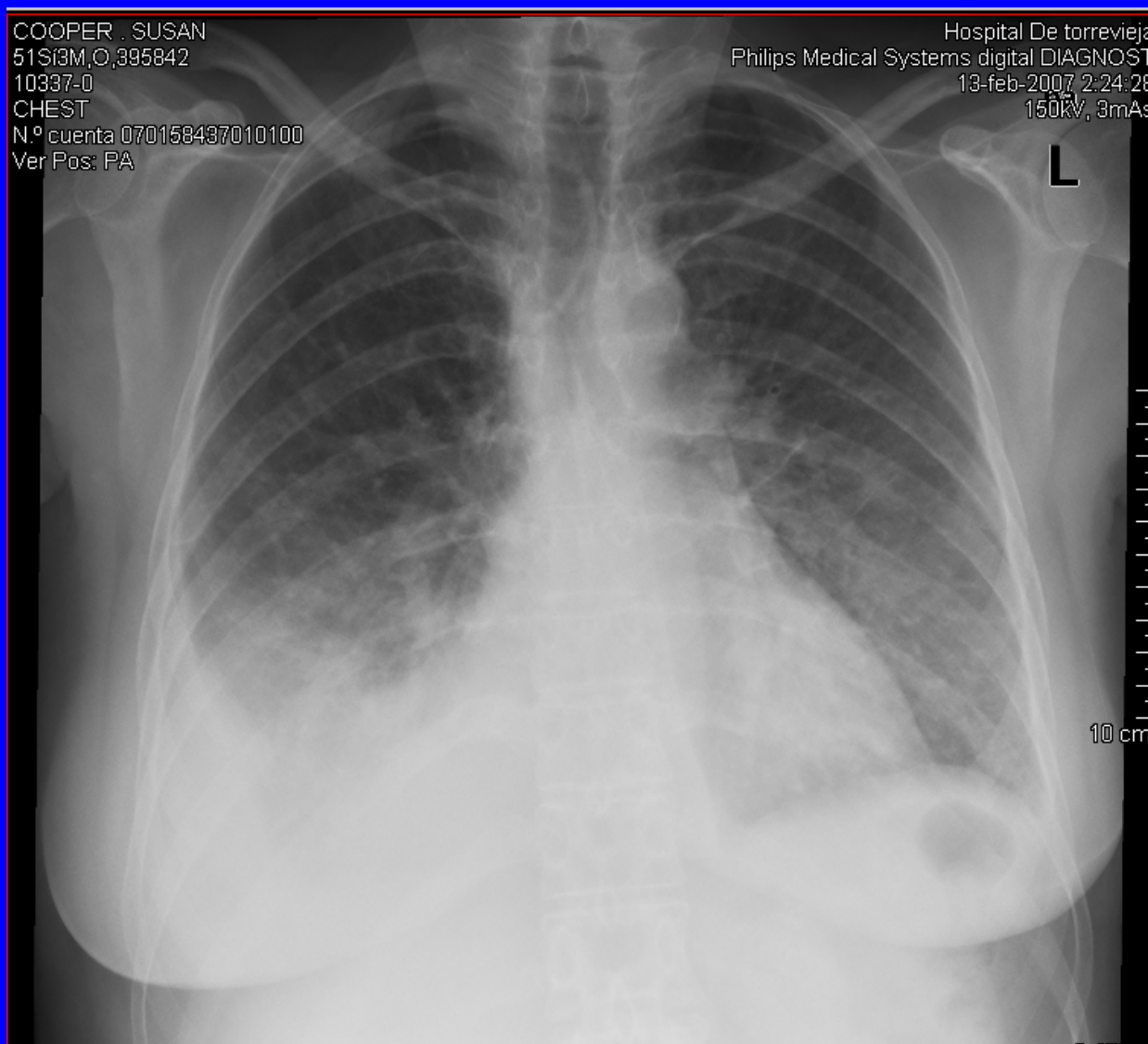
Ver Pos: PA

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Philips Medical Systems digital DIAGNOST

13-feb-2007 2:24:28

150kV, 3mAs





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Cooper, Susan
395842

03/11/1955

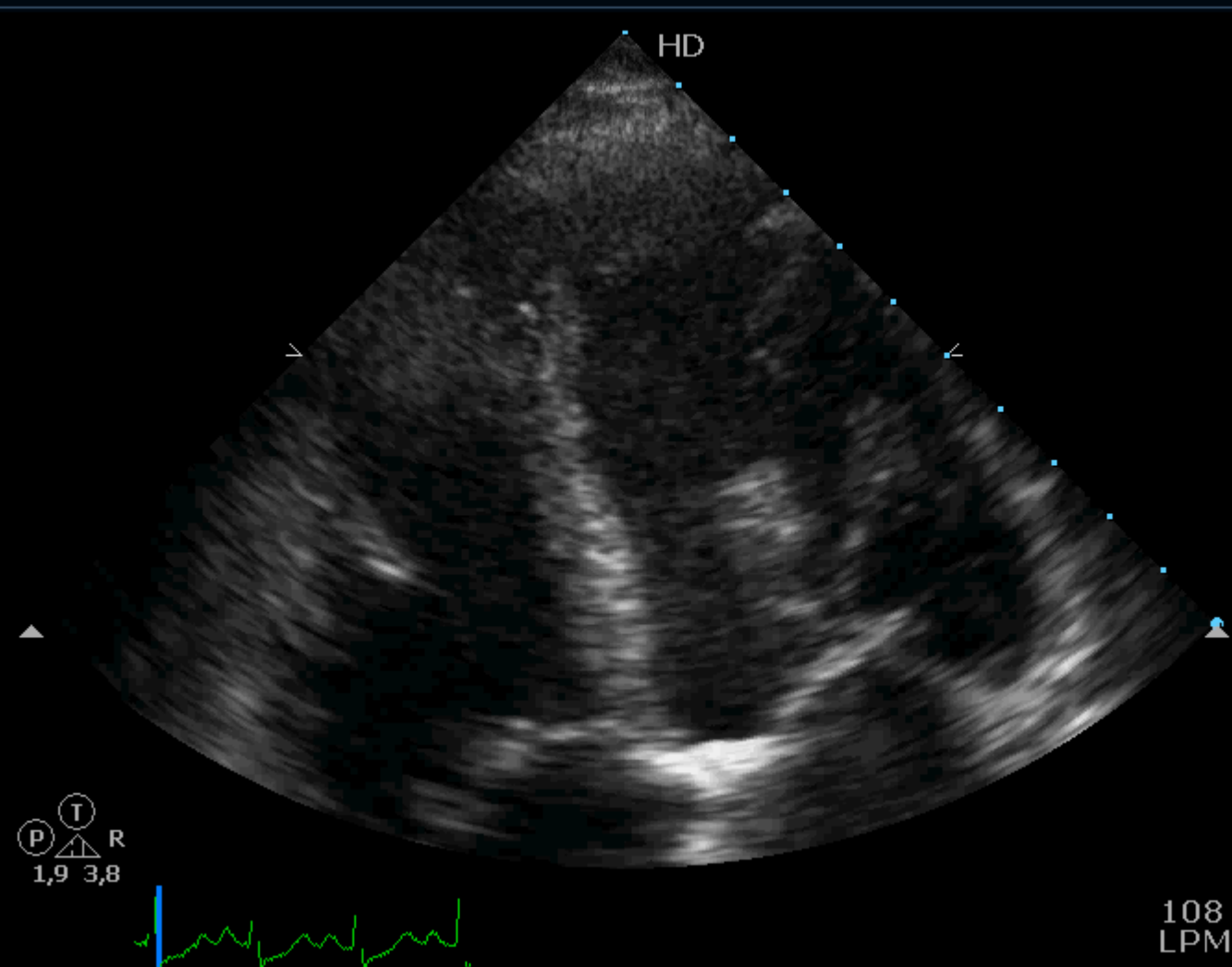
HOSPITAL TORREVIEJA SALUD

20/02/2007

11:15:53

PHILIPS

MQ

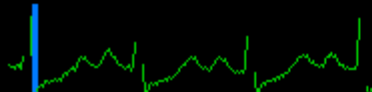


CARDIO
S4-2
MI 1,6
TIS 1,0

H2 Gan. 8
232dB/C4
K/2/1

30Hz 11cm

(P) (T) (R)
1,9 3,8



108
LPM



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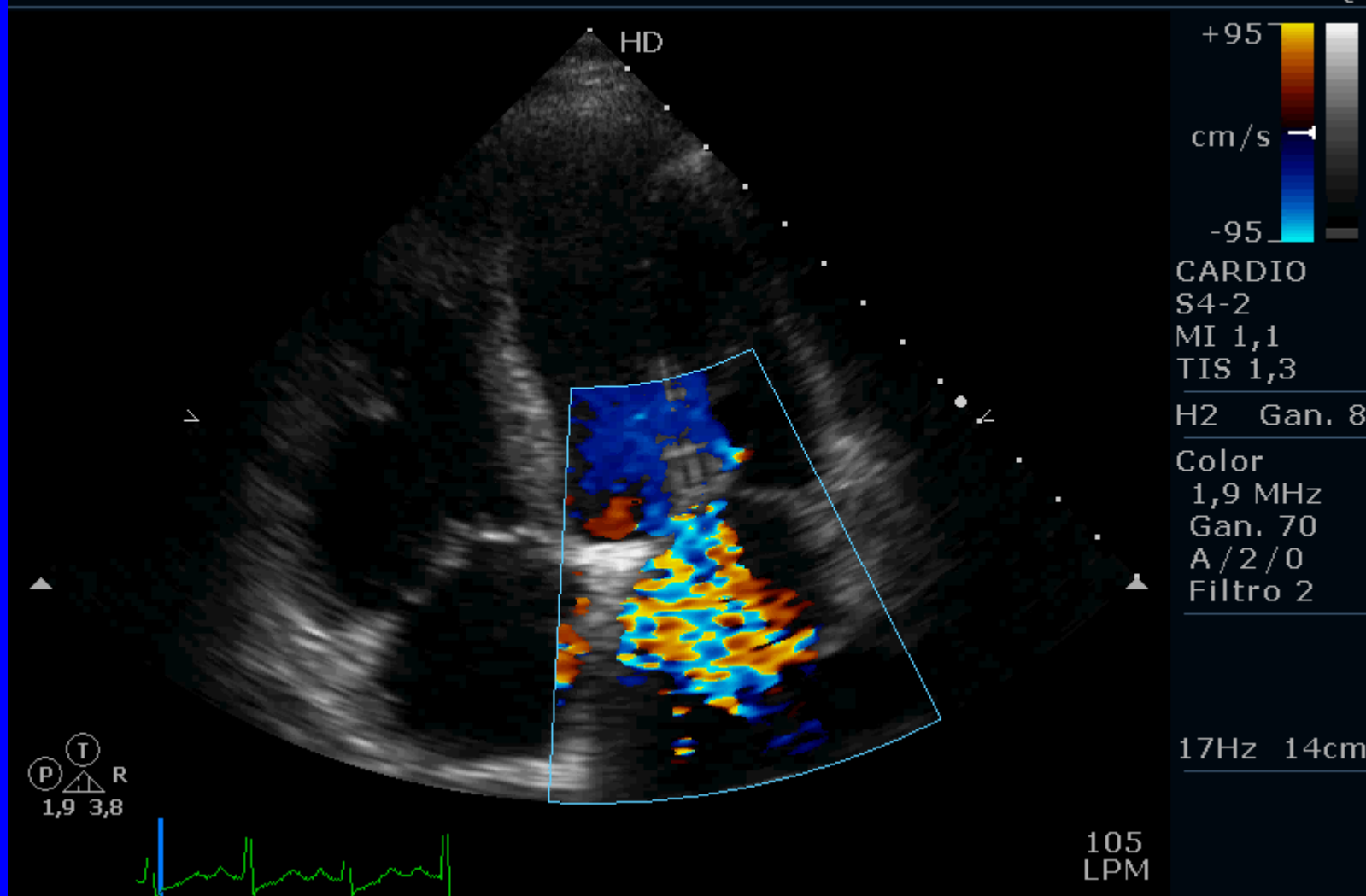
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Cooper, Susan 03/11/1955
395842

HOSPITAL TORREVIEJA SALUD

20/02/2007 11:08:05

PHILIPS
MQ





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HOSKING, GILLIAN

51S110M,O,157336

11010-0

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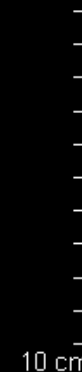
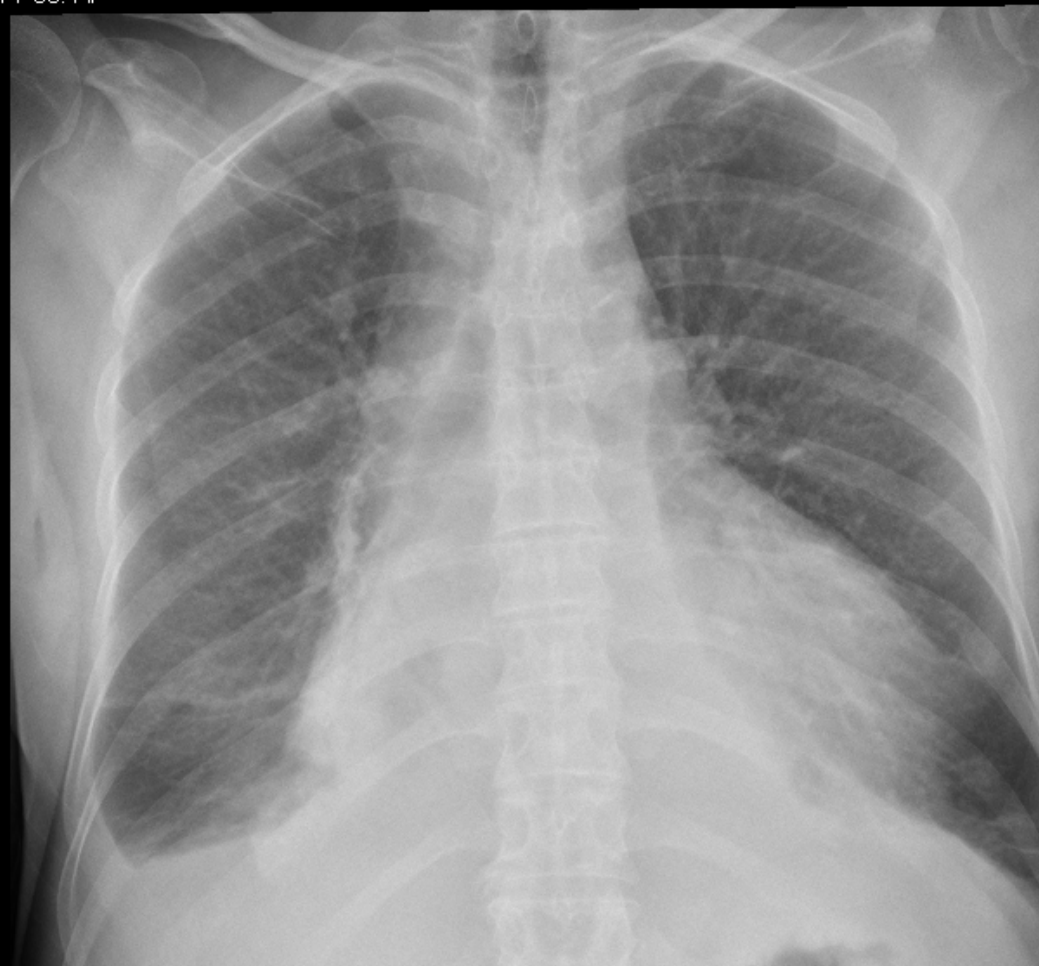
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Philips Medical Systems digital DIAGNOST

14-ene-2007 14:27:31

102kV, 2mAs





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Hosking, Gillian
157336

17/02/1955

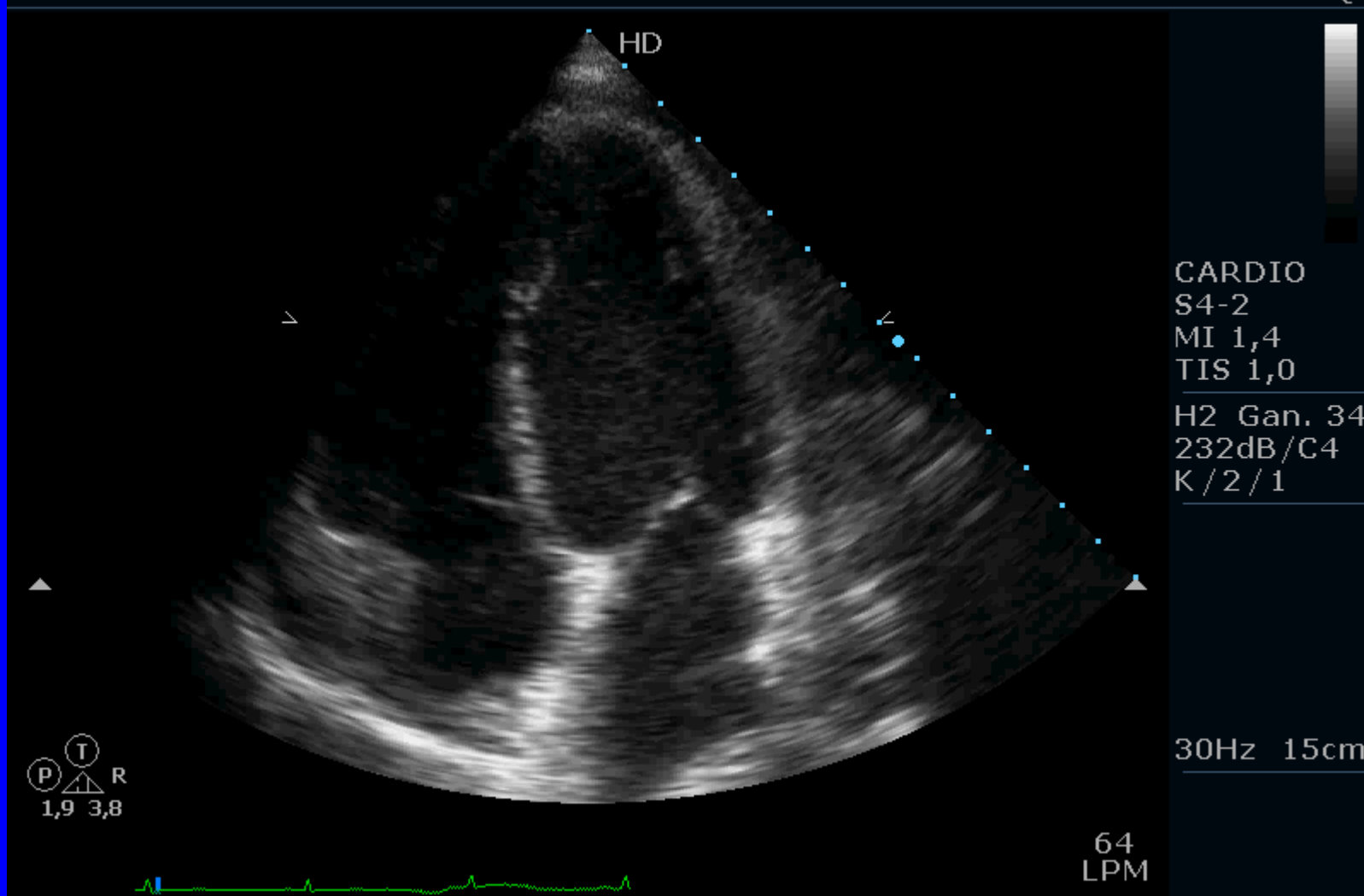
HOSPITAL TORREVIEJA SALUD

18/01/2007

9:52:37

PHILIPS

MQ





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HOSKING . GILLIAN

51Si11M,O,157336

16296-0

CHEST

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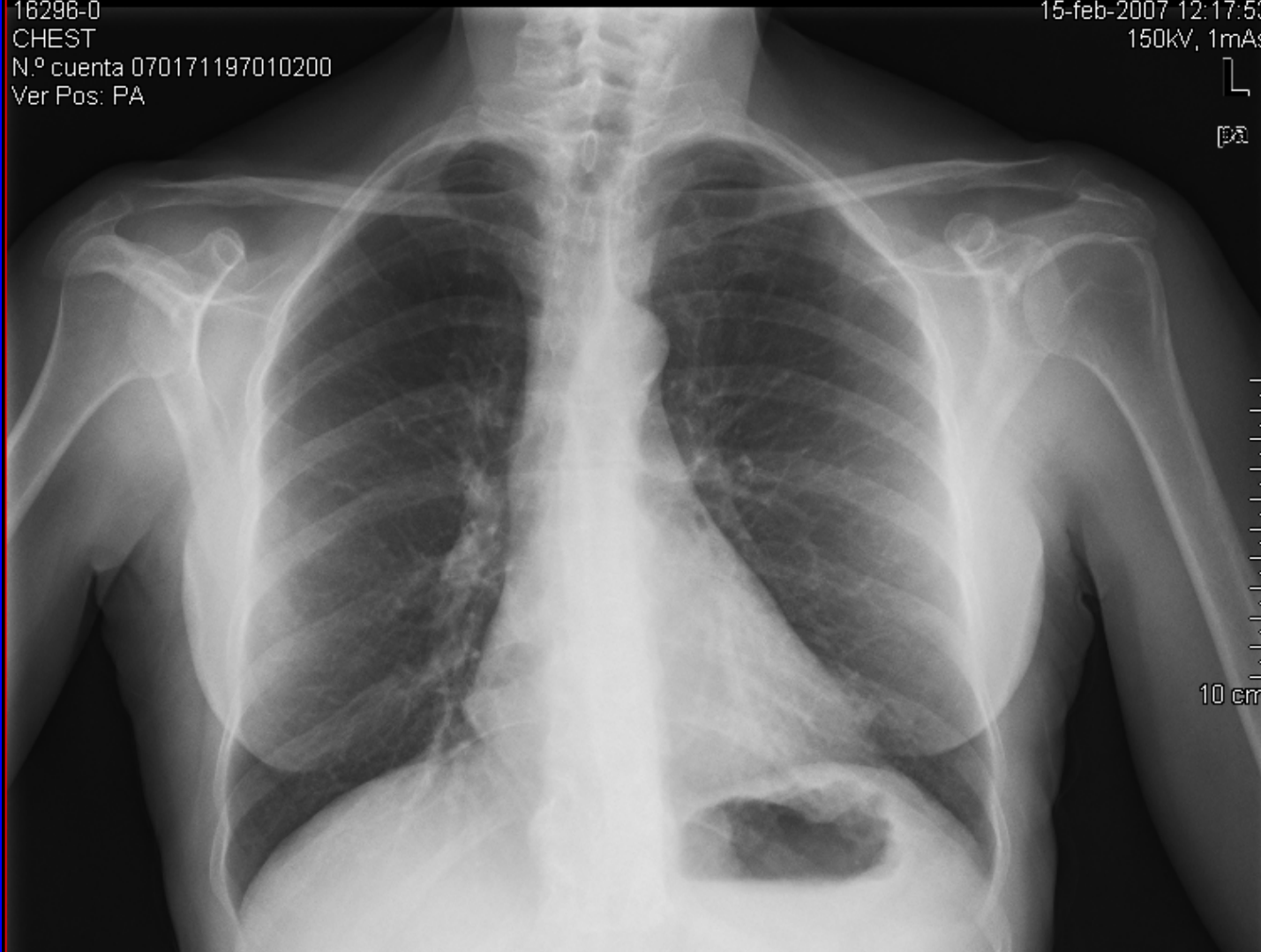
Ver Pos: PA

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Philips Medical Systems digital DIAGNOST

15-feb-2007 12:17:53

150kV, 1mAs





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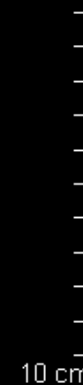
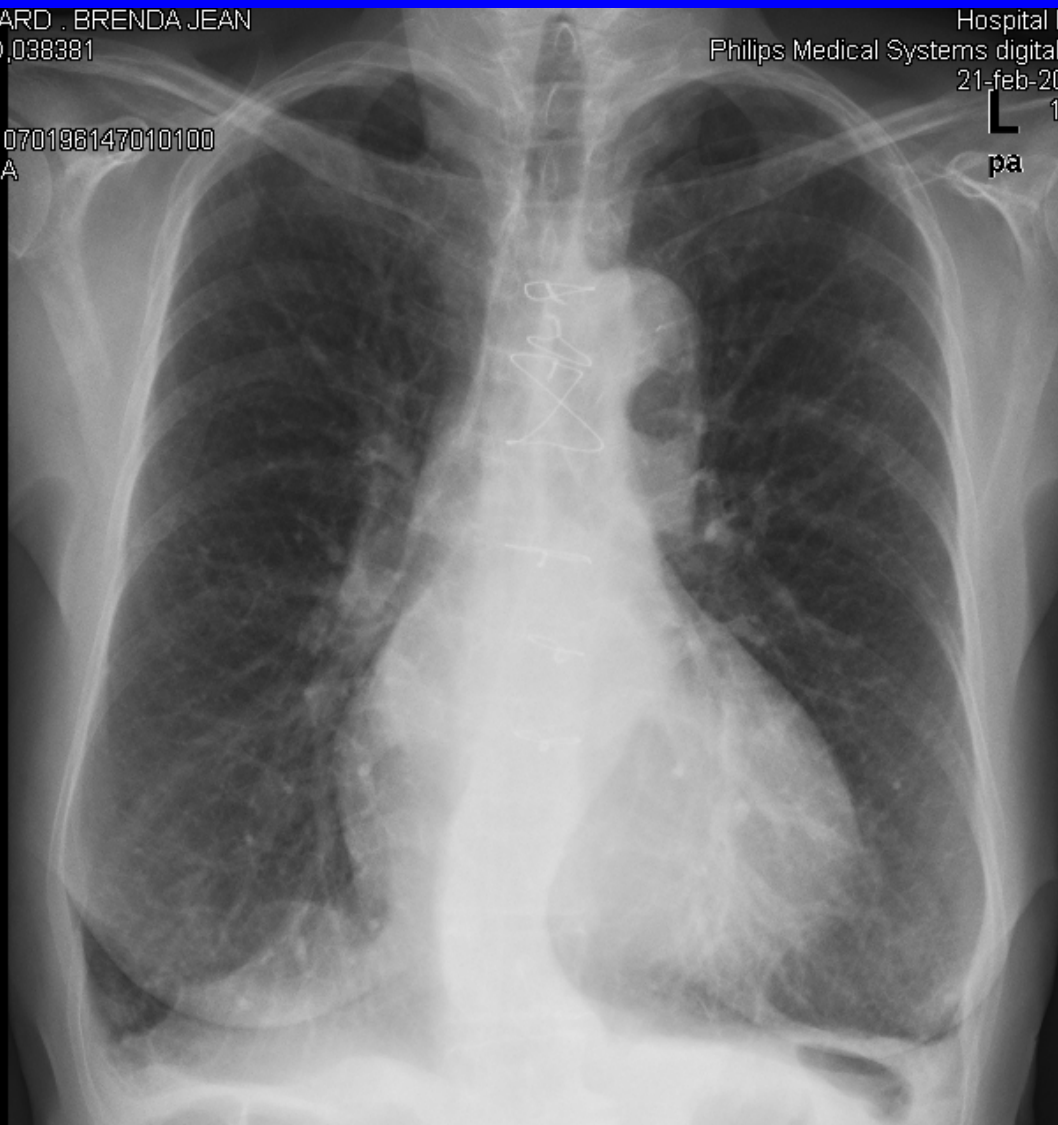


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BLACKBEARD . BRENDA JEAN
62Si11M,O_038381
11403-0
CHEST
N.º cuenta 0701986147010100
Ver Pos: PA

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Philips Medical Systems digital DIAGNOST
21-feb-2007 11:47:37
150kV, 1mAs

pa





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03186 Torrevieja. Alicante



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Blackbear, Brenda
038381

26/02/1944

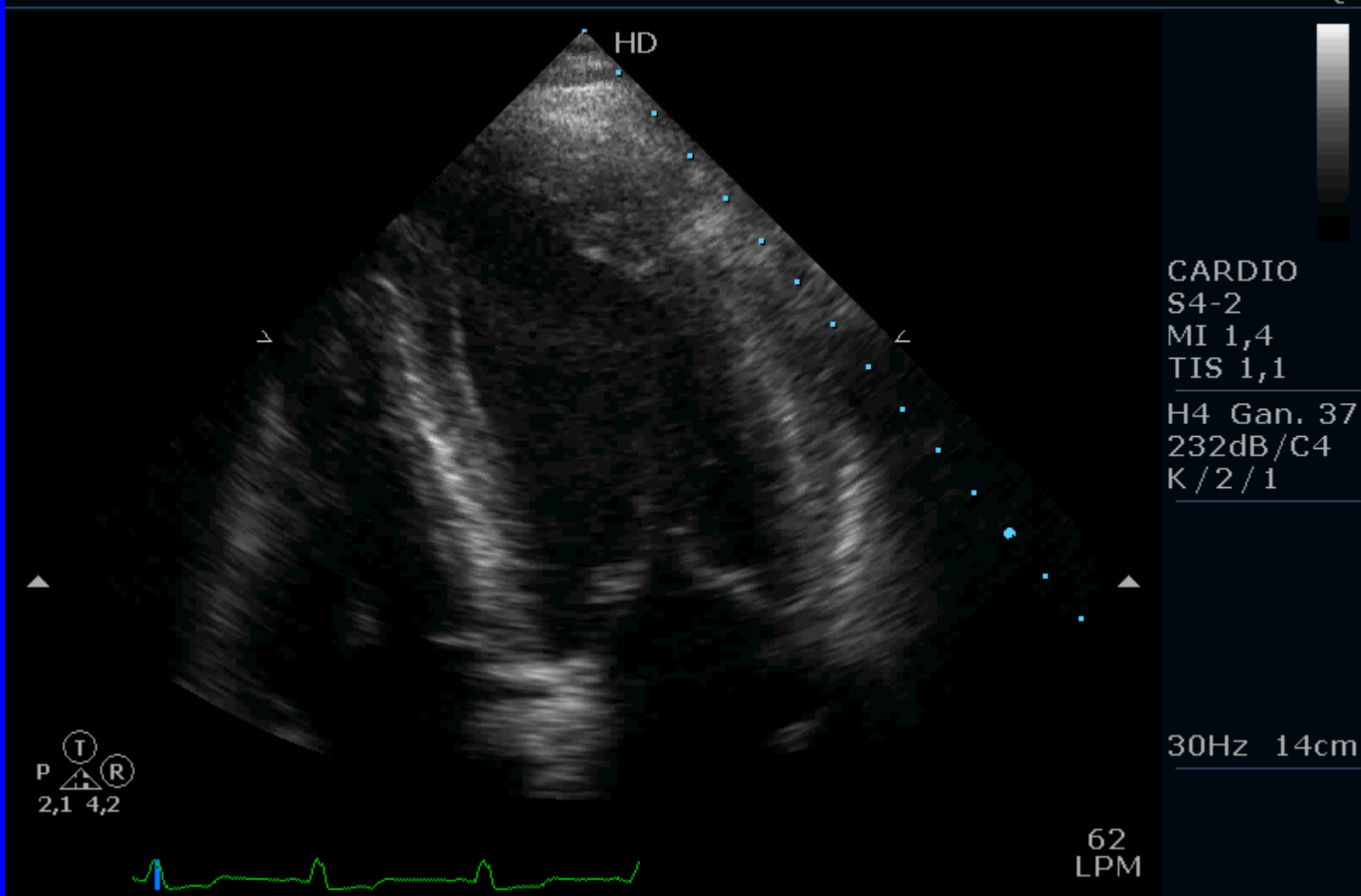
HOSPITAL TORREVIEJA SALUD

22/02/2007

13:32:53

PHILIPS

MQ





TORREVIEJA SALUD - UTE

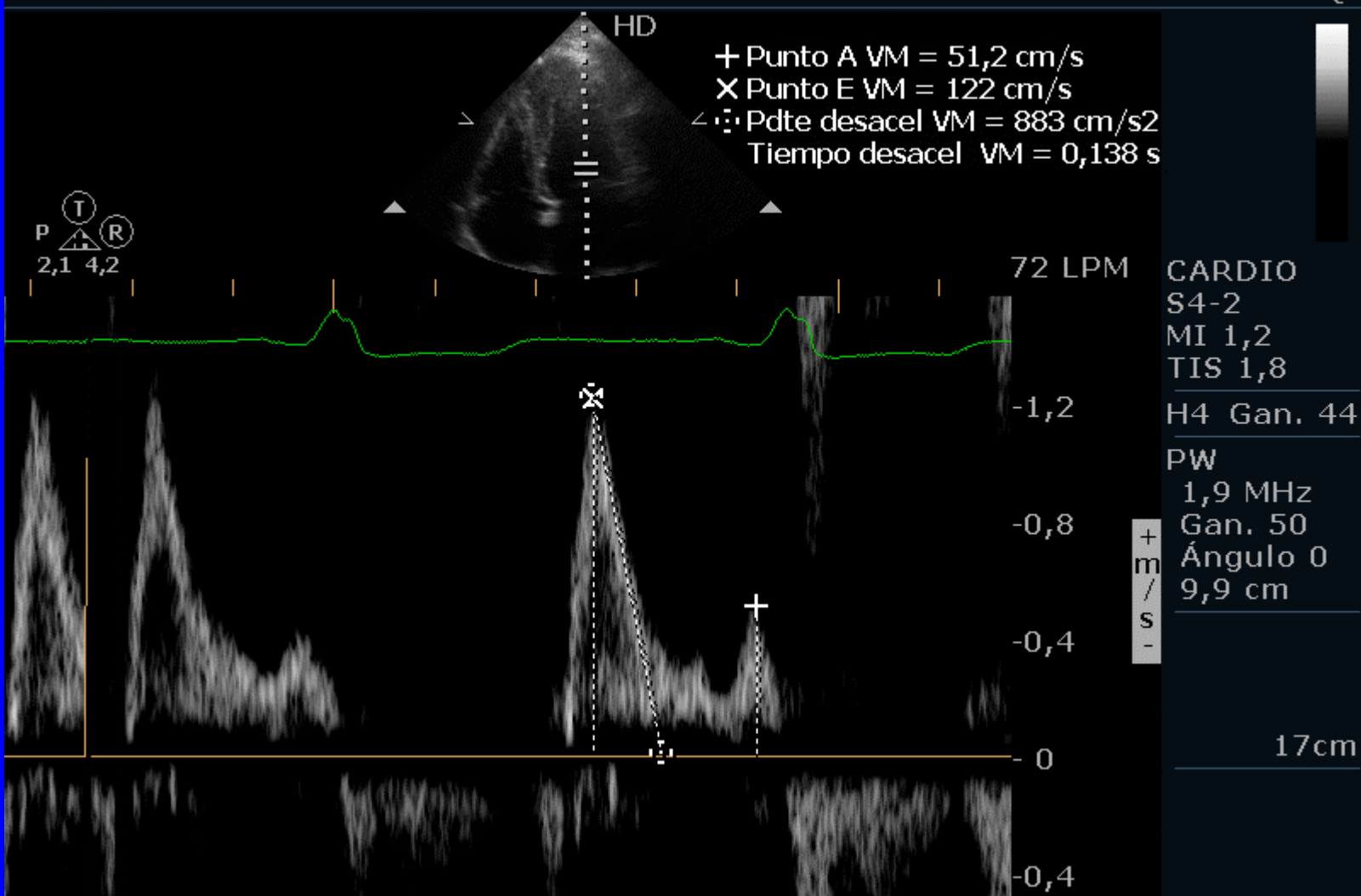
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Blackbear, Brenda 26/02/1944 22/02/2007 PHILIPS
038381 HOSPITAL TORREVIEJA SALUD 13:37:50 MQ





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GONZALEZ DE CIA NORMA LIBERTAD

81SI3M,O,135689

1-1

T_RAX

N.º cuenta 070199827010200

Pos. del paciente: SEMI-ECHADO

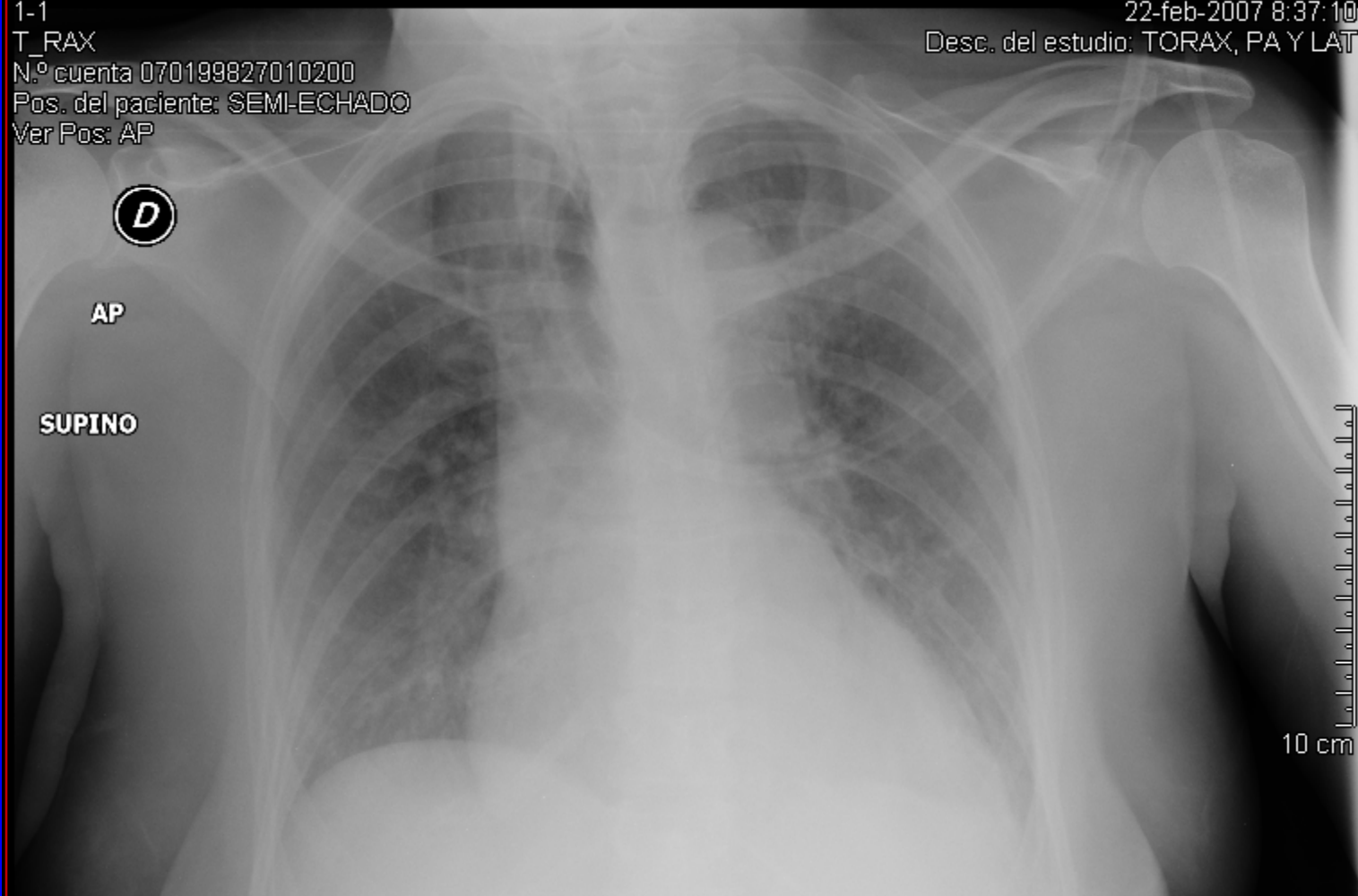
Ver Pos: AP

Hospital de Torrevieja

KODAK CR975

22-feb-2007 8:37:10

Desc. del estudio: TORAX, PA Y LAT





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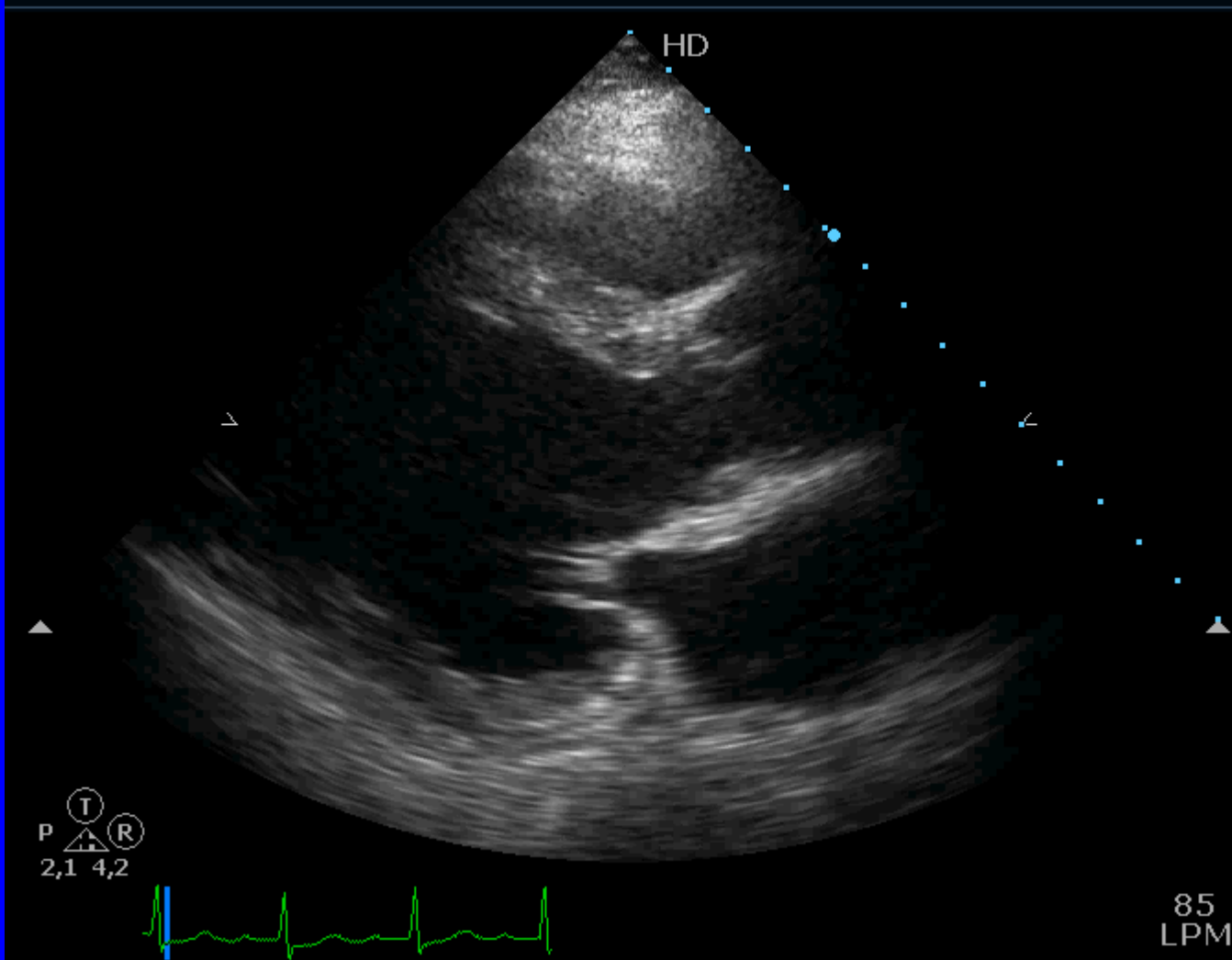
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03186 Torrevieja. Alicante



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GONZALEZ DESIA, NORMA LIBERTAD 20/11/1945
135689 HOSPITAL TORREVIEJA SALUD

23/02/2007 PHILIPS
13:28:34 MQ



CARDIO
S4-2
MI 1,2
TIS 1,1

H4 Gan. 27
232dB/C4
K/2/1

30Hz 15cm

T
P (R)
2,1 4,2



85
LPM



TORREVIEJA SALUD - UTE

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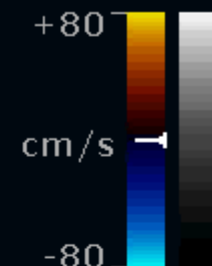
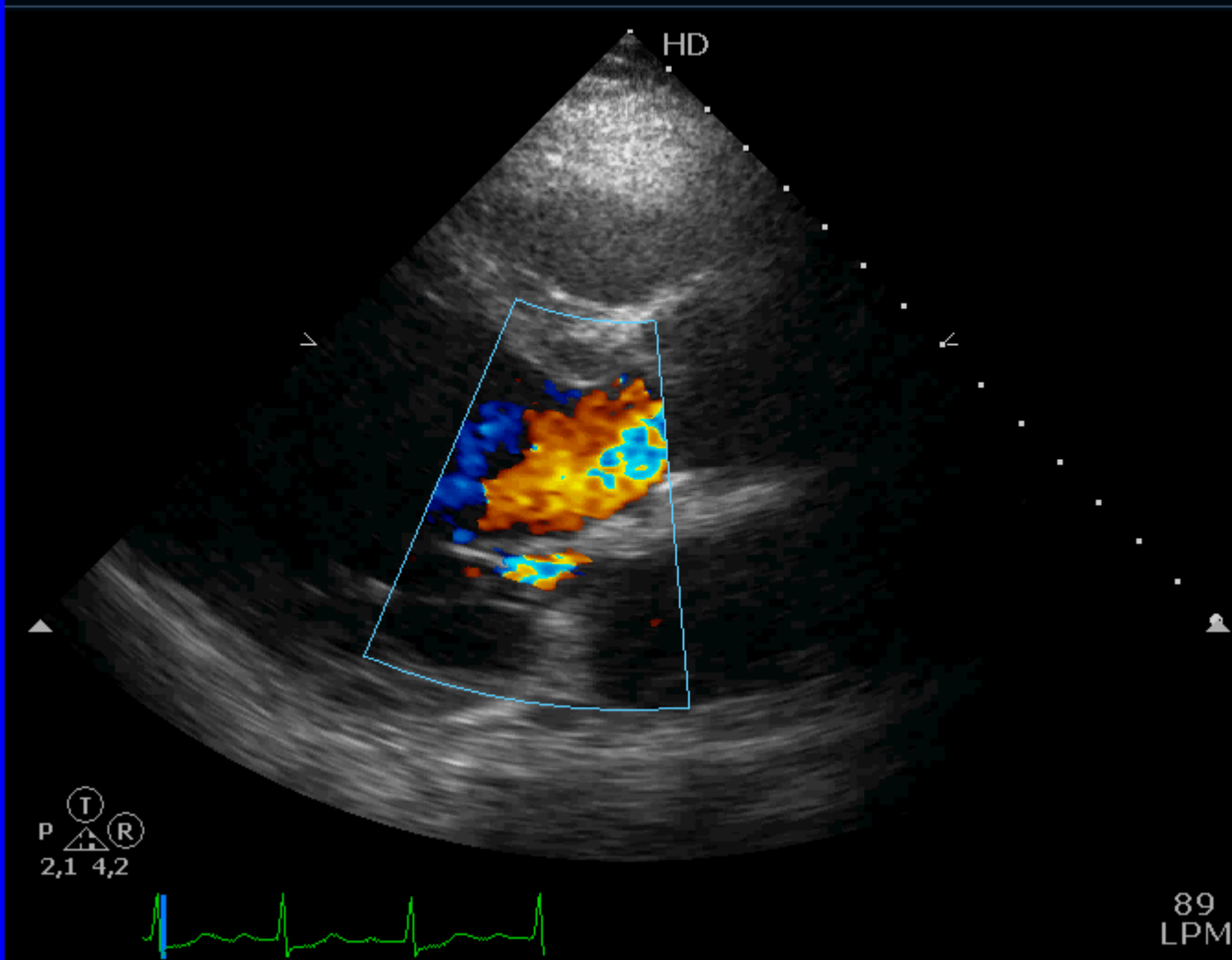
Hospital de Torrevieja.
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GONZALEZ DESIA, NORMA LIBERTAD 20/11/1945
135689 HOSPITAL TORREVIEJA SALUD

23/02/2007 PHILIPS
13:19:20 MQ



CARDIO
S4-2
MI 1,3
TIS 1,3
H4 Gan. 33
Color
1,9 MHz
Gan. 70
A/2/0
Filtro 2

16Hz 15cm

89
LPM



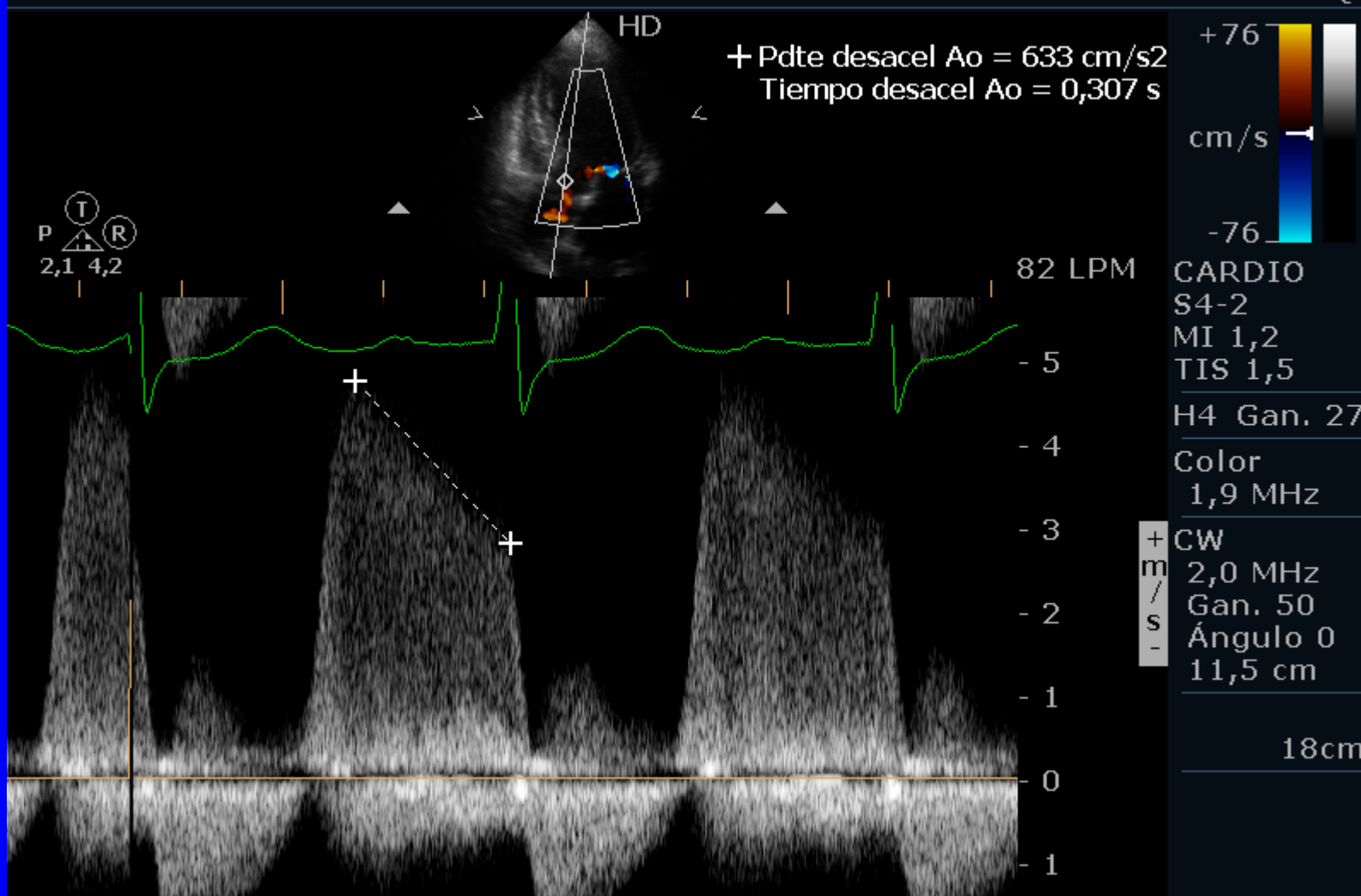
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GONZALEZ DESIA, NORMA LIBERTAD 20/11/1945 23/02/2007 PHILIPS
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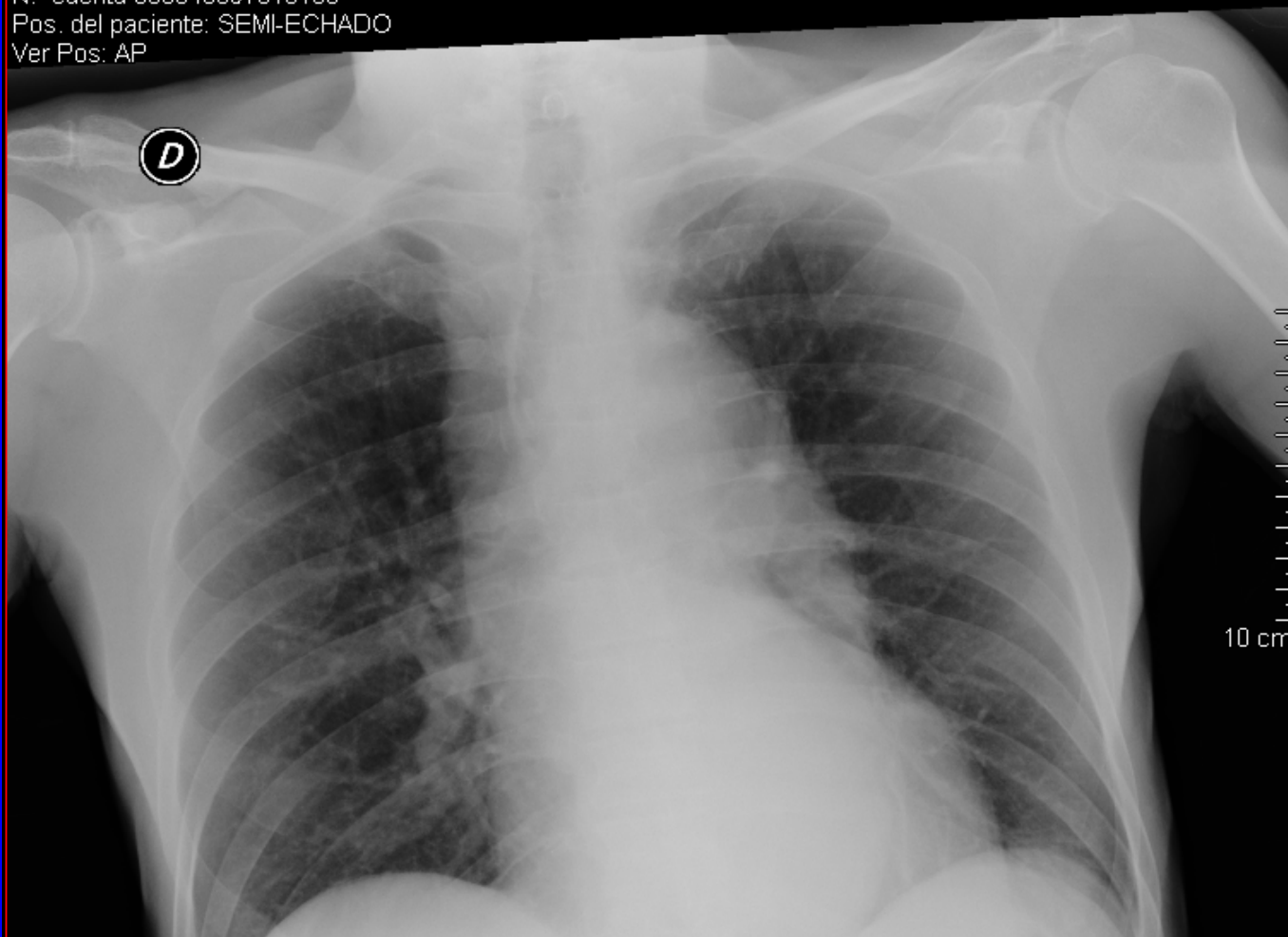
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03186 Torrevieja. Alicante



MACEDA SARRABIO JOSE MARIA
63Si9M,O,191499
1-1
T_RAX_PORT_TIL
N.º cuenta 060046857010100
Pos. del paciente: SEMI-ECHADO
Ver Pos: AP

Hospital de Torrevieja
KODAK CR975
06-nov-2006 18:23:49
Desc. del estudio: TORAX, PA





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Maceda Sarrablo, Jose Maria 02/02/1943

15/11/2006

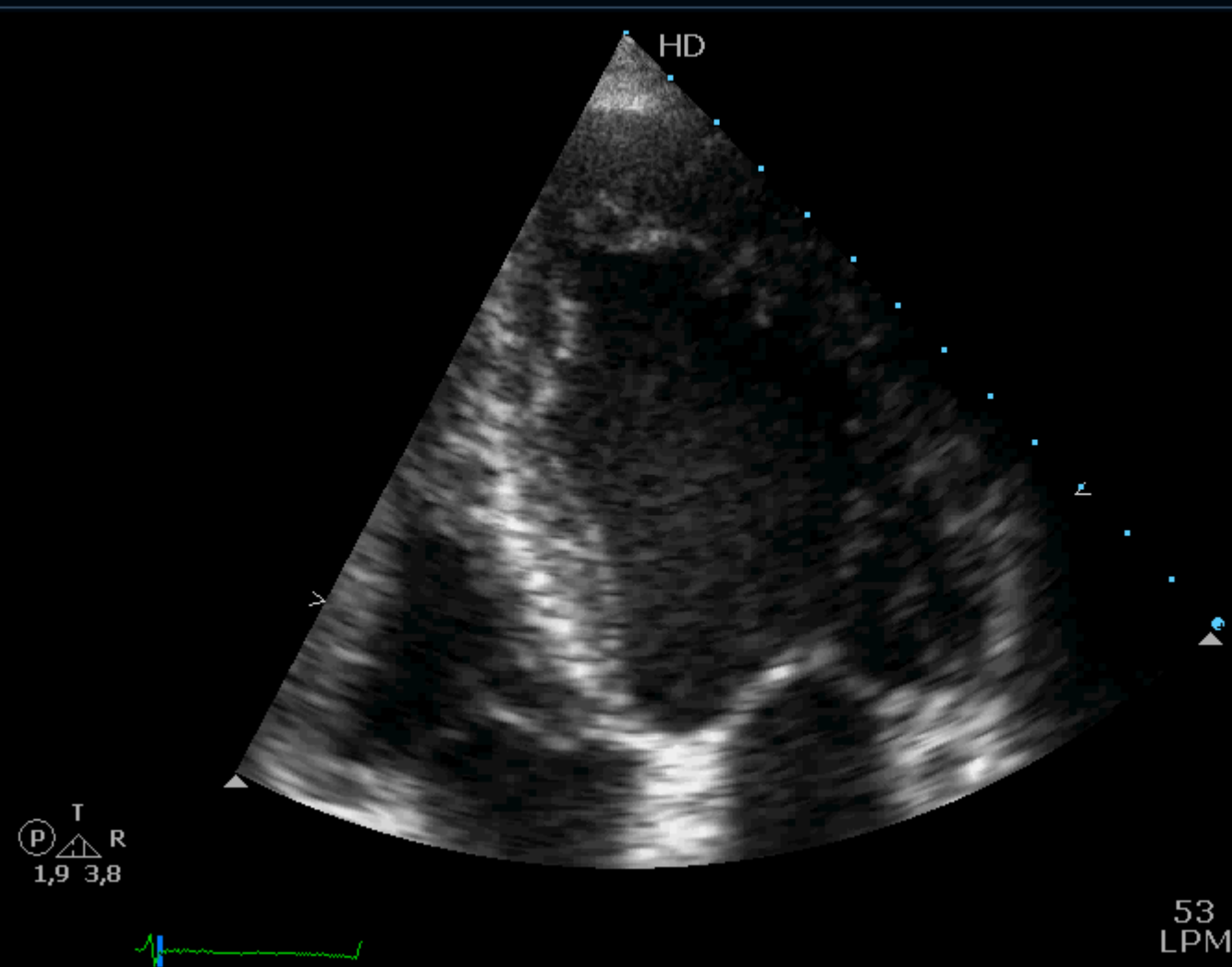
PHILIPS

191499

HOSPITAL TORREVIEJA SALUD

14:01:18

MQ



HD

CARDIO
S4-2
MI 1,0
TIS 1,1

H1 Gan. 60
232dB/C4
K/2/1

30Hz 13cm

53
LPM

T
P R
1,9 3,8





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Maceda Sarrablo, Jose Maria 02/02/1943

15/11/2006

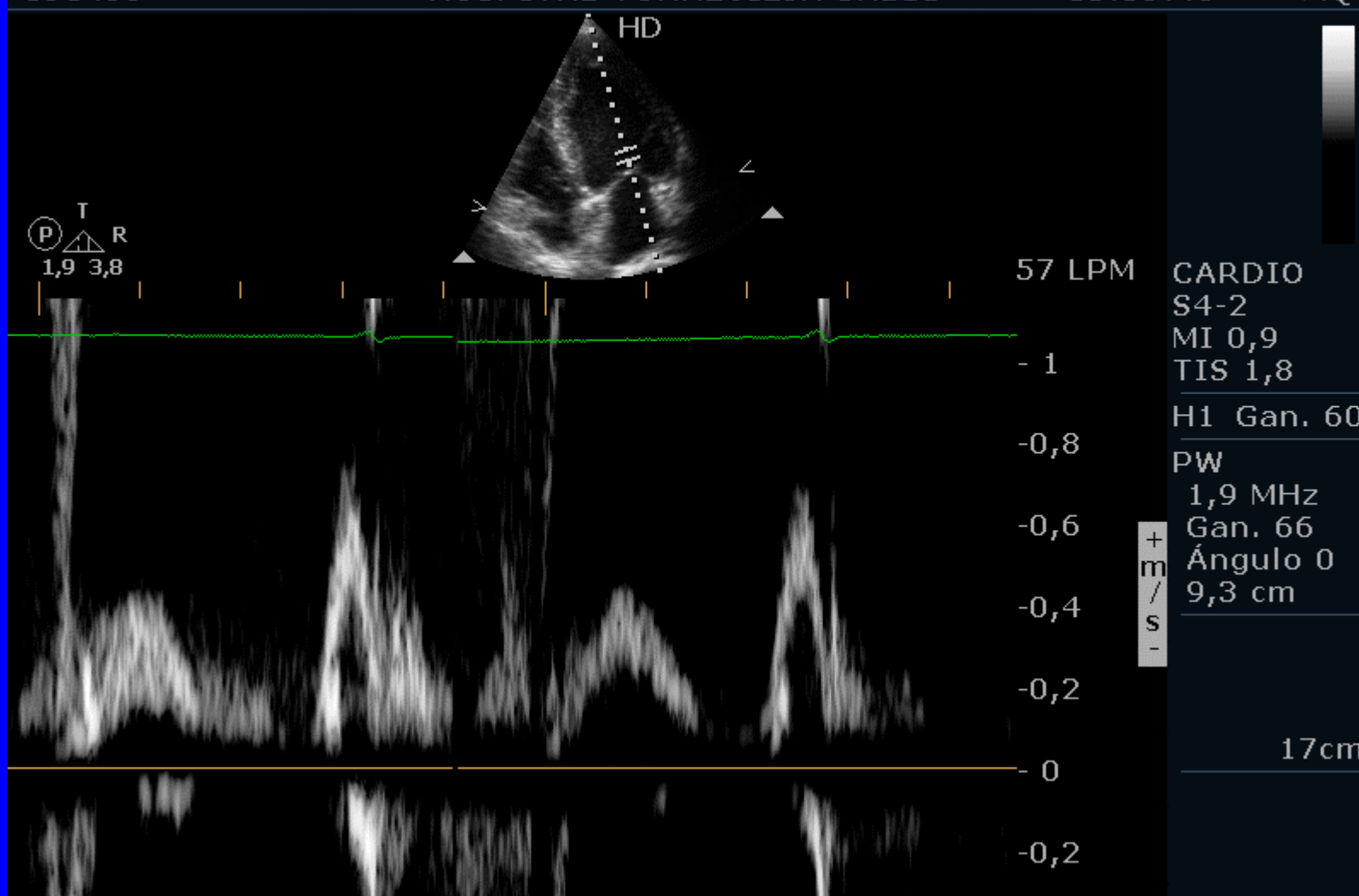
PHILIPS

191499

HOSPITAL TORREVIEJA SALUD

13:59:46

MQ





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BURGOS ANDREU CARMEN

92Si5M,O,046280

11257-0

CHEST

N.º cuenta 070170387010200

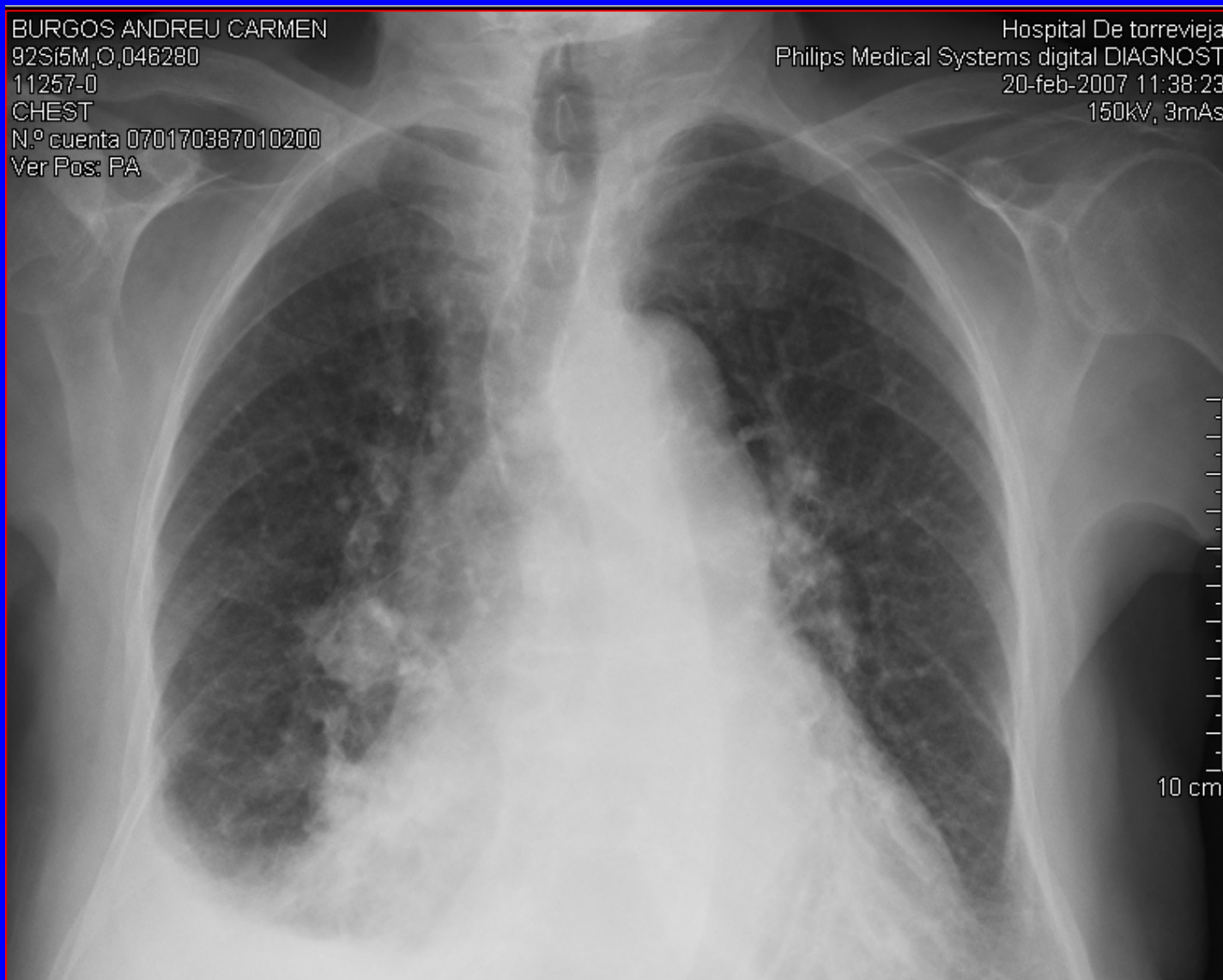
Ver Pos: PA

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20-feb-2007 11:38:23

150kV, 3mAs





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Burgos Andreu, Carmen 22/08/1914

28/02/2007

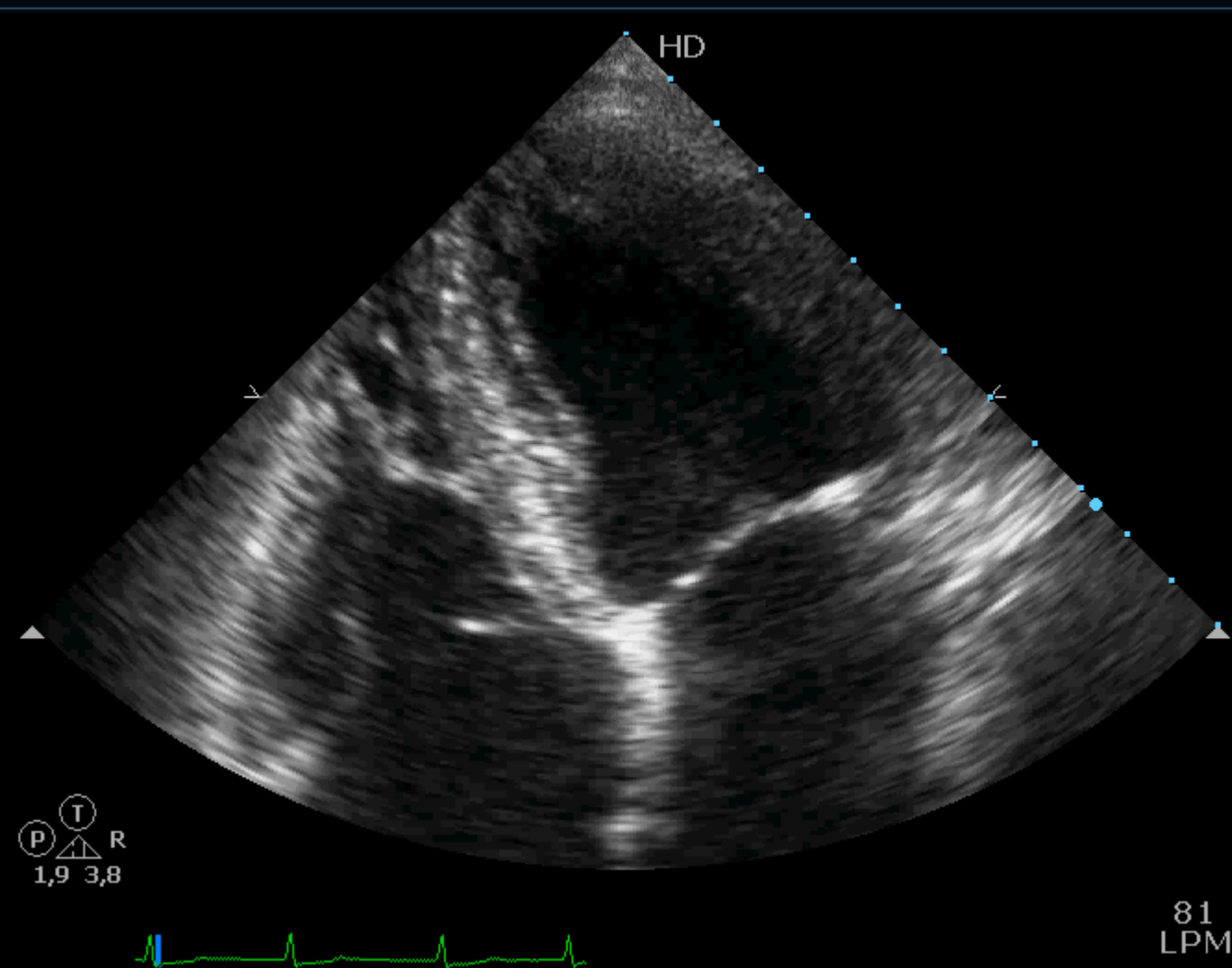
PHILIPS

046280

HOSPITAL TORREVIEJA SALUD

15:02:46

MQ



CARDIO

S4-2

MI 1,4

TIS 1,0

H2 Gan. 15

232dB/C4

K/2/1

30Hz 13cm

81
LPM



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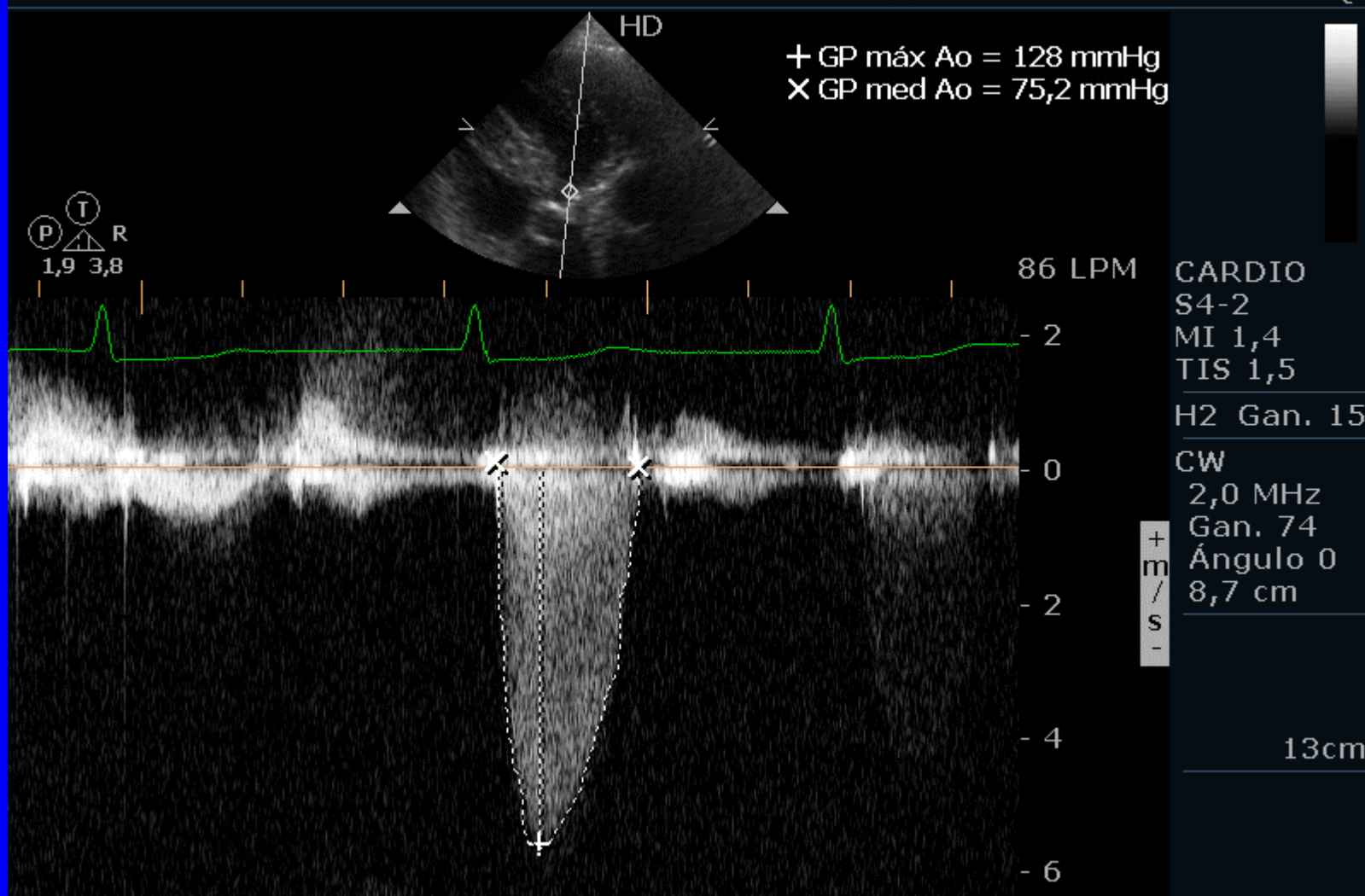
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Burgos Andreu, Carmen 22/08/1914 28/02/2007 PHILIPS
046280 HOSPITAL TORREVIEJA SALUD 15:07:36 MQ





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DIAZ DE ARANGUI TOLOSA JOSE LUIS

63SI11M,O,081363

11841-0

CHEST

N.º cuenta 070209717010200

Ver Pos: PA

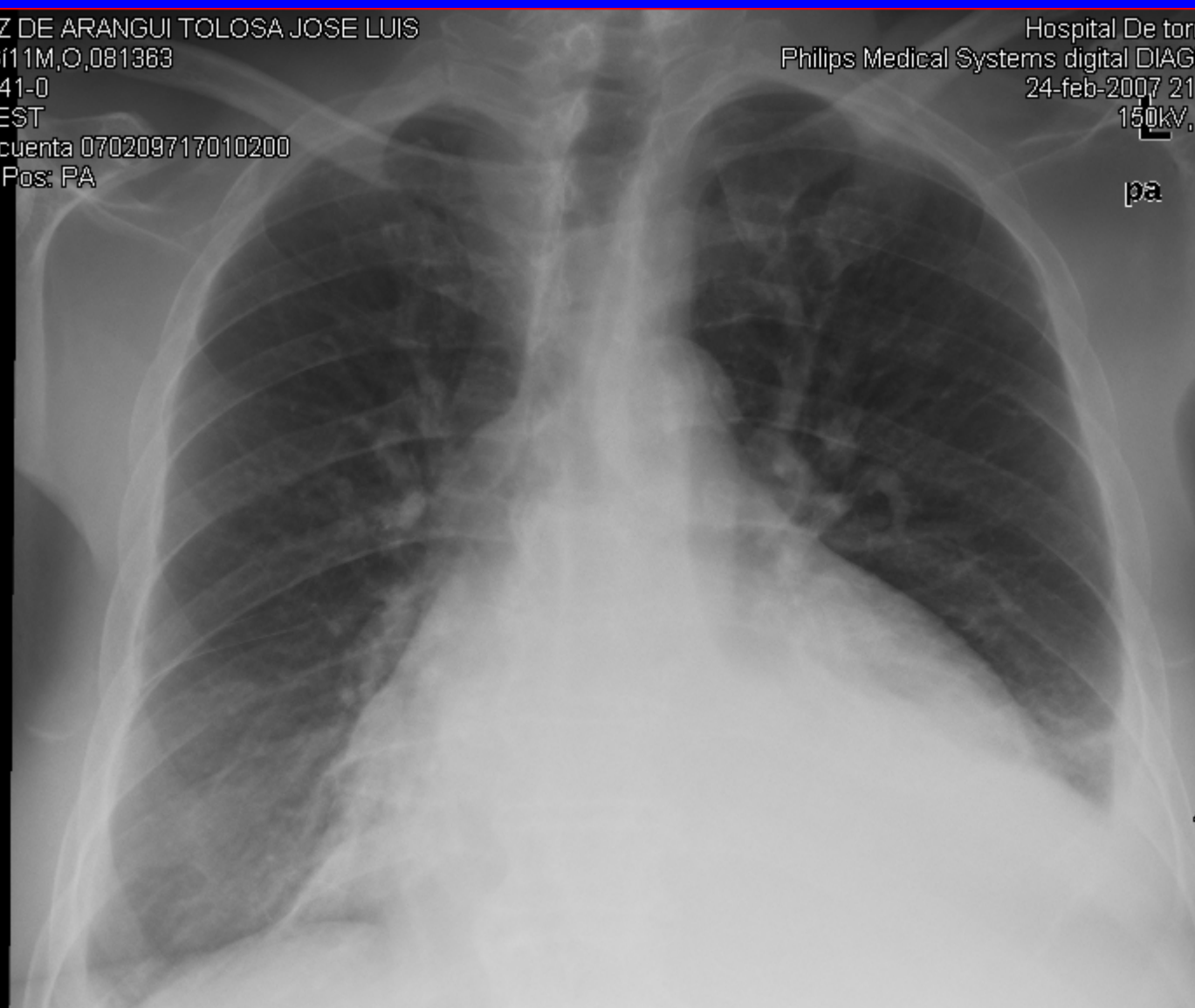
Hospital De torrevieja

Philips Medical Systems digital DIAGNOST

24-feb-2007 21:29:58

150kV, 5mAs

pa



10 cm

Fecha: 26/02/2007 Hora Inicio: 12:04 Hora Fin: 12:04 Estado Paciente: Moderado

 **Curso Evolutivo**

Sub: asintomático, niega disnea o dolor torácico, apenas le molestan las piernas.

Ob: afebril. diuresis >2litros/día.

AR: MVC crepitantes e hipofonesis en 1/4 inf de ambos campos.

EELL: edemas hasta muslos aprox simétricos, numerosas excoriaciones superficiales sobreinfectadas con material verdoso, algunas pustulas. no erisipela (sugiere autoinoculación por rascado o roce). no crepitación. Buena perfusion distal aunque los pulsos femorales apenas se aprecian por los edemas

Hablo con su Medico de cabecera (dr Vera) del ambulatorio de la Mata quien me comenta que el mayor problema es el nivel de dependencia progresivo que tiene además de las curas de las piernas que por otra parte podrían asumirlas durante un período corto.

Médico informa: JUAN MARÍA LÓPEZ-QUIÑONES LLAMAS

 Resumen  Anamnesis  Proceso  Aceptar  Cancelar

JOSE LUIS DIAZ DE
ARANGUI TOLOSA

 080-A **Medicina
Interna**

Diagnóstico:
CELULITIS/ABSCESO DE LA PIERNA, SALVO PIE

  Episodio:
Ingreso:



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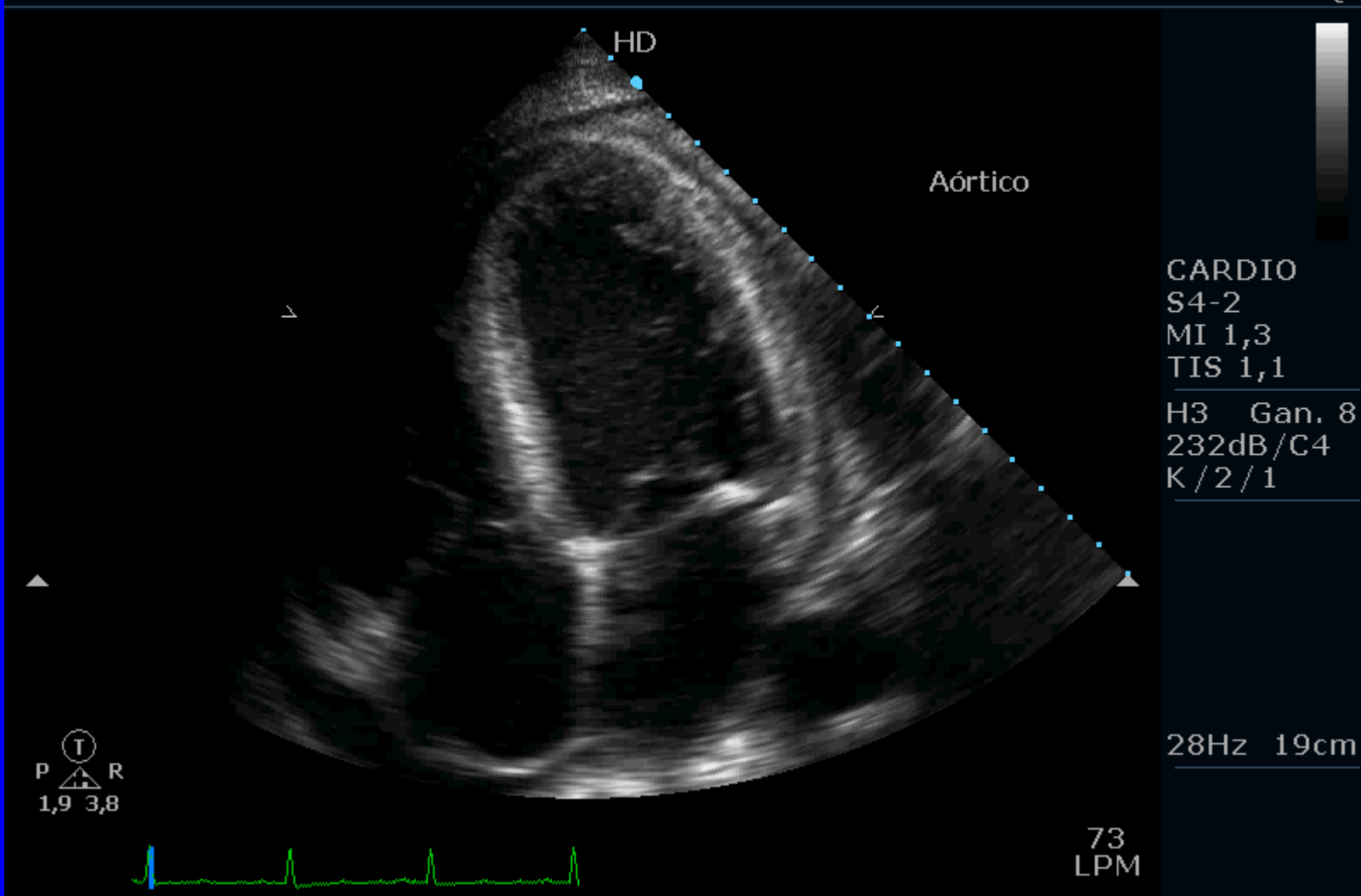
Hospital de Torrevieja.
Ctra. CV - 95 Partida La Ceñuela.
03186 Torrevieja. Alicante



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Diaz De Aranguiz Tolosa, Jose Luis 05/03/1943
07-02-27-133457 HOSPITAL TORREVIEJA SALUD

27/02/2007 PHILIPS
13:43:08 MQ





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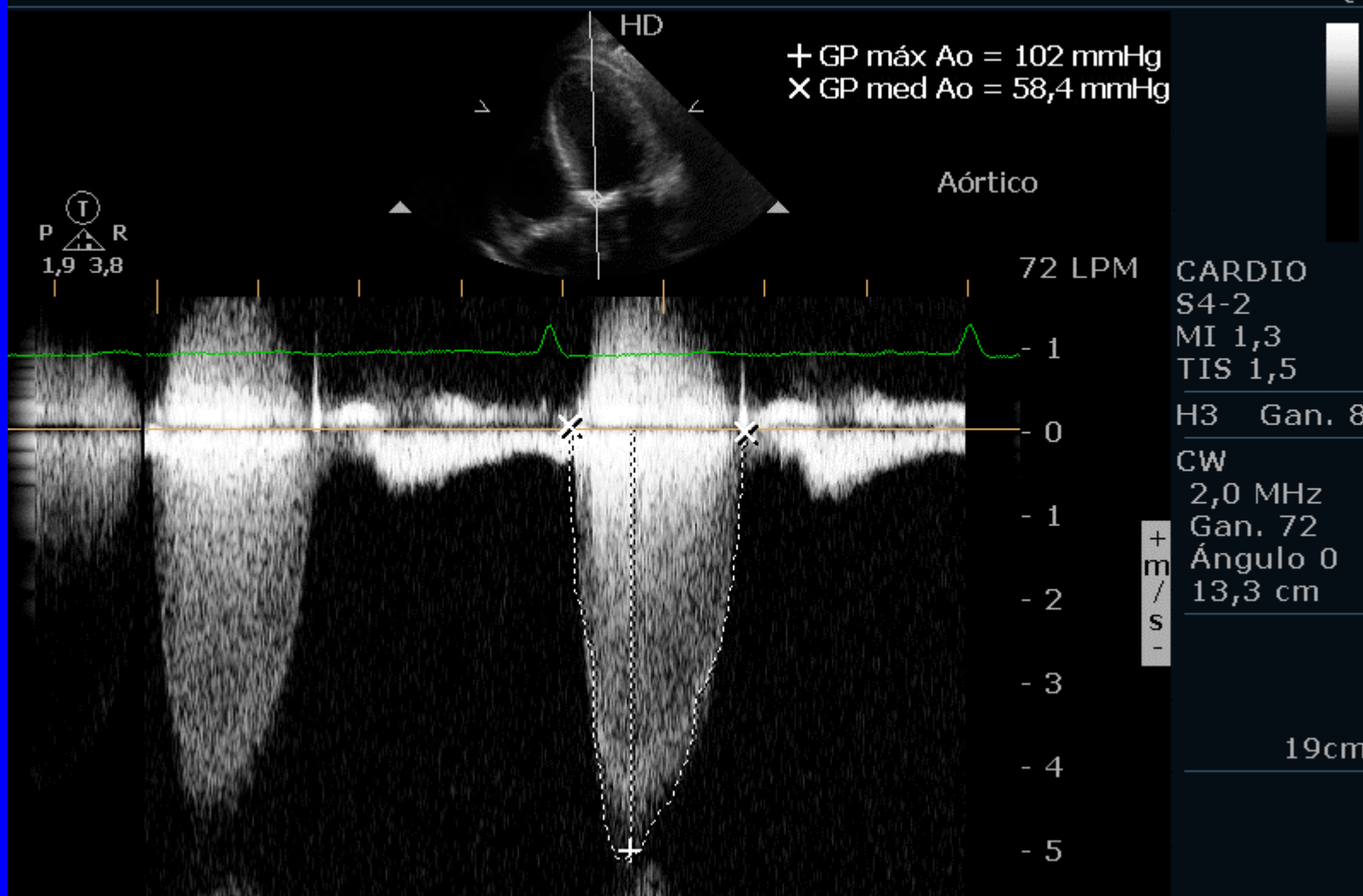
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Diaz De Aranguiz Tolosa, Jose Luis 05/03/1943 27/02/2007 PHILIPS
07-02-27-133457 HOSPITAL TORREVIEJA SALUD 13:46:58 MQ





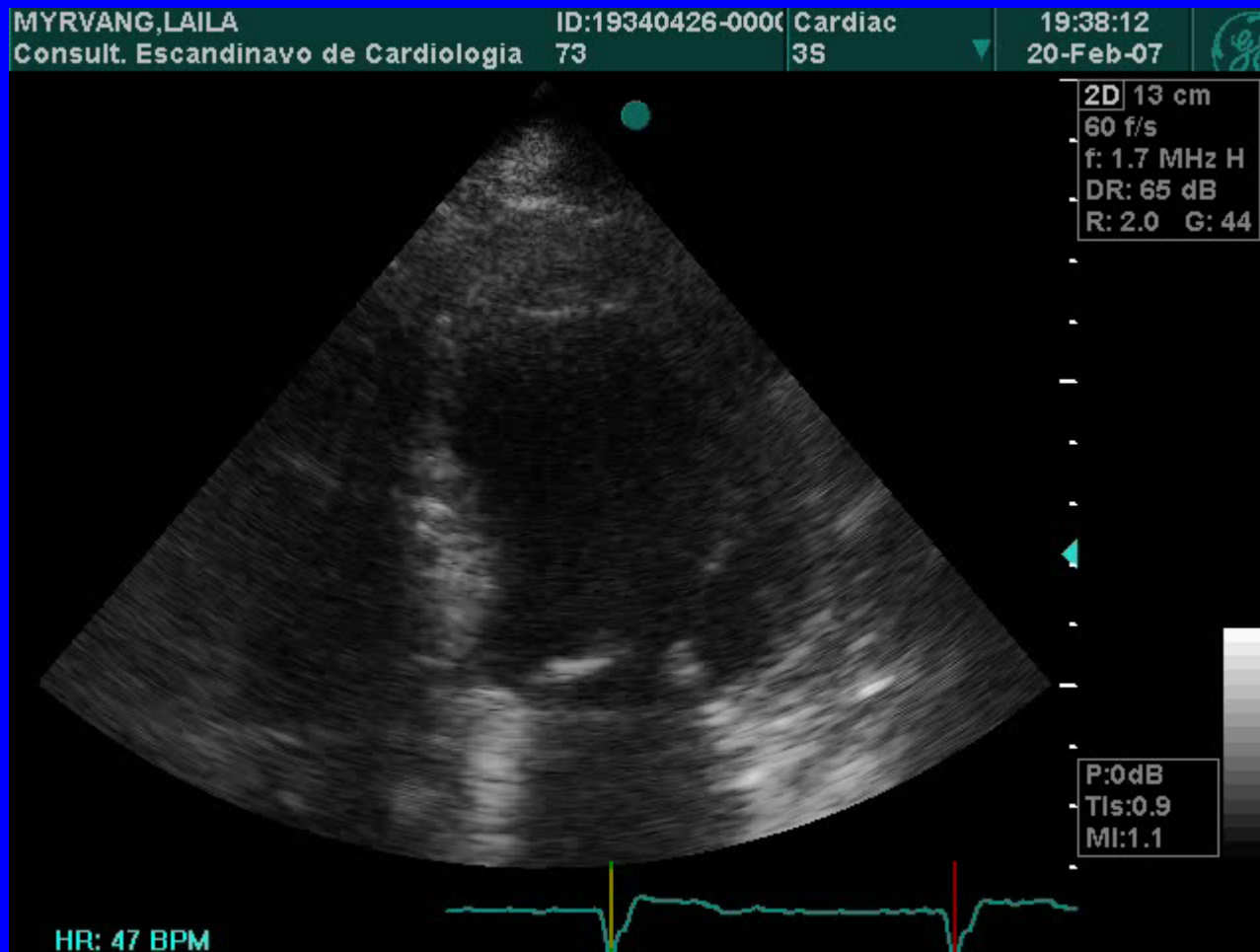
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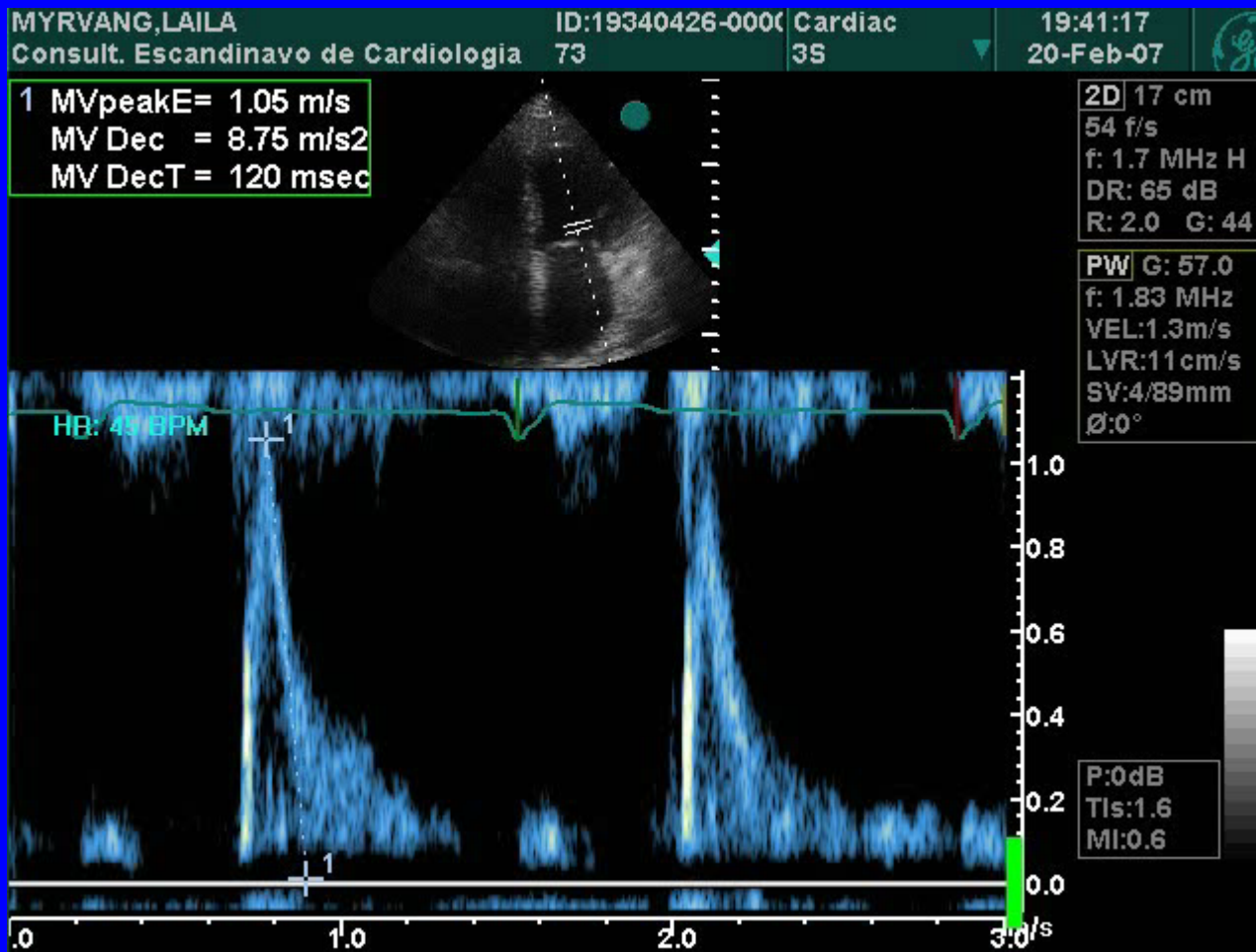




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Anemia, IRC, DM, HTA, EPOC?

Tratamiento:

Furosemida 240 mg diarios

Bumetanida 8 mg diarios

Enalapril 5 mg dos veces diarios

Candesartan 4 mg

Carvedilol 12.5 mg 1x2

Digoxina 0.13 mg diarios

Guidelines for the diagnosis and treatment of Chronic Heart Failure: full text (update 2005)

The Task Force for the diagnosis and treatment of CHF of the European Society of Cardiology

Definition of CHF

Many definitions of CHF exist,²⁶⁻²⁹ but only selective features of this complex syndrome are highlighted. None is entirely satisfactory. A simple objective definition of CHF is currently impossible as there is no cut-off value of cardiac or ventricular dysfunction or change in flow, pressure, dimension, or volume that can be used reliably to identify patients with heart failure. The diagnosis of heart failure relies on clinical judgement based on a history, physical examination, and appropriate investigations.

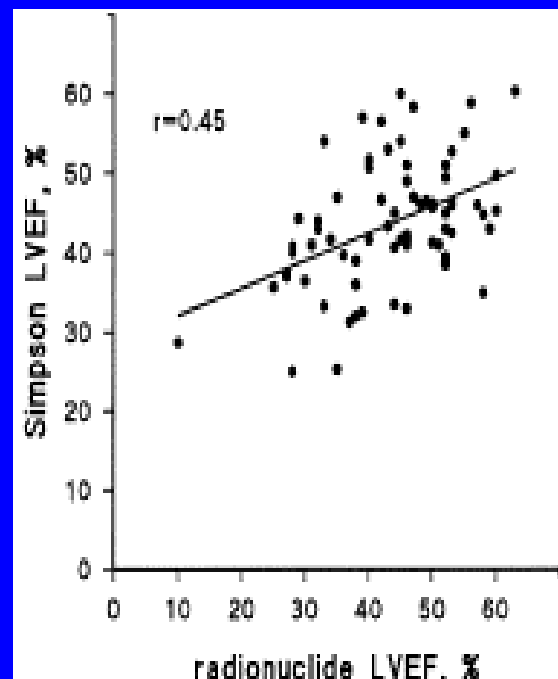
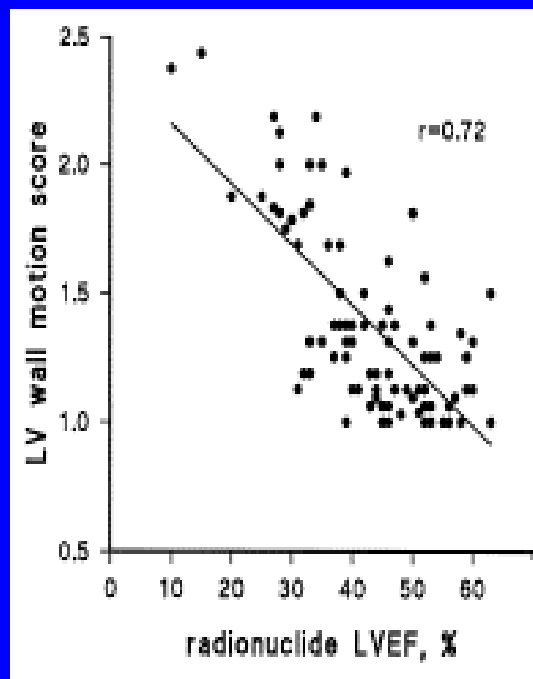
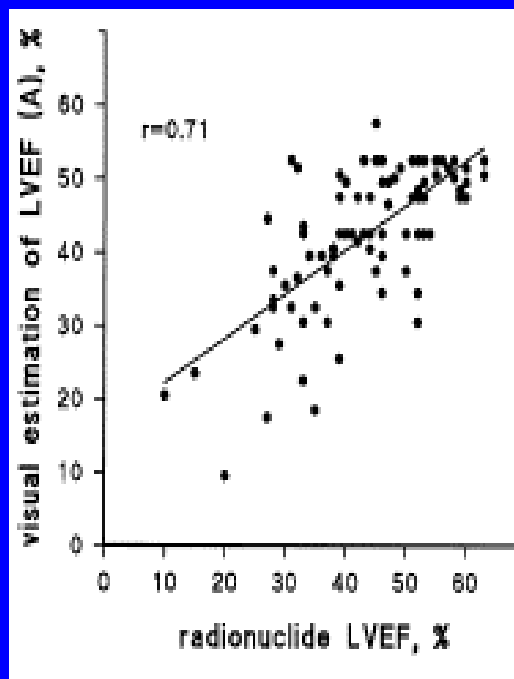
Insuficiencia cardíaca congestiva

(conceptos y creencias a través del tiempo)

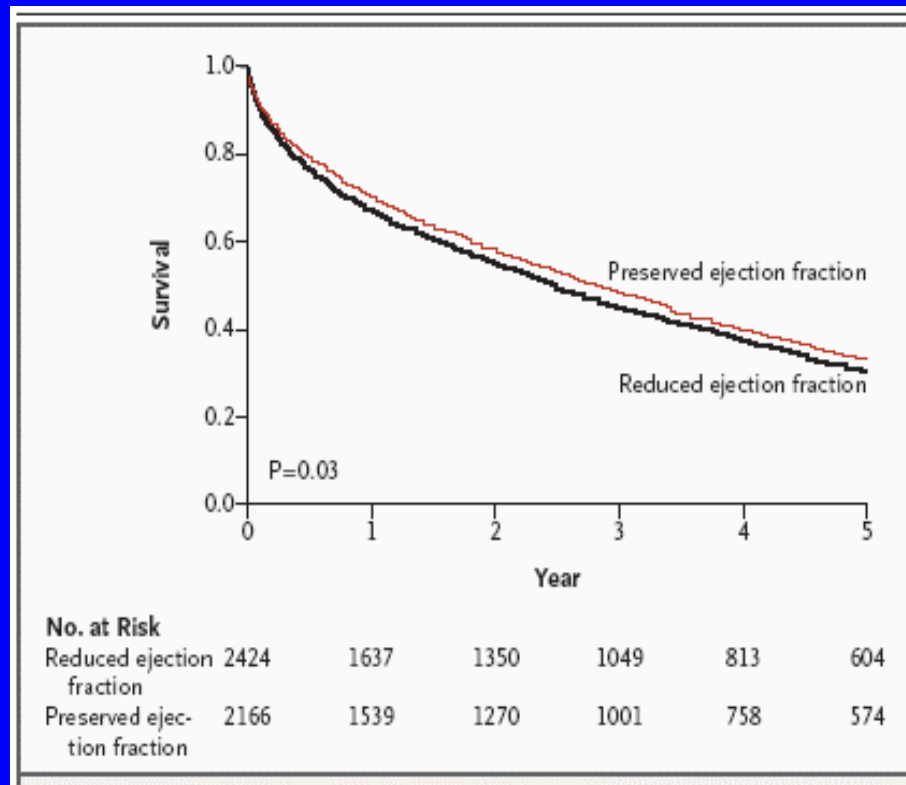
- Es igual a disfunción sistólica
- Es muy rara
- Función sistólica ligeramente deprimida
- Disfunción diastólica
- Con fracción de eyección normal
- Con reserva funcional miocárdica deprimida?????



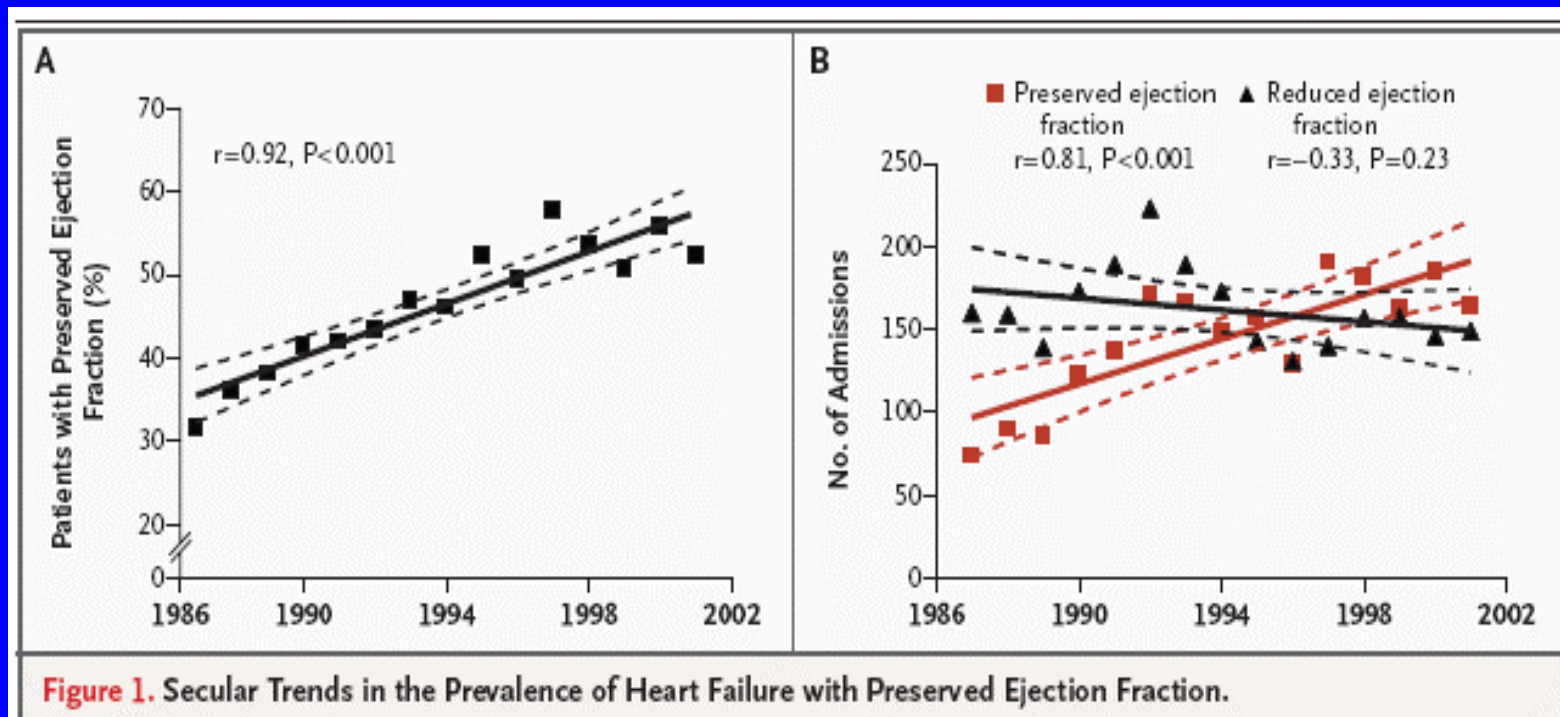
Comparison of Different Echocardiographic Methods With Radionuclide Imaging for Measuring Left Ventricular Ejection Fraction During Acute Myocardial Infarction Treated by Thrombolytic Therapy



Trends in Prevalence and Outcome of Heart Failure with Preserved Ejection Fraction



A total of 6076 patients with heart failure were discharged over the 15-year period; data on ejection fraction were available for 4596 of these patients (76 percent). Of



Outcome of Heart Failure with Preserved Ejection Fraction in a Population-Based Study

R. Sacha Bhatia, M.D., M.B.A., Jack V. Tu, M.D., Ph.D.,
Douglas S. Lee, M.D., Ph.D., Peter C. Austin, Ph.D., Jiming Fang, Ph.D.,
Annick Haouzi, M.D., Yanyan Gong, M.Sc., and Peter P. Liu, M.D.

A total of 9945 patients were admitted and met the predefined criteria for heart failure at the 103 participating hospitals during the study period. Of these, 5775 patients were excluded because echocardiography, angiography, or nuclear scintigraphy was not performed at admission. Another 717 patients who had undergone echocardiography were excluded because their ejection fraction had not been documented, and 649 were excluded because they had severe aortic or mitral valve disease. Two patients were excluded because they did not have a valid health-card number.

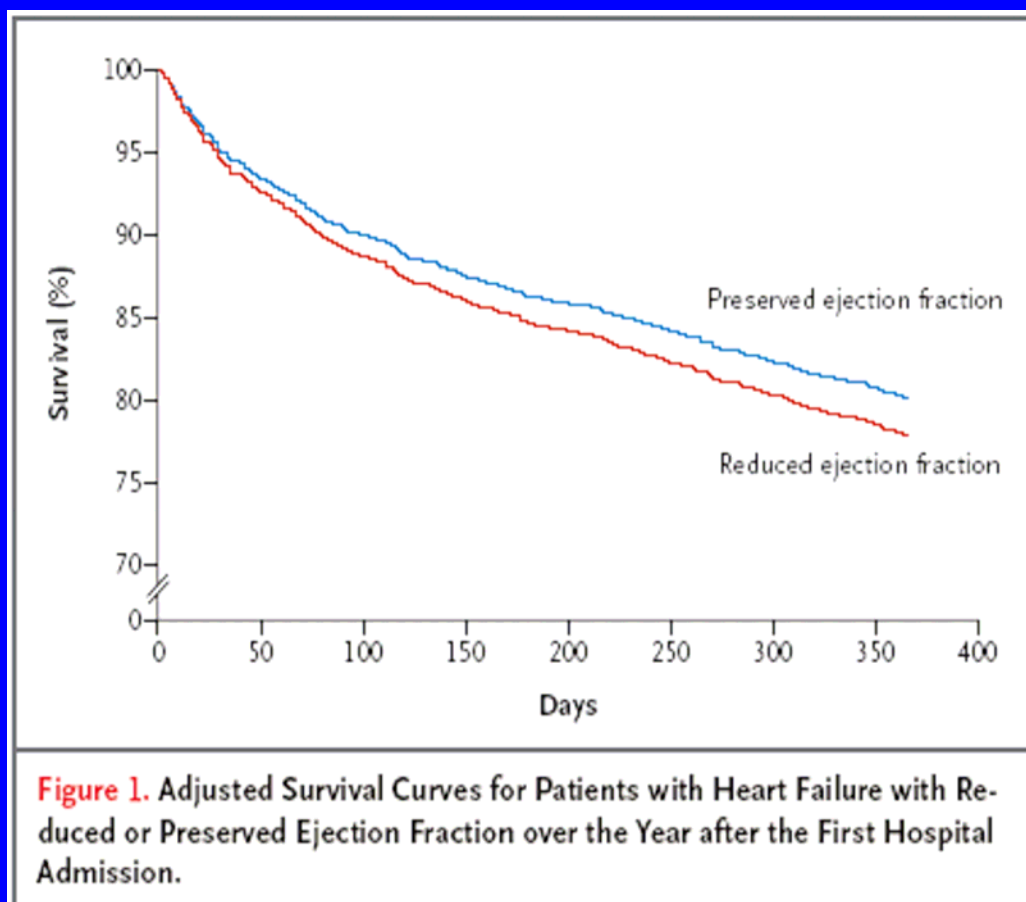
7141 de 9945
(72%) fueron excluidos



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N Engl J Med 2006;355:260-9.



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Do patients with suspected heart failure and preserved left ventricular systolic function suffer from "diastolic heart failure" or from misdiagnosis? A prospective descriptive study

Lynn Caruana, Mark C Petrie, Andrew P Davie and John J V McMurray

BMJ 2000;321:215-218

doi:10.1136/bmj.321.7255.215

What is already known on this topic

Patients with suspected heart failure but preserved left ventricular systolic function are commonly said to have "diastolic heart failure"

What this study adds

Most of these patients have an alternative explanation for their symptoms, such as obesity, pulmonary disease, and myocardial ischaemia

Complete investigation of these patients requires more than an echocardiogram

Improved patient care should result from recognition of the true cause of a patient's symptoms as there are appropriate management strategies for these alternative diagnoses; this is preferable to ascribing symptoms to diastolic heart failure for which there is no evidence based treatment

THE PATHOGENESIS OF ACUTE PULMONARY EDEMA ASSOCIATED WITH HYPERTENSION

SANJAY K. GANDHI, M.D., JOHN C. POWERS, M.D., ABDEL-MOHSEN NOMEIR, M.D., KAREN FOWLE, R.T., R.D.C.S.,
DALANE W. KITZMAN, M.D., KEVIN M. RANKIN, M.D., AND WILLIAM C. LITTLE, M.D.

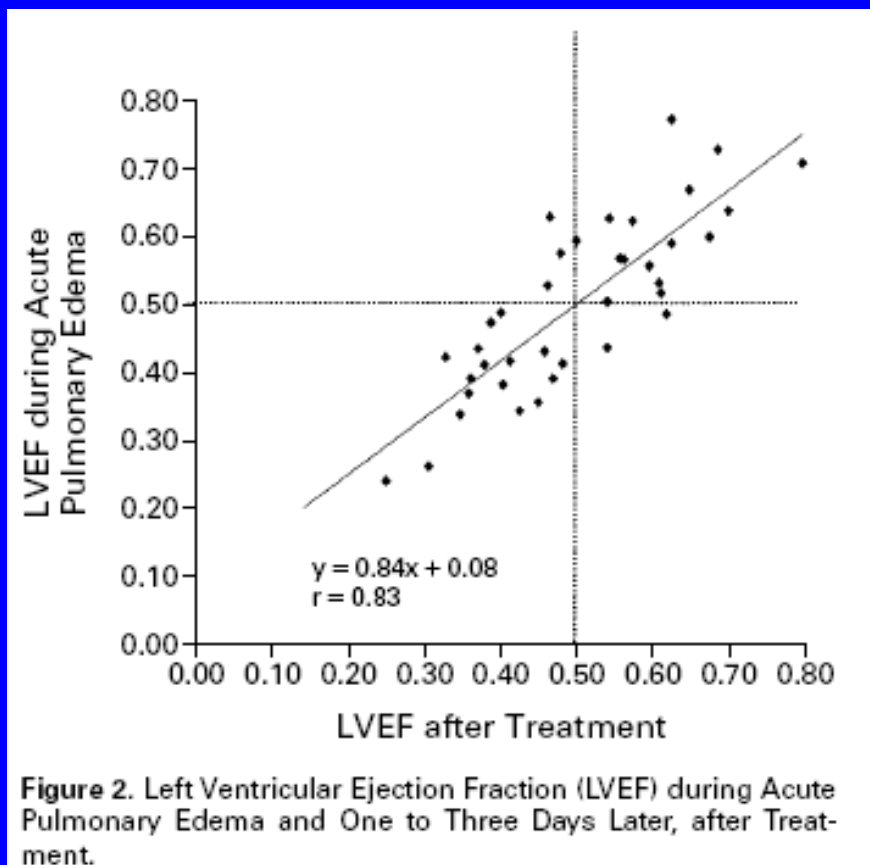


Figure 2. Left Ventricular Ejection Fraction (LVEF) during Acute Pulmonary Edema and One to Three Days Later, after Treatment.

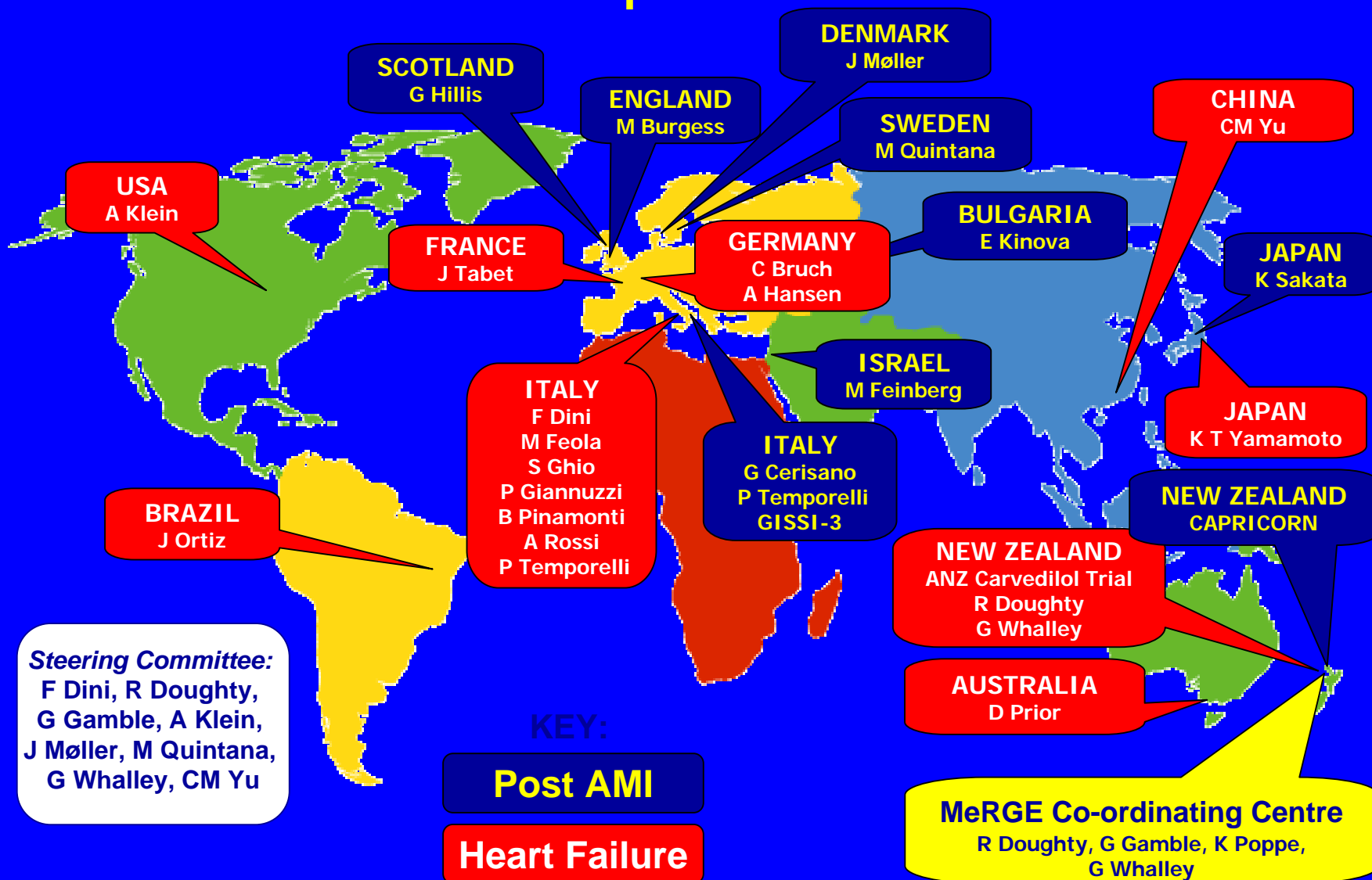
**Table 1. Characteristics of Patients with Heart Failure and Preserved or Reduced Ejection Fraction.***

Characteristic	Reduced Ejection Fraction (N=2429)	Preserved Ejection Fraction (N=2167)	P Value	Adjusted P Value†
Age (yr)	71.7±12.1	74.4±14.4	<0.001	NA
Male sex (% of patients)	65.4	44.3	<0.001	<0.001
Body-mass index‡	28.6±7.0	29.7±7.8	0.002	0.17
Obesity (% of patients)‡§	35.5	41.4	0.007	0.002
Serum creatinine on admission (mg/dl)	1.6±1.0	1.6±1.1	0.31	0.30
Hemoglobin on admission (g/dl)	12.5±2.0	11.8±2.1	<0.001	<0.001
Hypertension (% of patients)	48.0	62.7	<0.001	<0.001
Coronary artery disease (% of patients)	63.7	52.9	<0.001	<0.001
Atrial fibrillation (% of patients)	28.5	41.3	<0.001	<0.001
Diabetes (% of patients)	34.3	33.1	0.42	0.61
Substantial valve disease (% of patients)	6.5	2.6	<0.001	0.05
Ejection fraction (%)	29±10	61±7	<0.001	NA

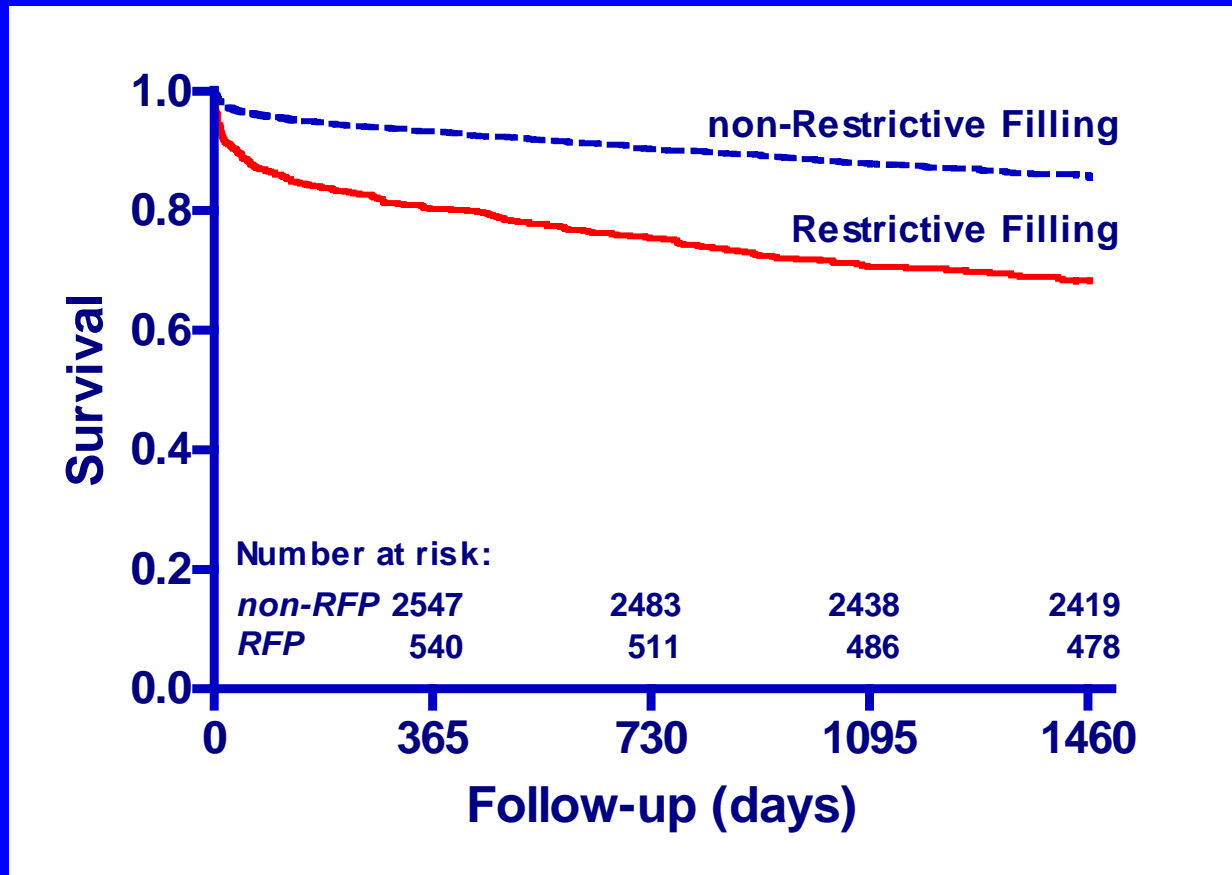
**Table 1. Characteristics of Patients.^a**

Characteristic	Reduced Ejection Fraction (<40%) (N=1570)	Preserved Ejection Fraction (>50%) (N=880)	P Value
Mean LVEF — %	25.9	62.4	<0.001
Age — yr	71.8 ± 12	75.4 ± 11.51	<0.001
Male sex — no. (%)	983 (62.6)	302 (34.3)	<0.001
Coronary artery disease or ischemia — no. (%)	764 (48.7)	312 (35.5)	<0.001
Hypertension — no. (%)	772 (49.2)	485 (55.1)	0.005
Hyperlipidemia — no. (%)	350 (22.3)	136 (15.5)	<0.001
Diabetes — no. (%)	611 (38.9)	279 (31.7)	<0.001
Cerebrovascular accident or transient ischemic attack — no. (%)	229 (14.6)	133 (15.1)	0.72
Angina — no. (%)	440 (28.0)	201 (22.8)	0.005
Ever smoked — no. (%)	754 (48.0)	322 (36.6)	<0.001
Currently smoking — no. (%)	271 (17.3)	106 (12.0)	<0.001
Peripheral vascular disease — no. (%)	236 (15.0)	92 (10.5)	<0.001
Atrial fibrillation — no. (%)	370 (23.6)	280 (31.8)	<0.001
Cancer — no. (%)	182 (11.6)	105 (11.9)	0.80
COPD — no. (%)	207 (13.2)	156 (17.7)	0.002
Prior myocardial infarction — no. (%)	612 (39.0)	146 (16.6)	<0.001
Prior CABG — no. (%)	203 (12.9)	51 (5.8)	<0.001
Prior PCI — no. (%)	48 (3.1)	16 (1.8)	0.07
Peptic ulcer disease — no. (%)	94 (6.0)	74 (8.4)	0.02
Hepatitis or cirrhosis — no. (%)	20 (1.3)	16 (1.8)	0.28
Dementia — no. (%)	76 (4.8)	49 (5.6)	0.43
Hemoglobin <10 g/dl — no. (%)	155 (9.9)	186 (21.1)	<0.001
Mean systolic blood pressure — mm Hg	146	156	<0.001
Mean respiratory rate — breaths/min	26	26	0.17
Serum sodium <136 mmol/liter — no. (%)	362 (23.1)	209 (23.8)	0.70
Serum creatinine >150 mmol/liter — no. (%)	296 (18.9)	195 (22.2)	0.95
Dialysis — no. (%)	18 (1.1)	9 (1.0)	0.78

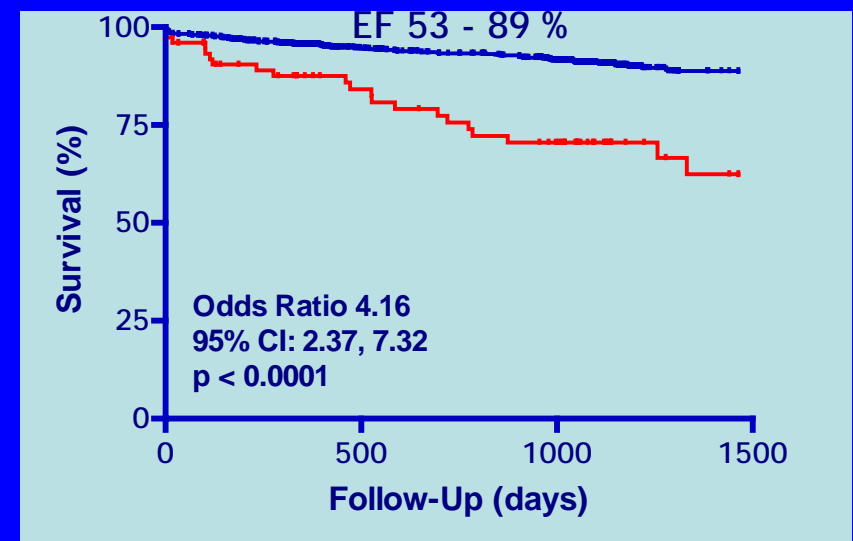
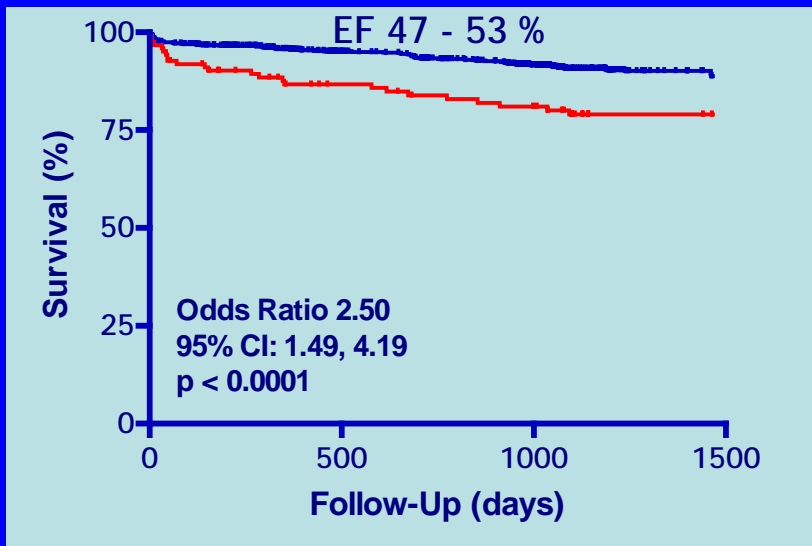
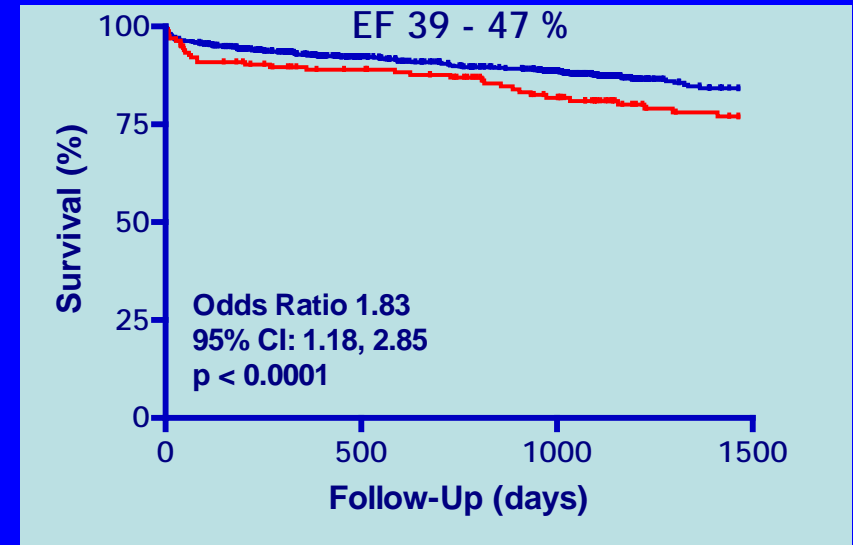
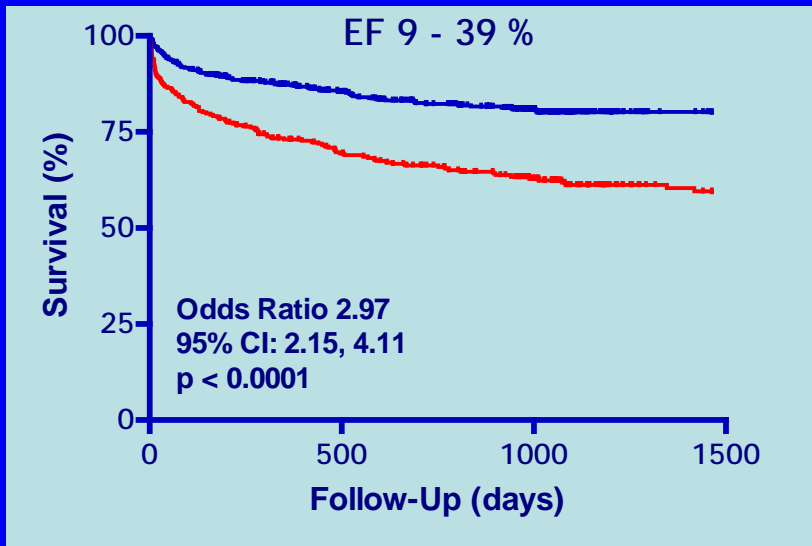
MeRGE Principal Collaborators



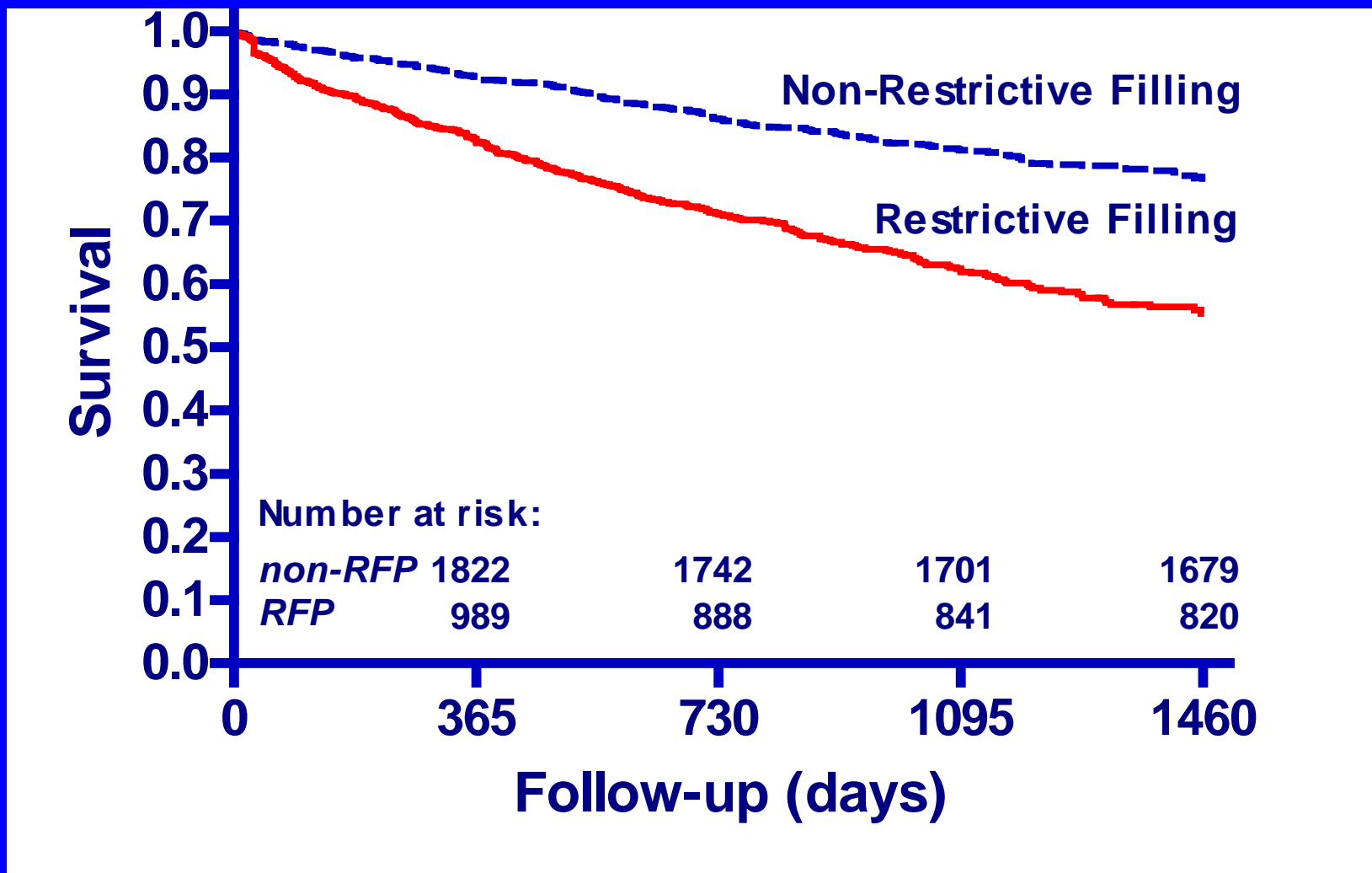
Mortality by Restrictive Filling Pattern in Acute Myocardial Infarction



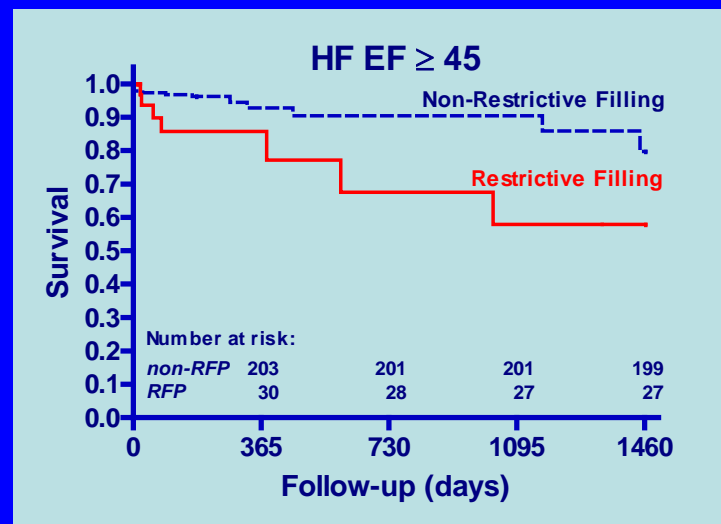
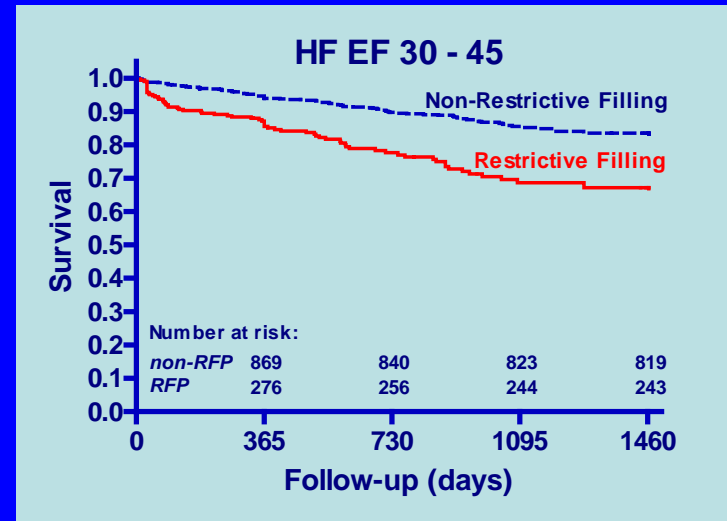
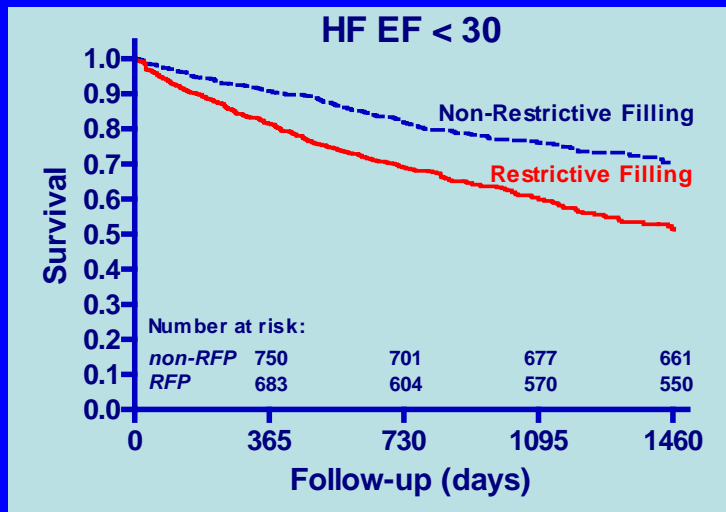
All-Cause Mortality in AMI – by Quartiles of EF



Mortality by Restrictive Filling Pattern in Heart Failure



Mortality by Restrictive Filling Pattern – EF in Heart Failure





SOMBRAS

De que se mueren los pacientes con ICC y FE conservada?

Como mejorar el pronóstico?

Como llevar a cabo ensayos clínicos?



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El problema existe
Hay maneras de diagnosticarlo
Existen problemas alternativos