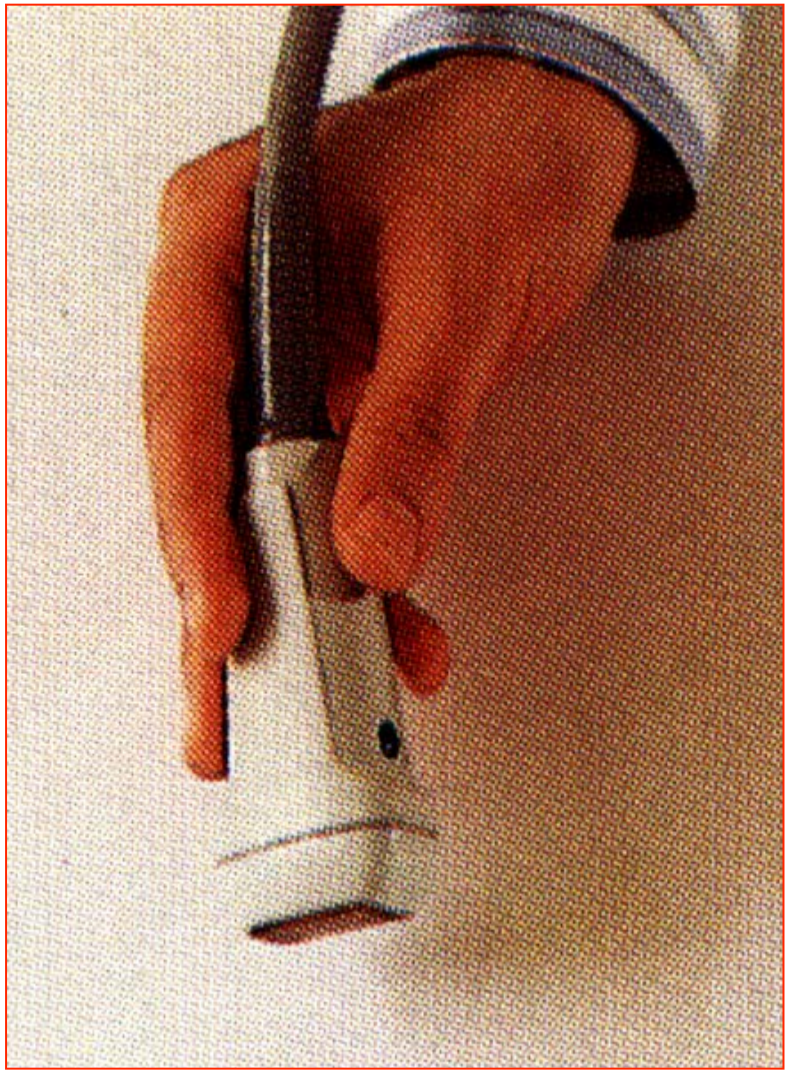
ASSISTANCE PUBLIQUE HÔPITAUX DE PARIS

UPEC FACULTÉ DE MÉDECINE

Echographie Cardiaque

P. LIM, Créteil - FRA

Sonde cardiologique



1,5 à 4 MHz

Echocardiographie-Doppler Normale

Mise en place pratique

Le patient

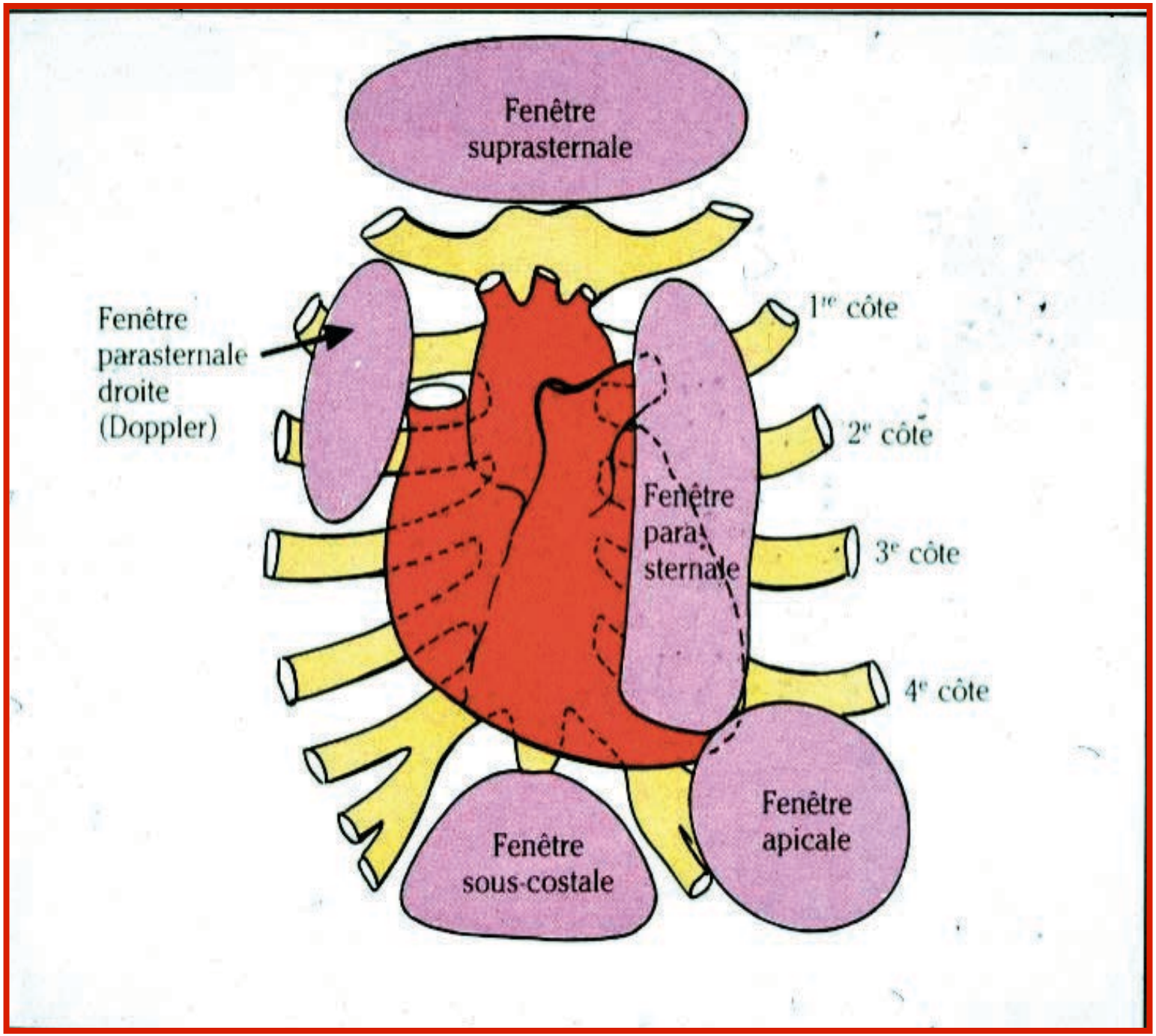
La réalisation pratique d'une échocardiographie débute par l'installation du patient torse nu, placé initialement en décubitus latéral gauche pour la première partie de l'examen, le bras droit le long du corps, le bras gauche sous la tête.
Pour les incidences sous costale et supra sternale, le patient prend la position décubitus dorsal stricte.

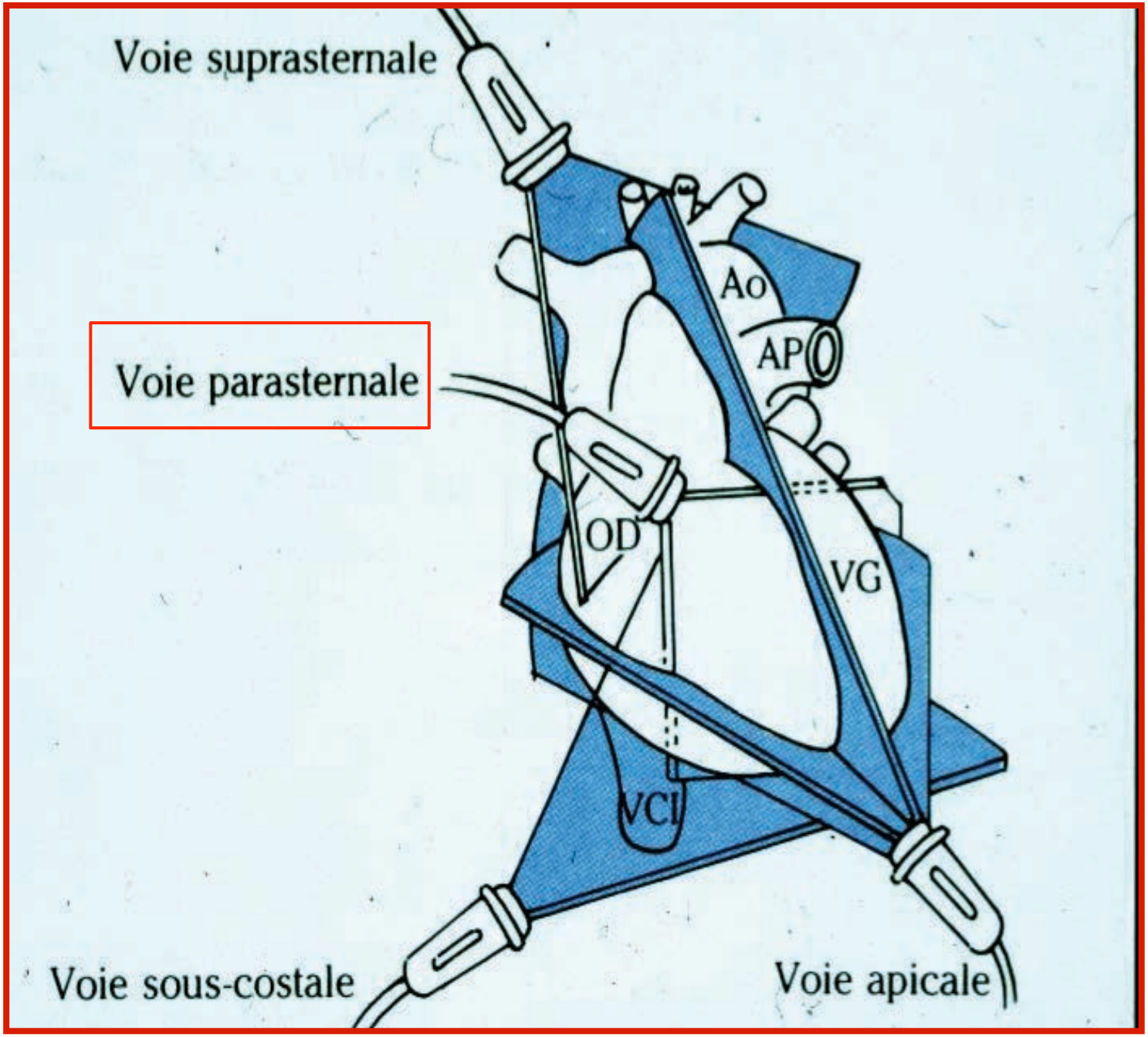
L'échographe et l'échographiste

L'échographe est positionné généralement à la droite du patient ce qui permet la manipulation de la sonde par la main droite et de la console par la main gauche.

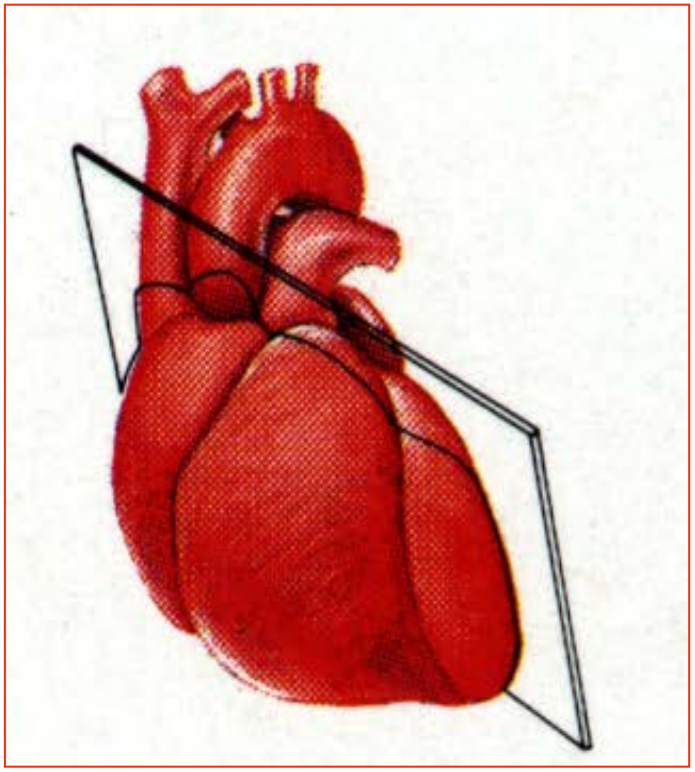
Le positionnement inverse, appareil à gauche et sonde main gauche, est la référence outre-atlantique.

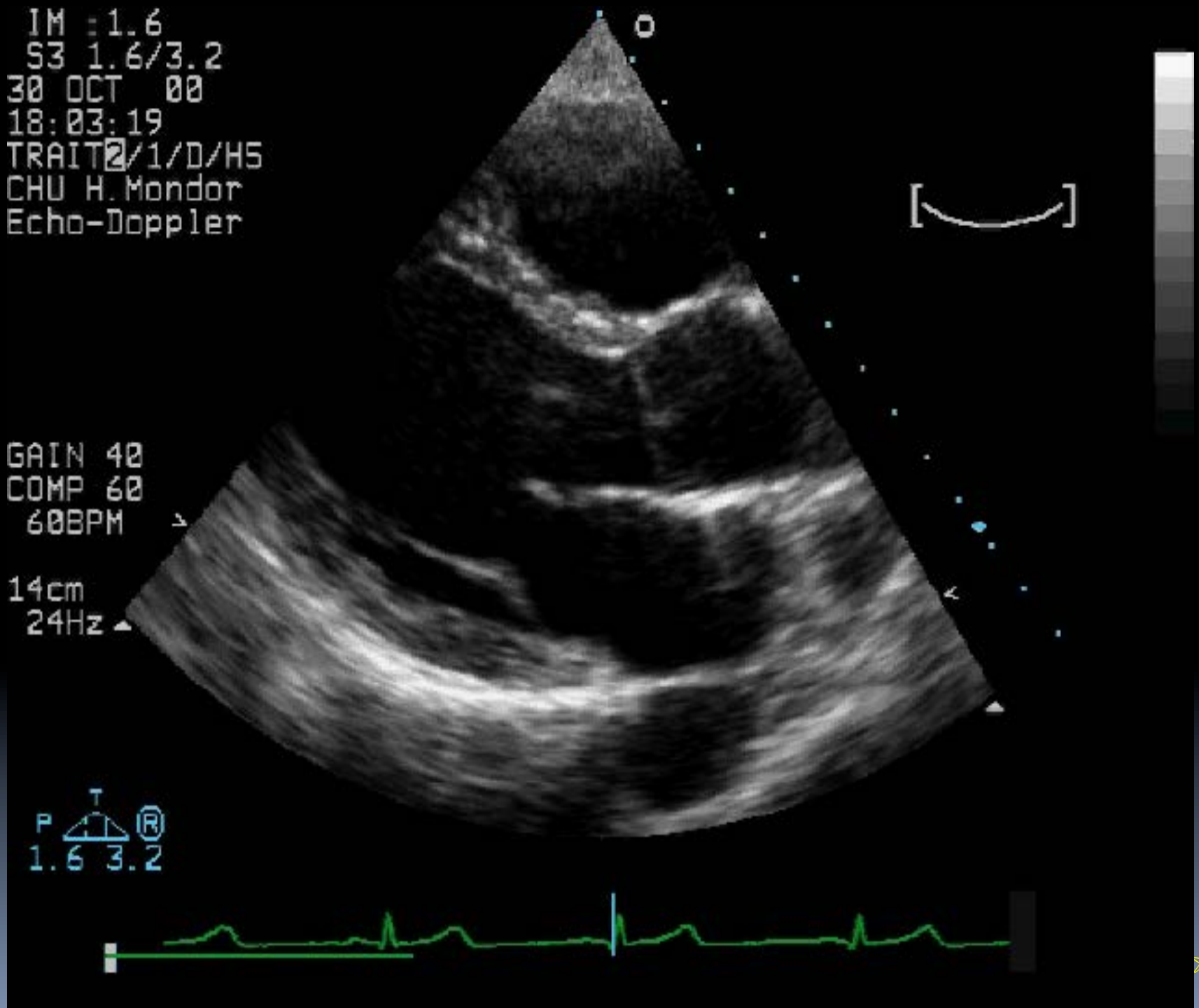
Le tracé ECG, indispensable, est obtenu par le biais de trois électrodes positionnées sur le thorax du patient.


Fenêtre
suprasternale
Fenêtre
parasternale
droite
(Doppler)
1re côte
2e côte
3e côte
4e côte
Fenêtre
para-
sternale
Fenêtre
sous-costale
Fenêtre
apicale


Voie suprasternale
Voie parasternale
Voie sous-costale
Voie apicale
Ao
AP
OD
VG
VCI

Coupes en ETT

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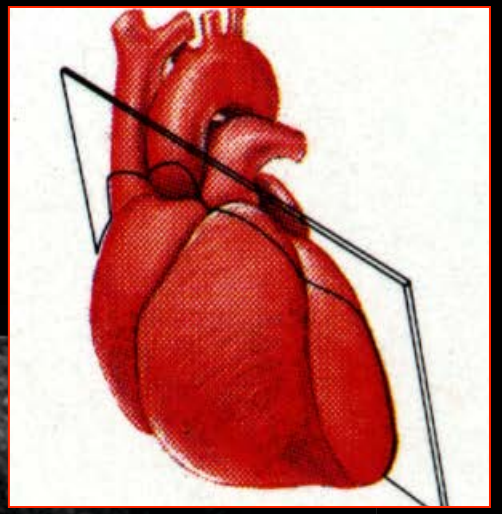
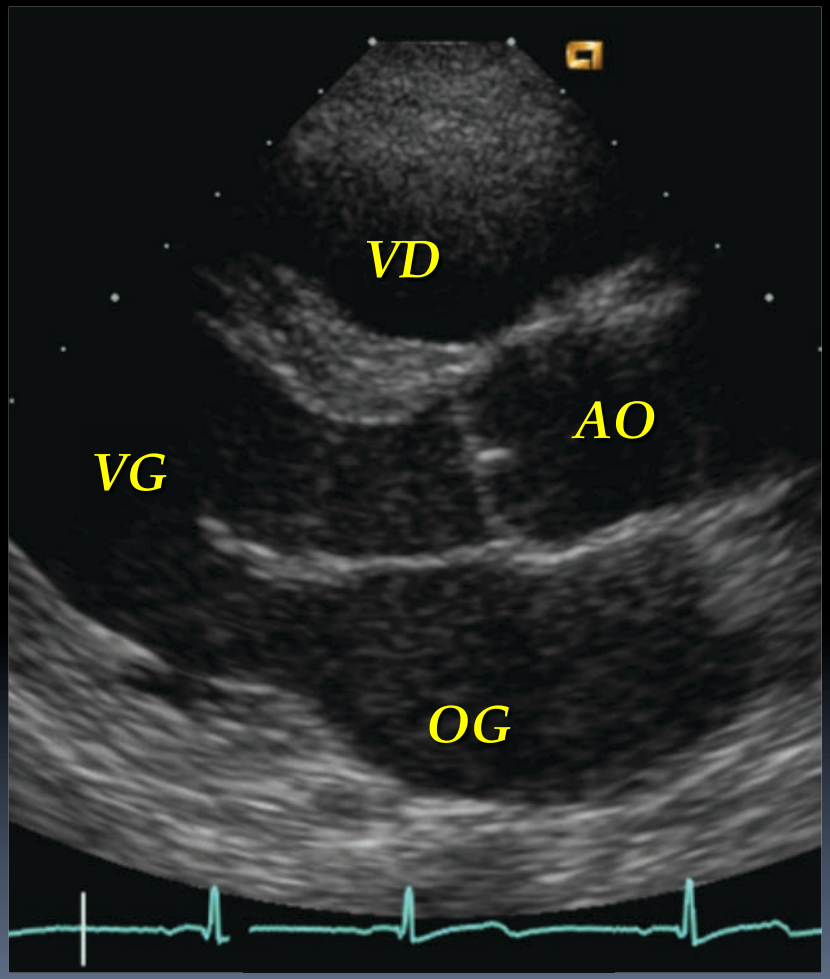
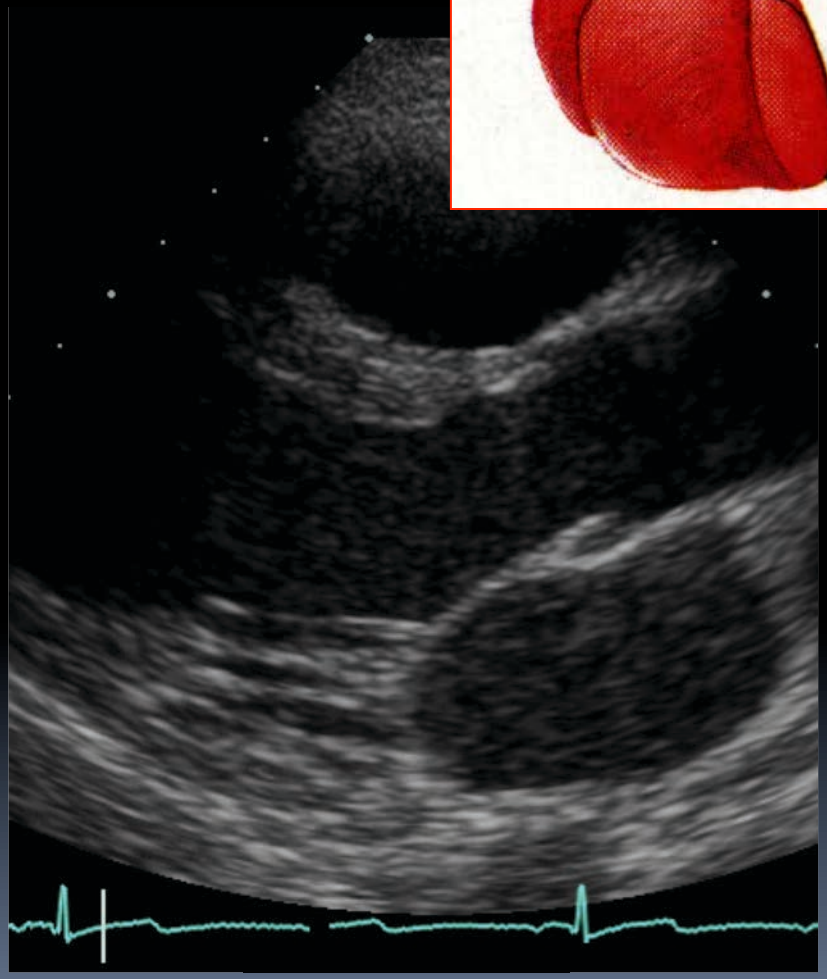
S3 1.6/3.2
30 OCT 00
18:03:19
TRAIT2/1/D/H5
CHU H.Mondor
Echo-Doppler
GAIN 40
COMP 60
60BPM
14cm
24Hz
P
T
R
1.6 3.2

Parasternale grand-axe



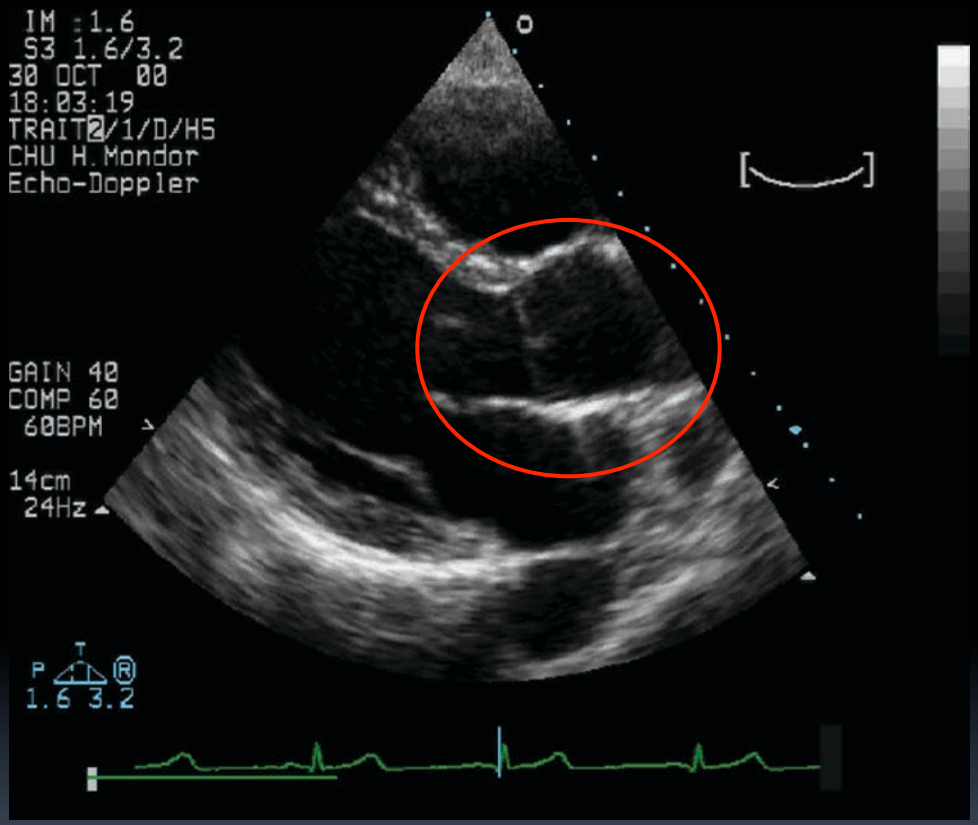


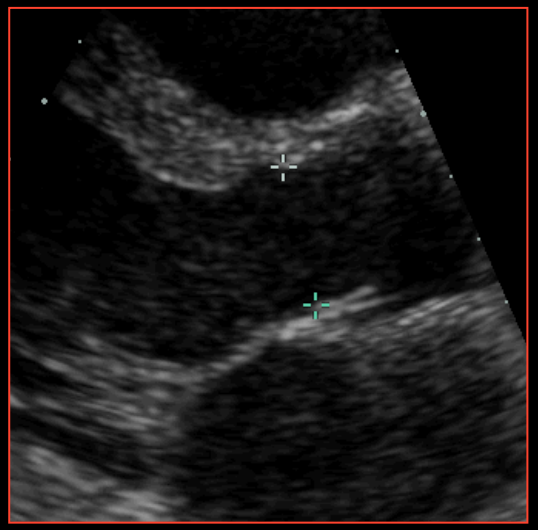


Diastole

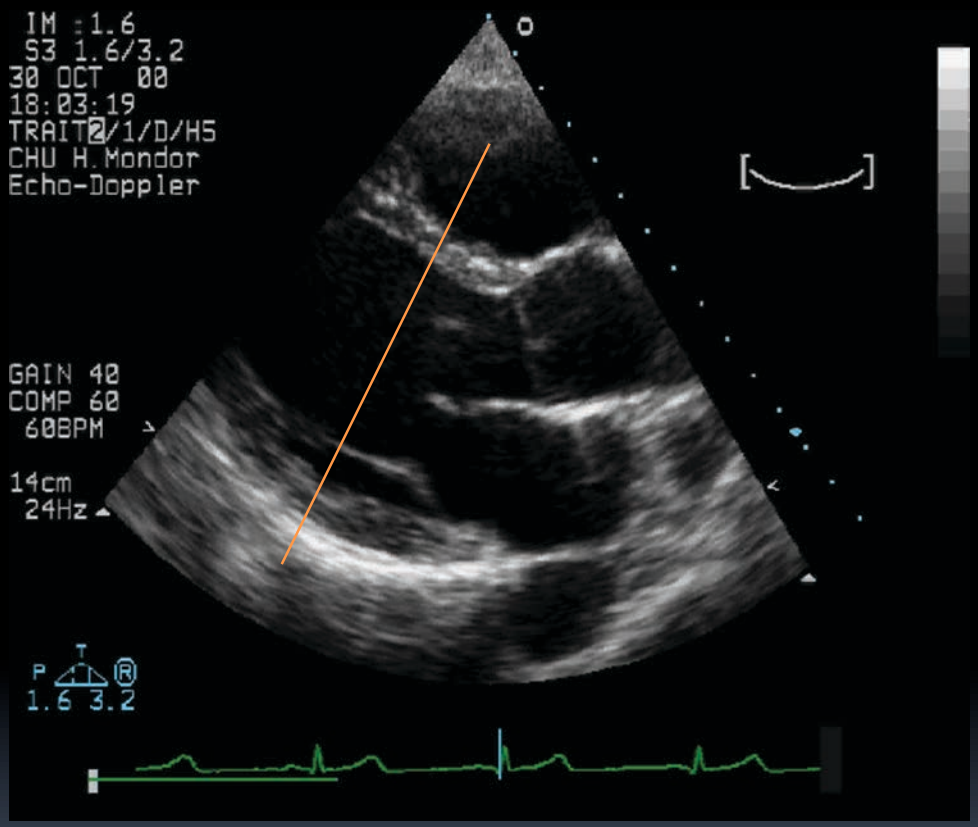
Systole

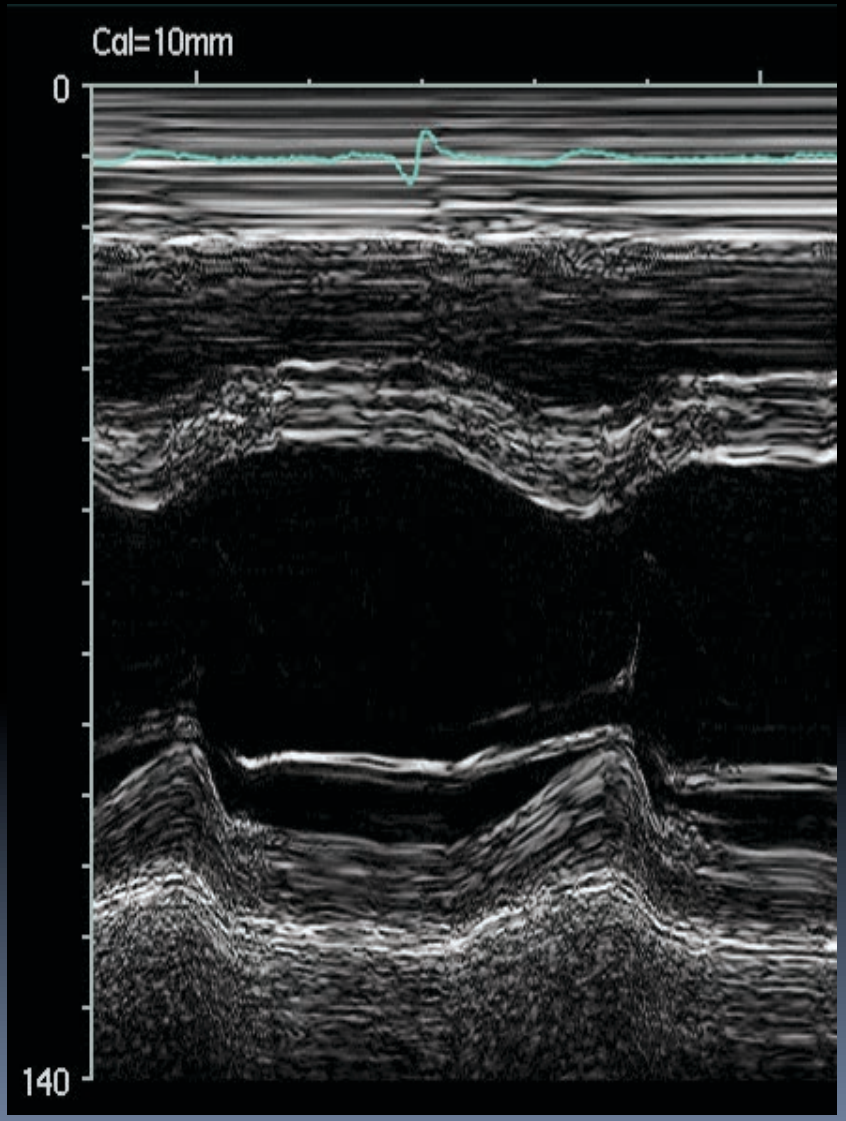
Mode TM: Ventricule gauche





Mode TM: Ventricule gauche





VENTRICULE GAUCHE : TM PARASTERNAL

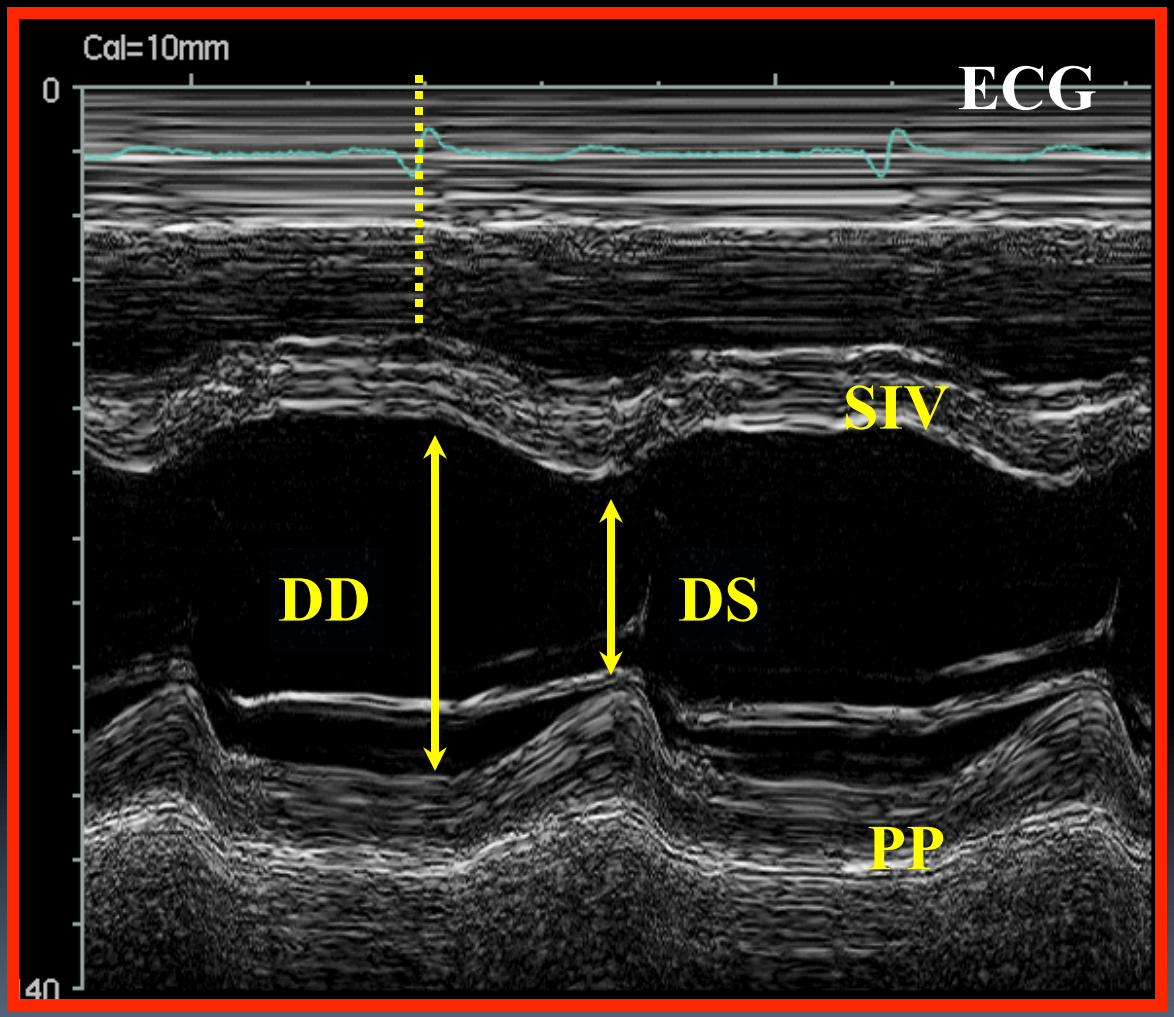
DD = 50 ± 5 mm

DS = 33 ± 5 mm

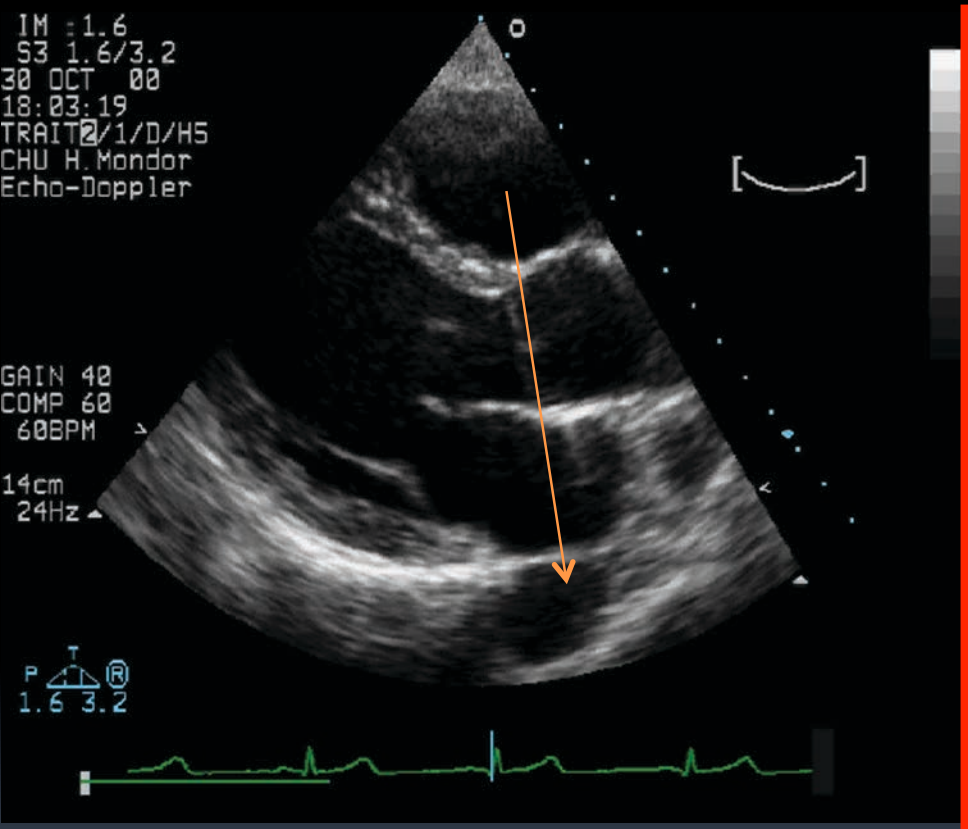
SIV = 10 ± 3 mm

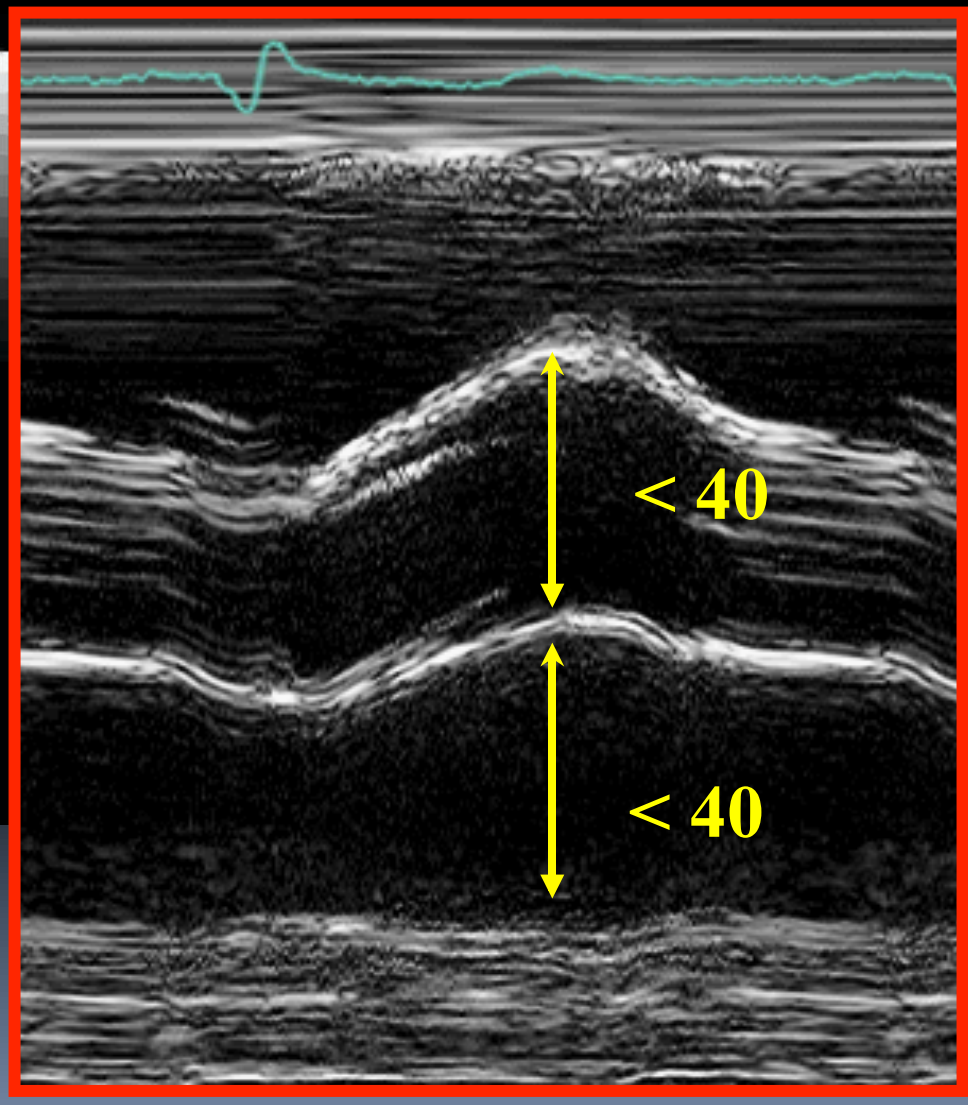
PP = 10 ± 3 mm

FR = 35 ± 5 %

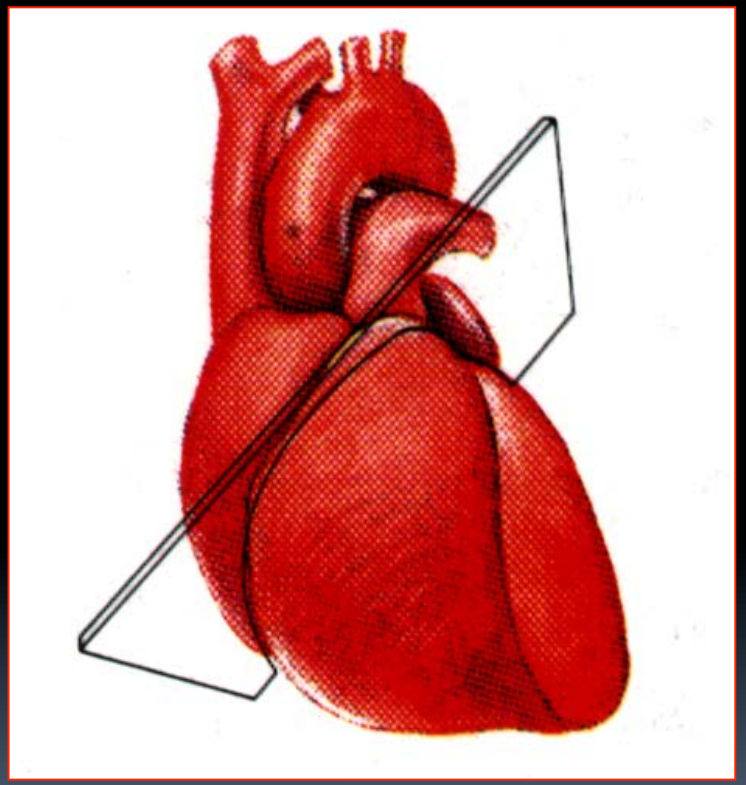


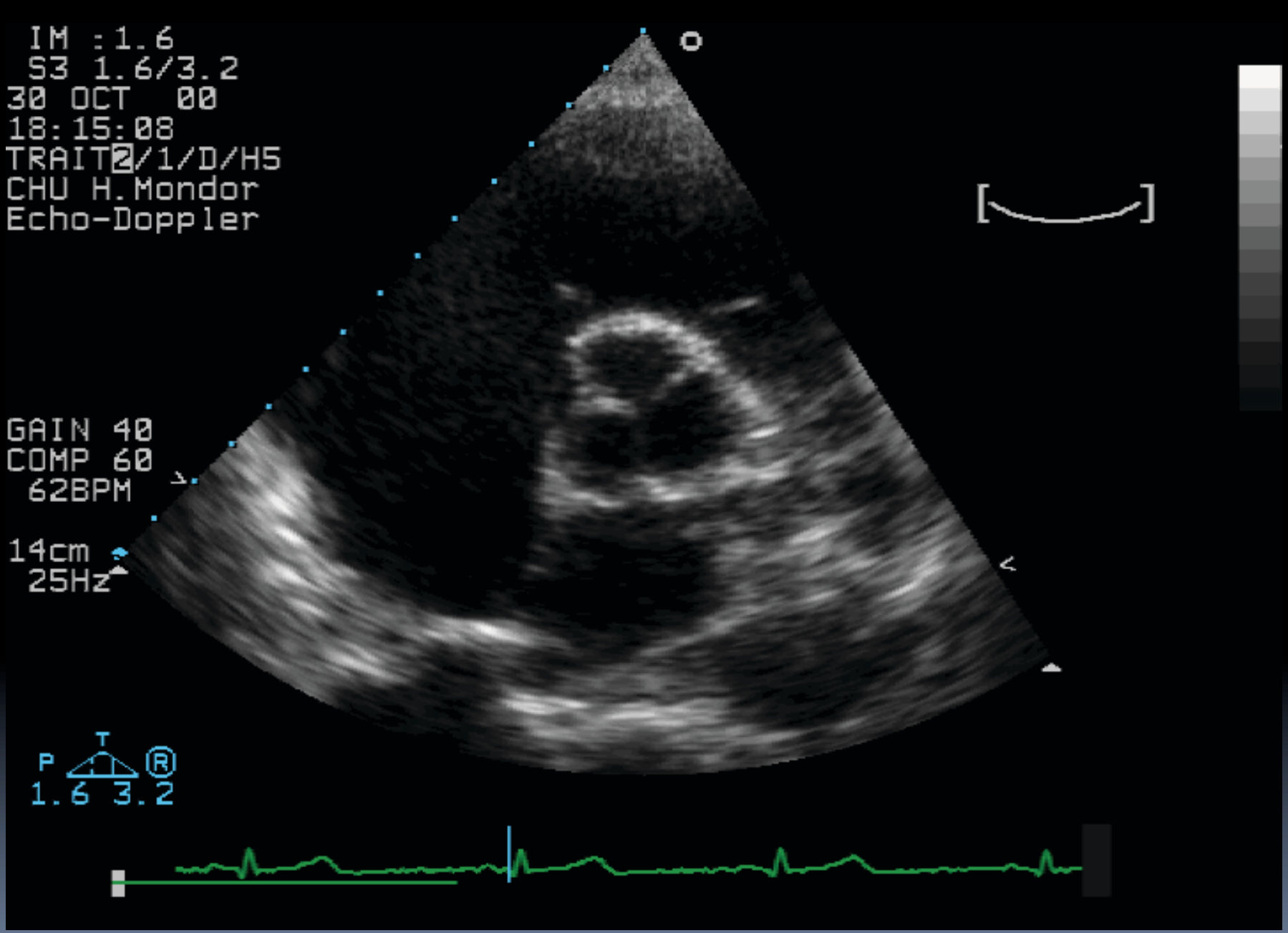
Mode TM: Ventricule gauche





Parasternale transverse

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Echo-Doppler
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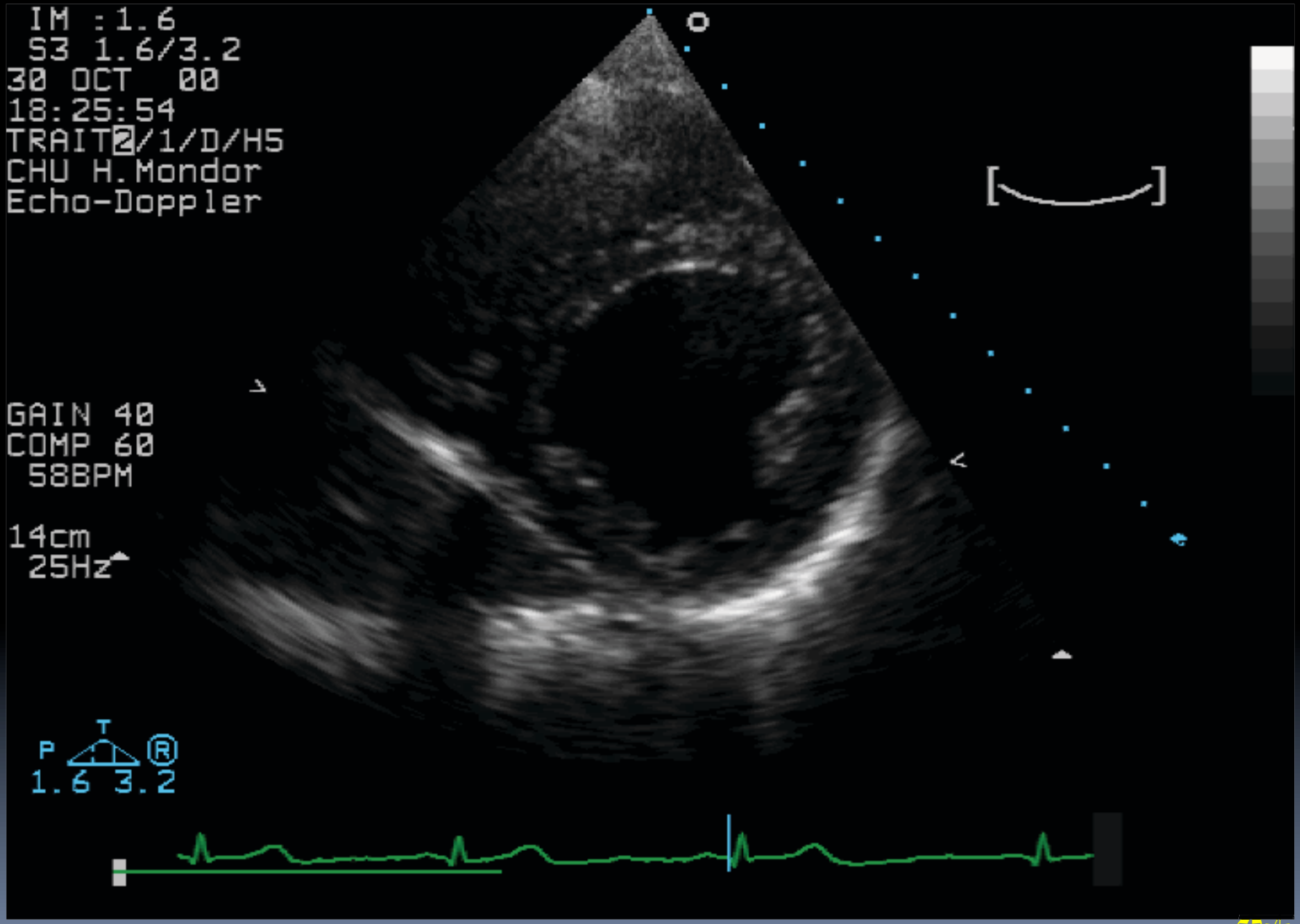
62BPM
14cm
25Hz
P
T
R
1.6 3.2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Echo-Doppler
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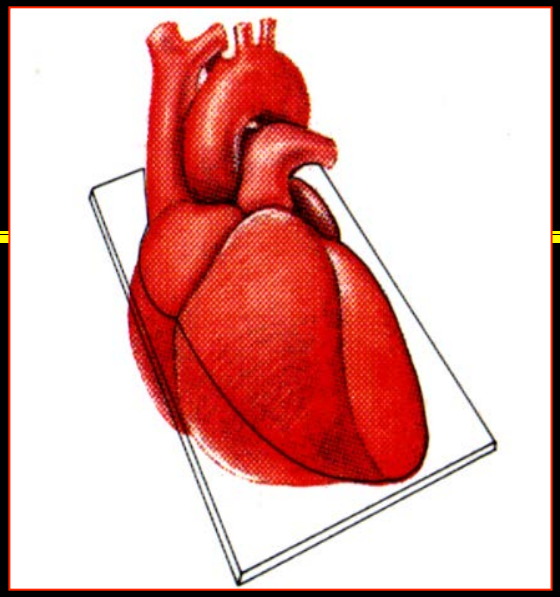
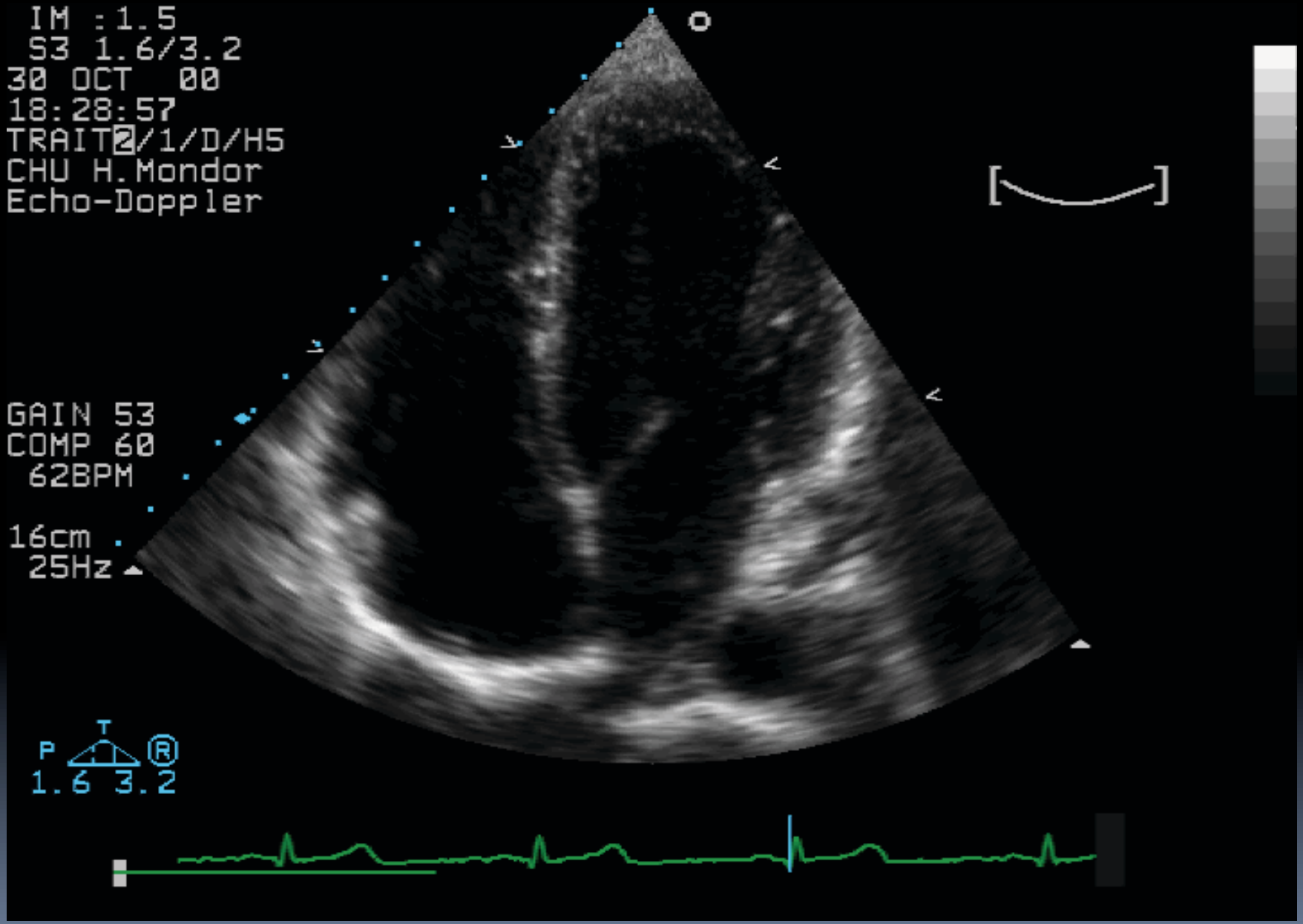
58BPM
14cm
25Hz
P
T
R
1.6 3.2



Apicale 4 cavités

Encyclopédie Pratique d'écho-Doppler Cardiaque. H Raffoul, E.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Echo-Doppler
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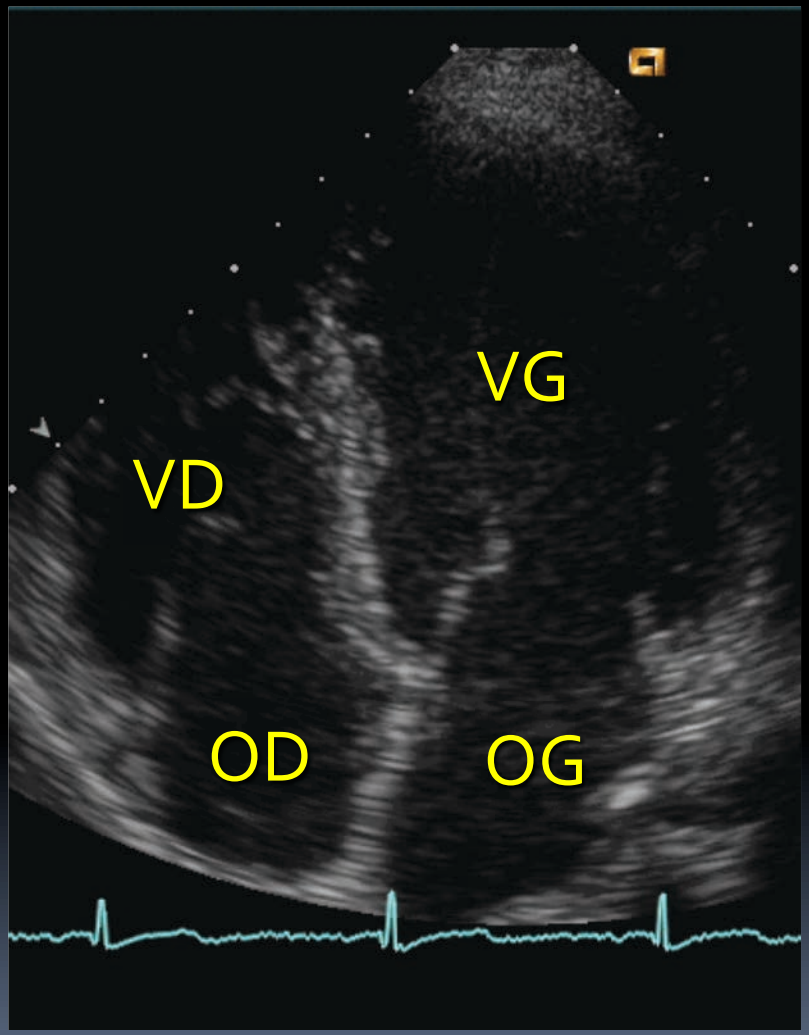
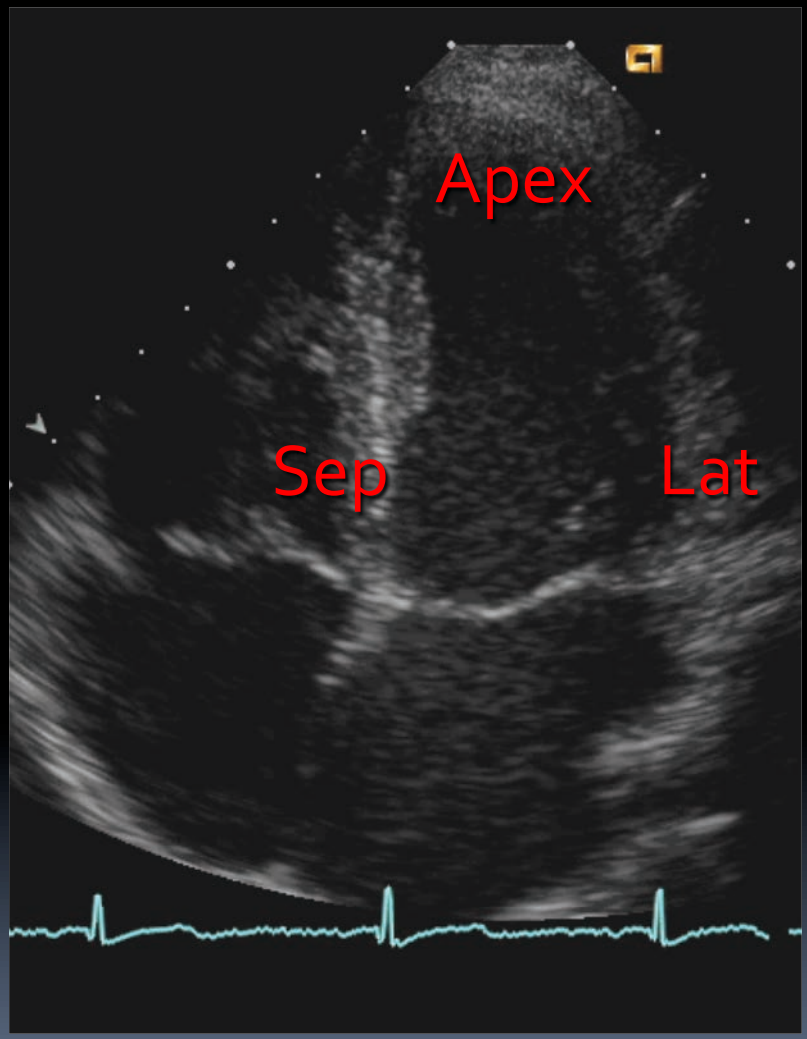
COMP 60
62BPM
16cm
25Hz
P
T
R
1.6 3.2

Vue apicale 4 cavités

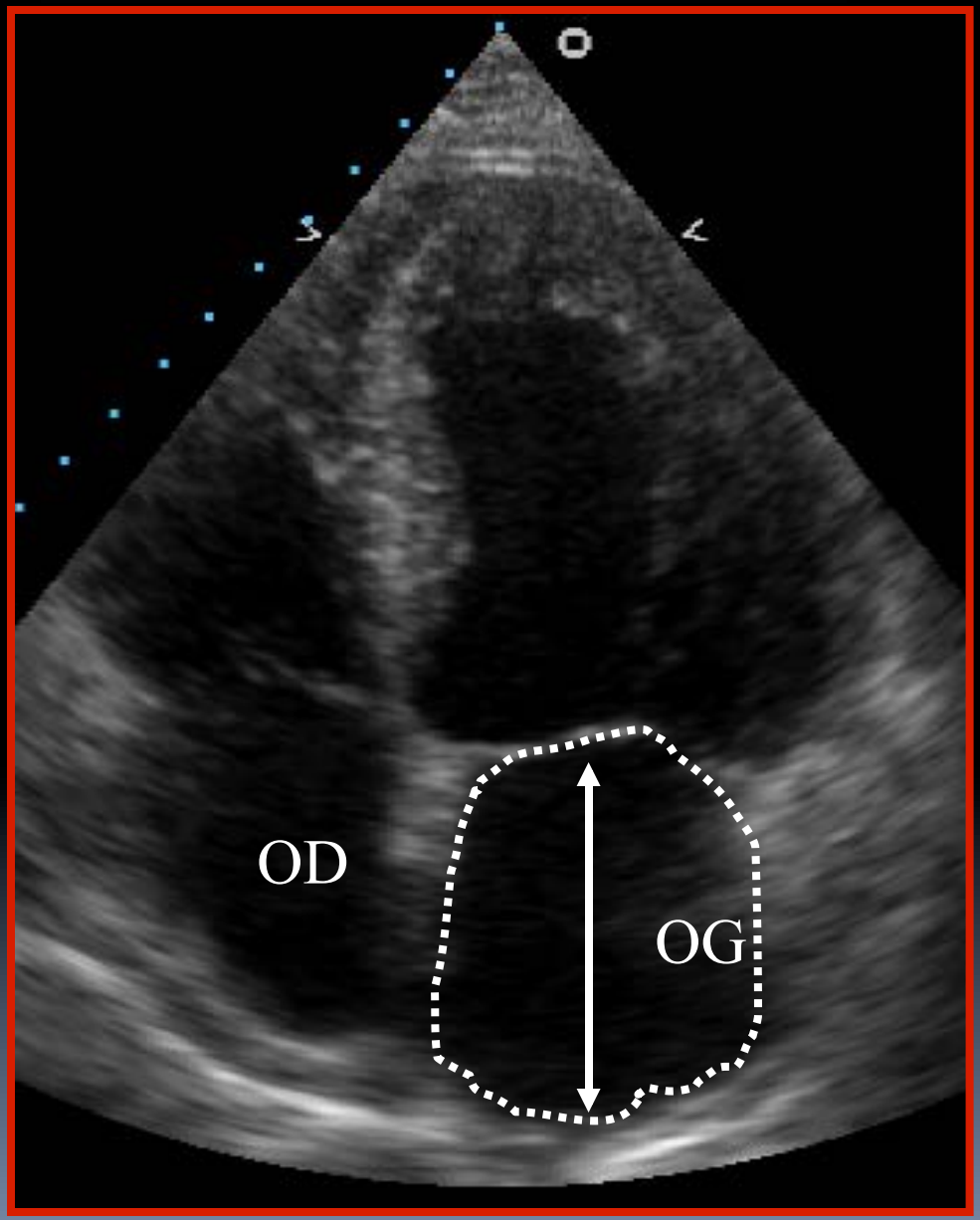


Diastole



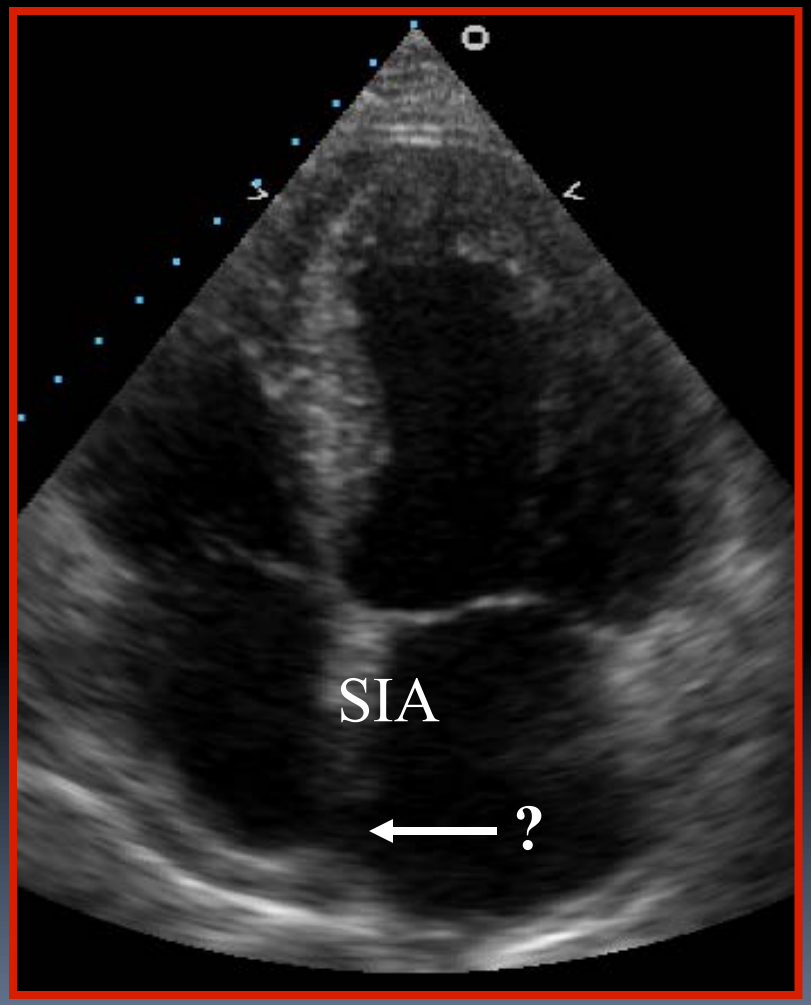
Systole

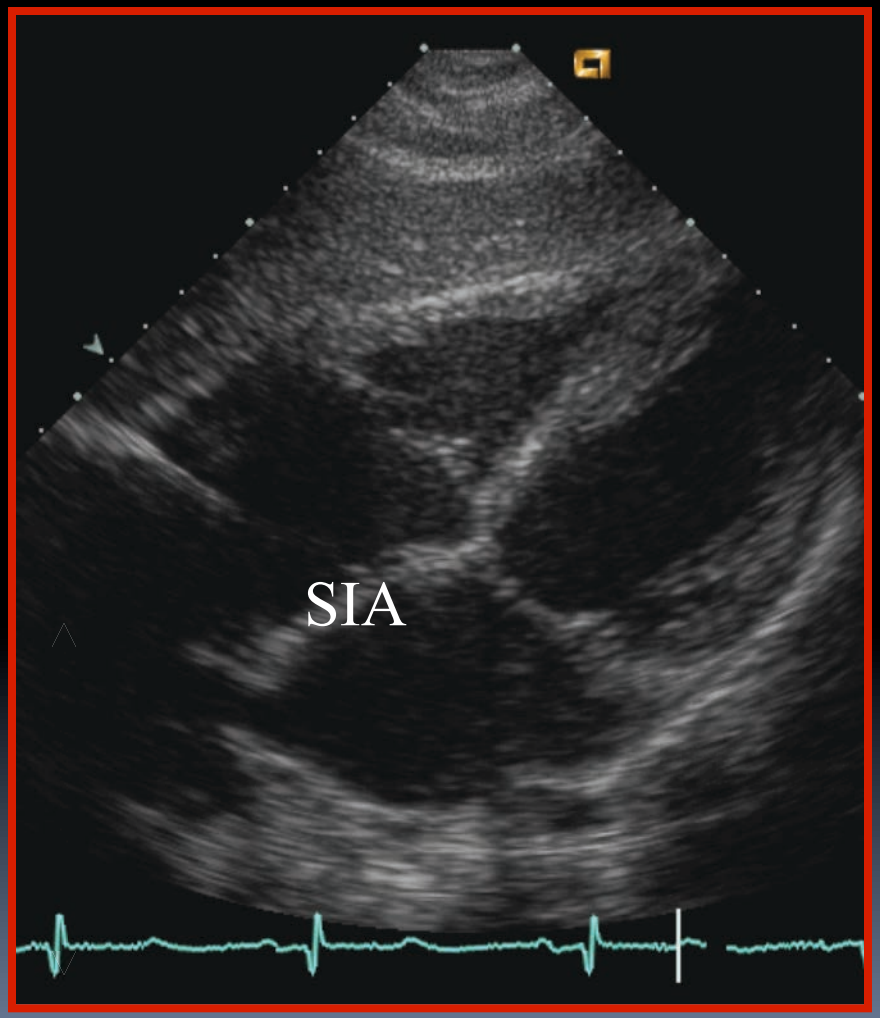
Vue Apicale 4 Cavités



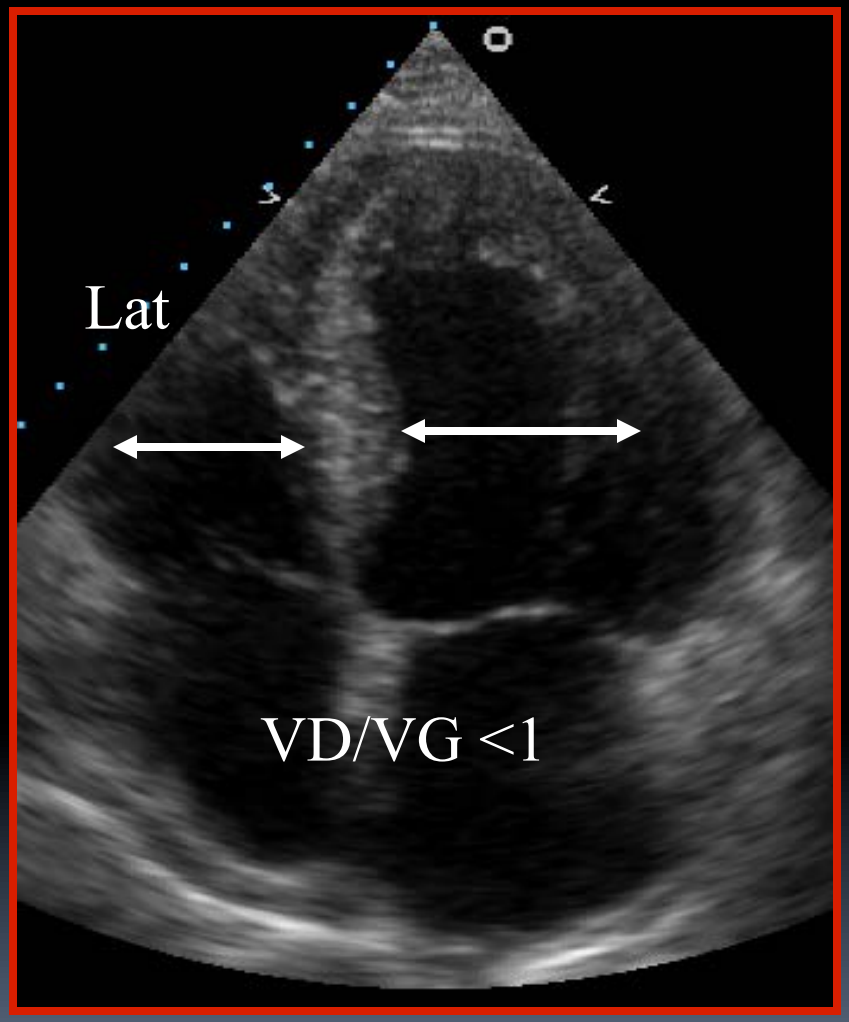
≤ 50 mm
< 20 cm^2

Septum Inter auriculaire

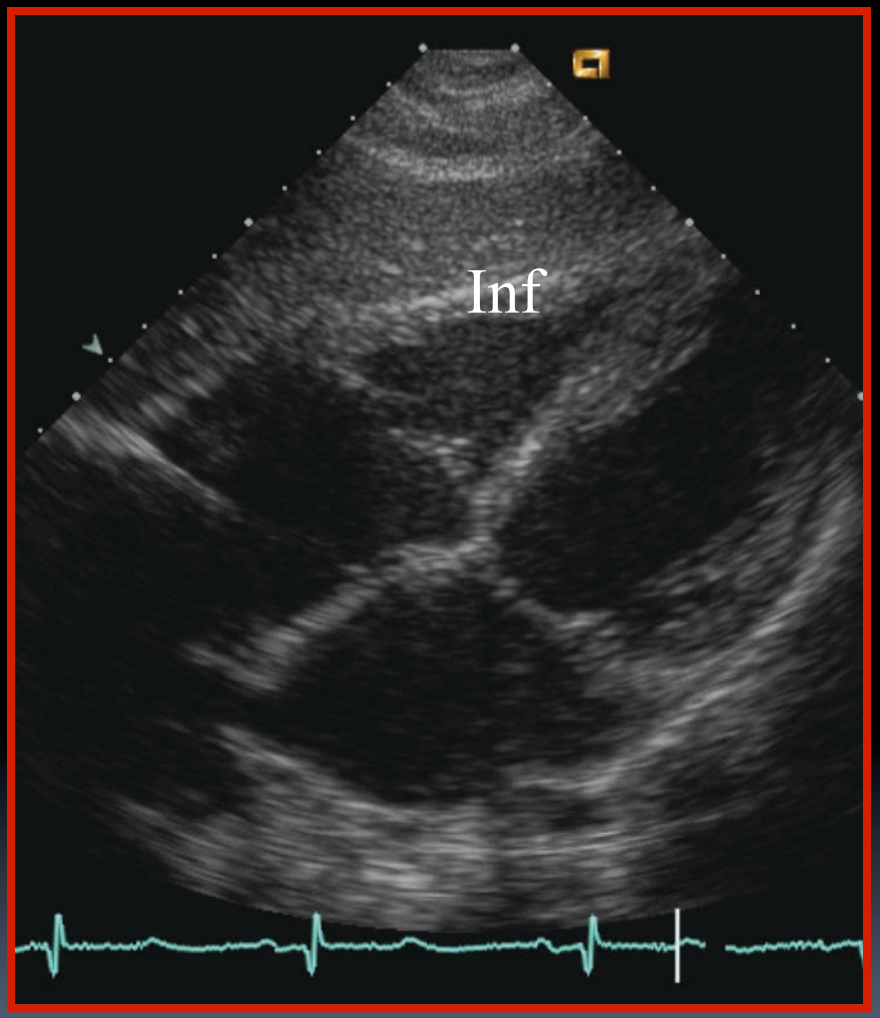




Ventricule Droit

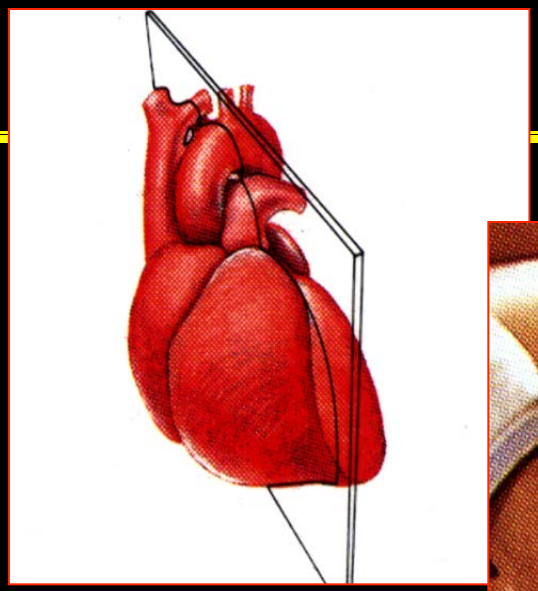


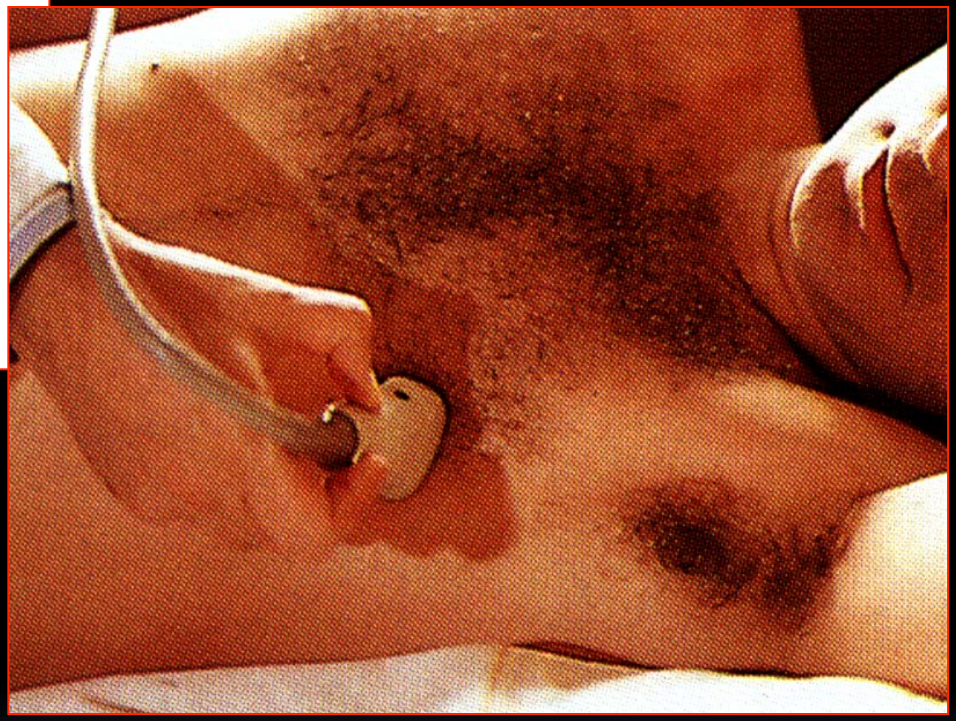
Apicale 4C

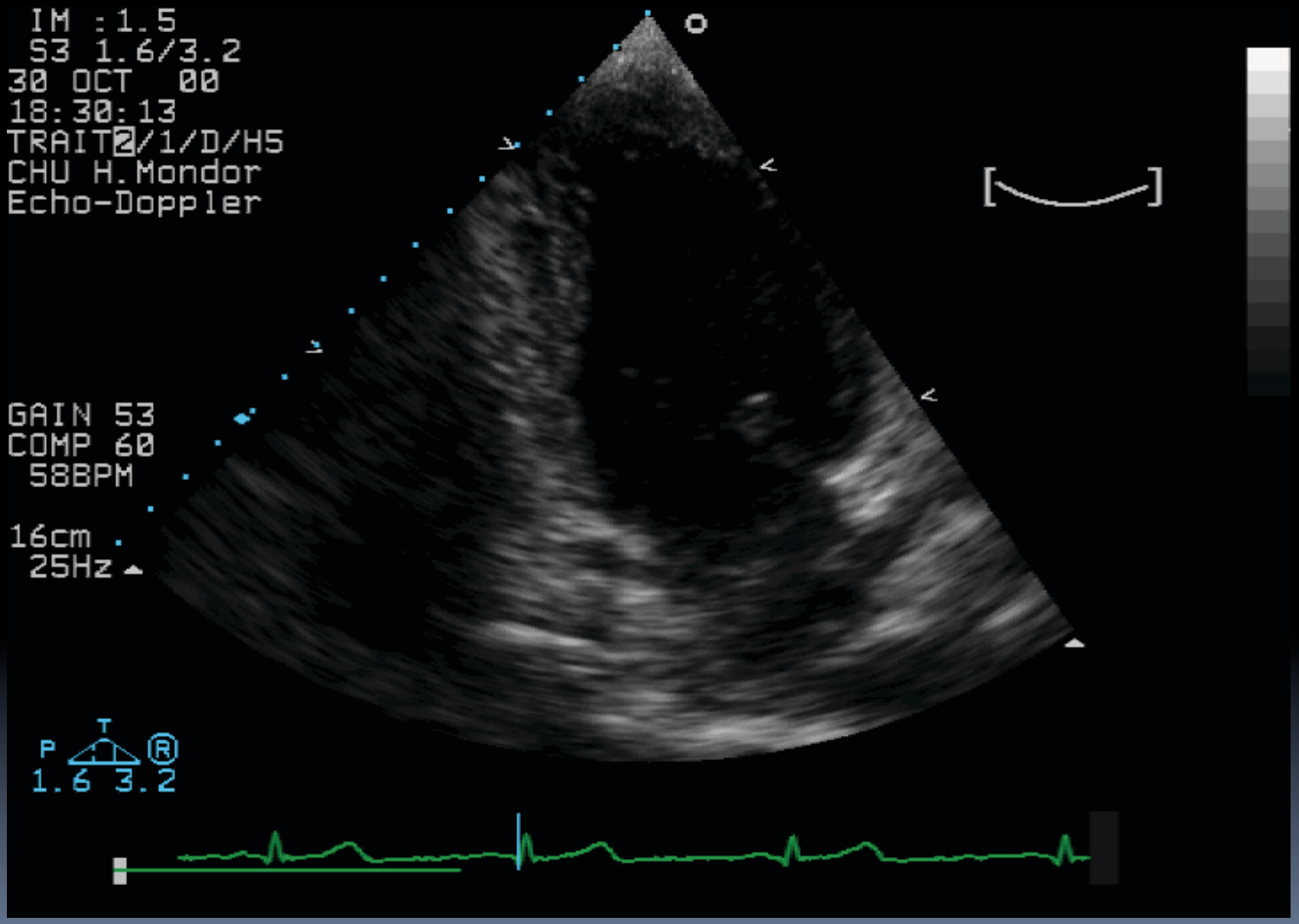


Sous Costale

Apicale 2 et 3 cavités



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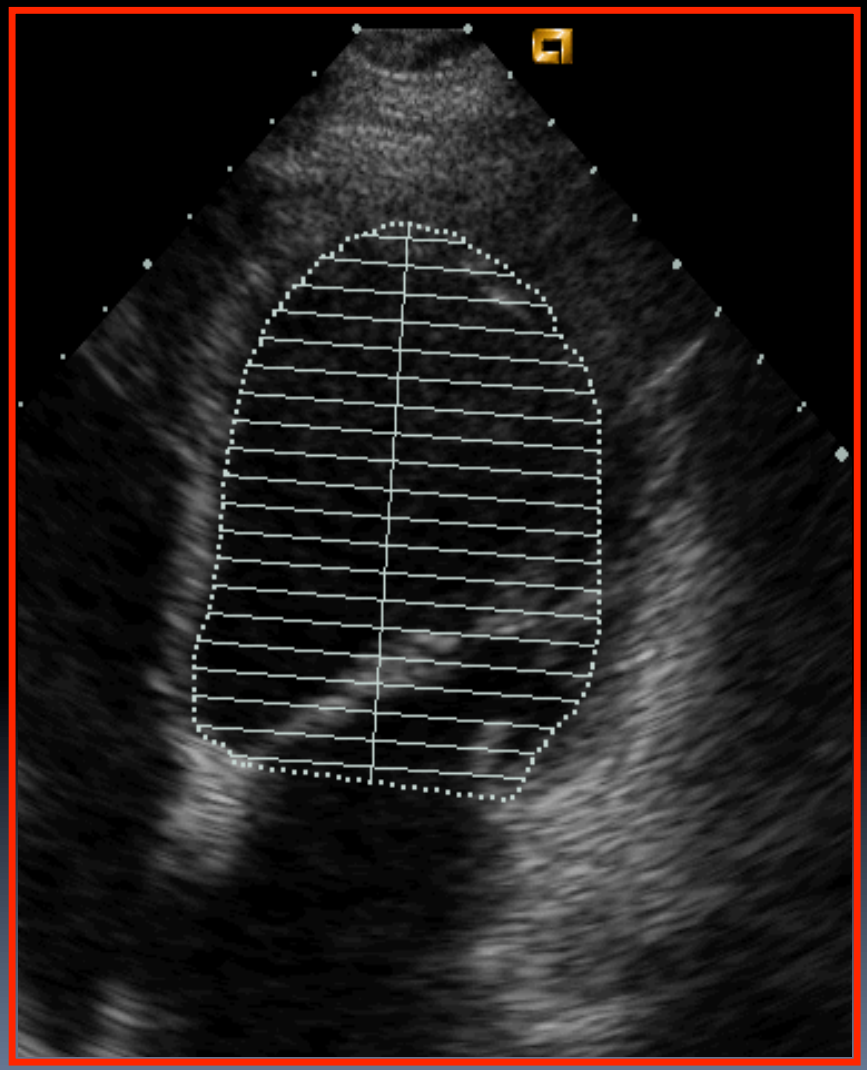
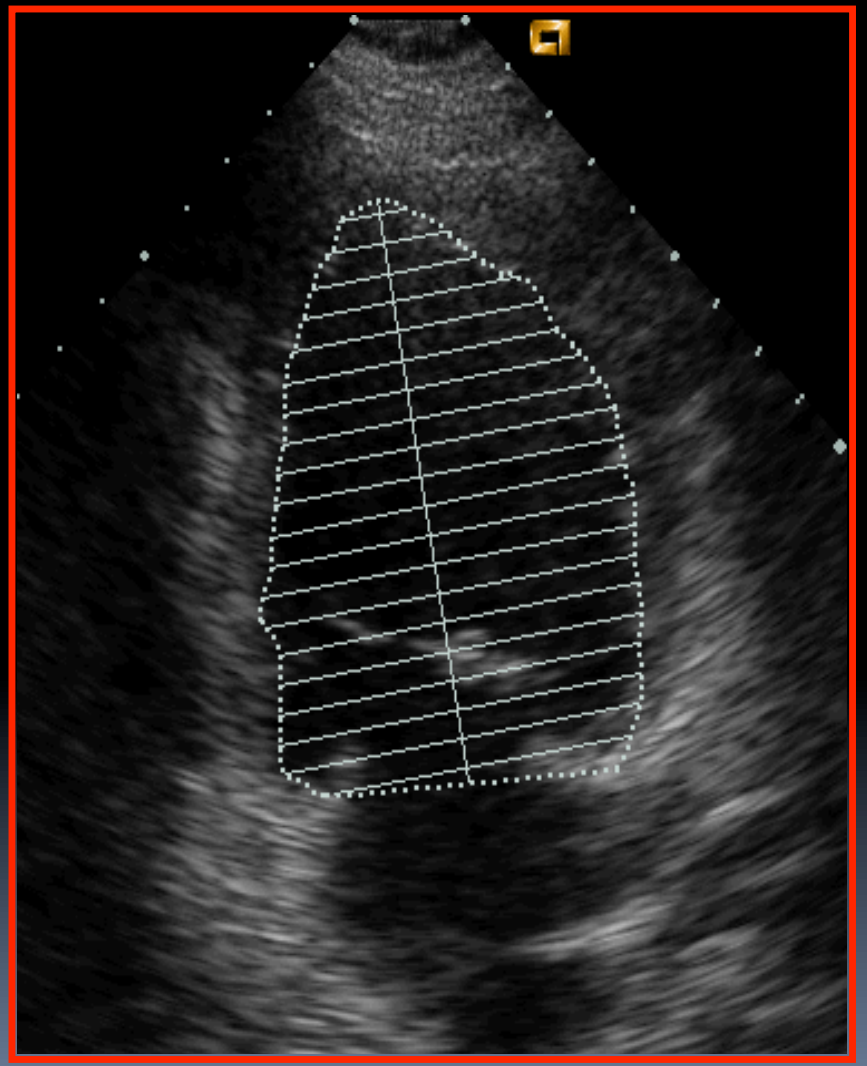
18:30:13
TRAIT2/1/D/H5
CHU H.Mondor
Echo-Doppler
GAIN 53
COMP 60
58BPM
16cm
25Hz
P
T
R
1.6 3.2

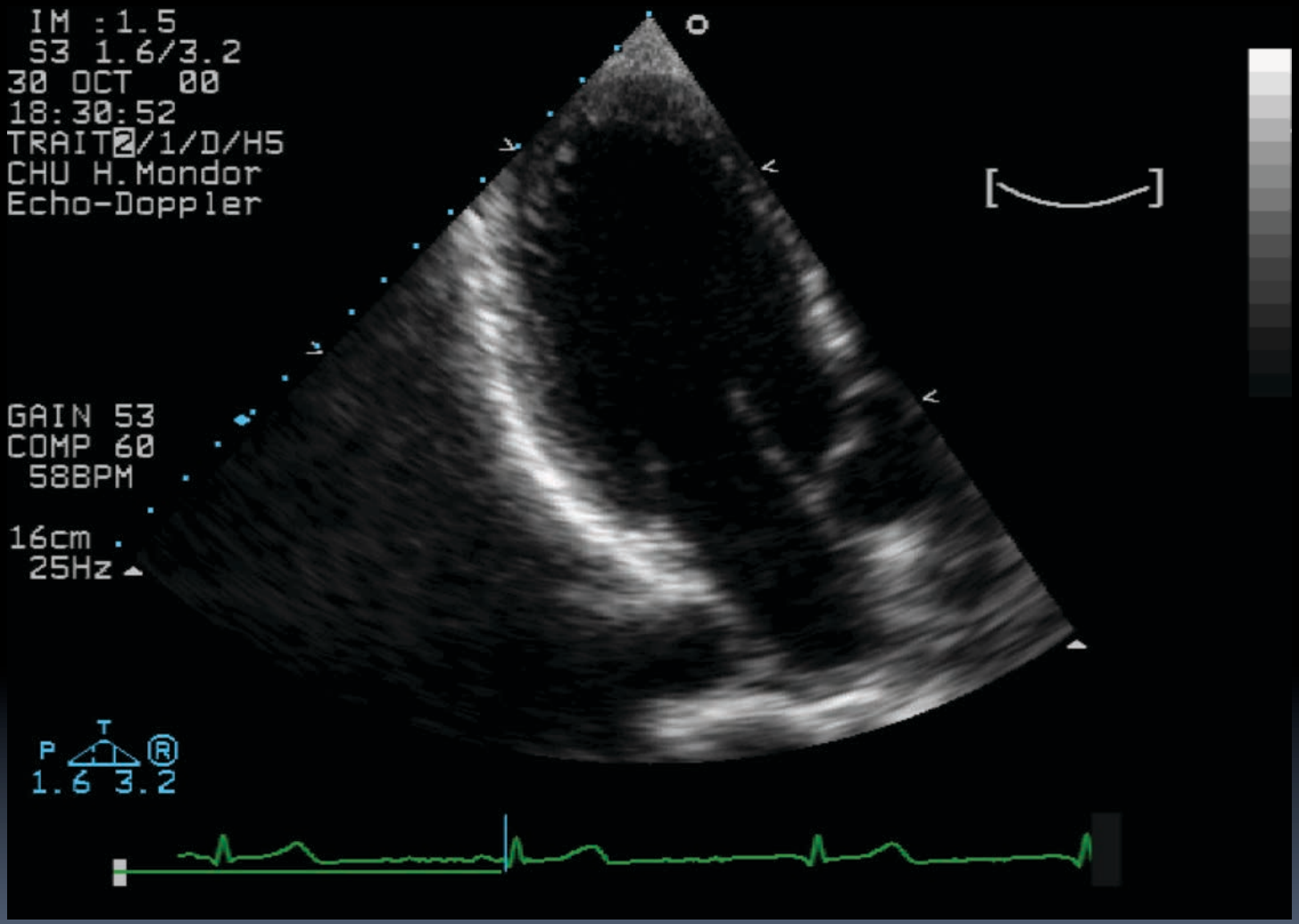
Méthode de Simpson biplan





Estimation visuelle de la fraction d'éjection

Fraction d'éjection calculée	Estimation visuelle
> 60%	Fonction normale
45-59%	Altération discrète
35-44%	Altération modérée
< 35%	Altération sévère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CHU H.Mondor
Echo-Doppler
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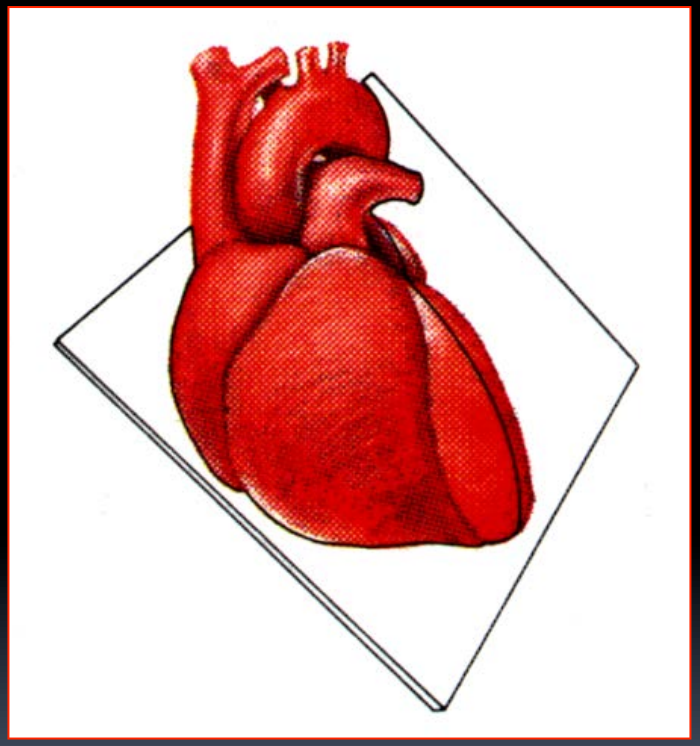
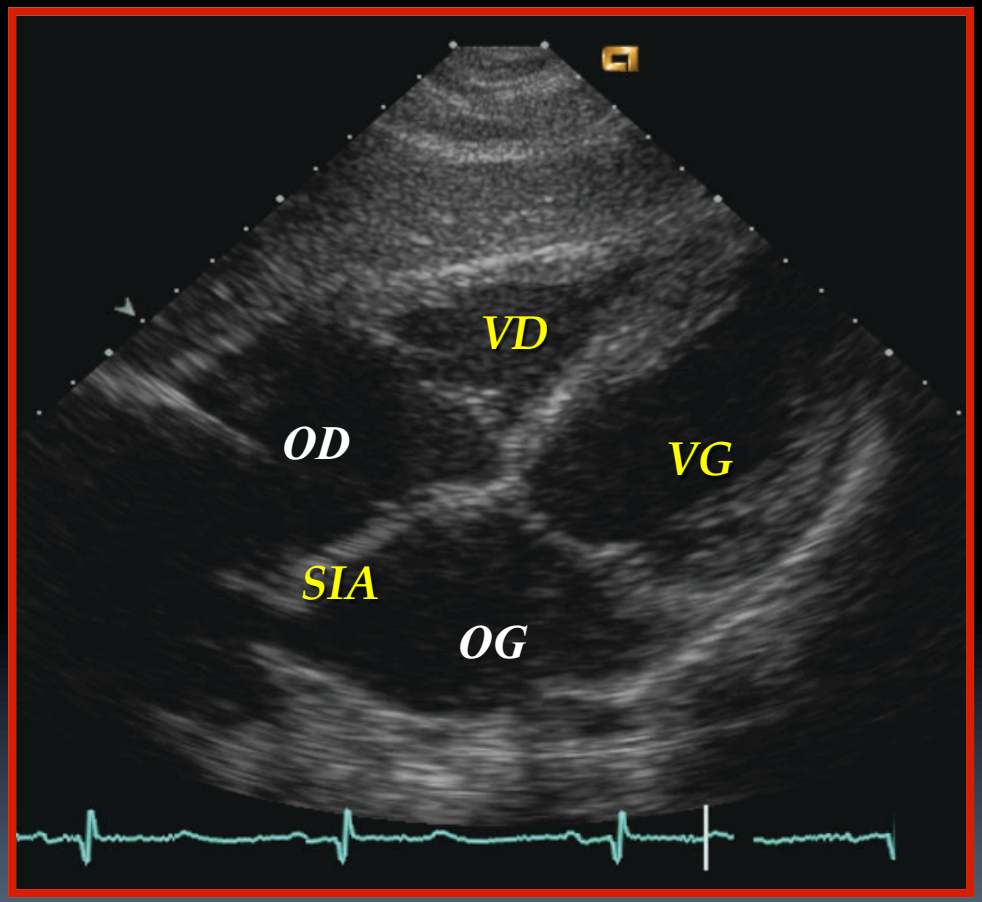
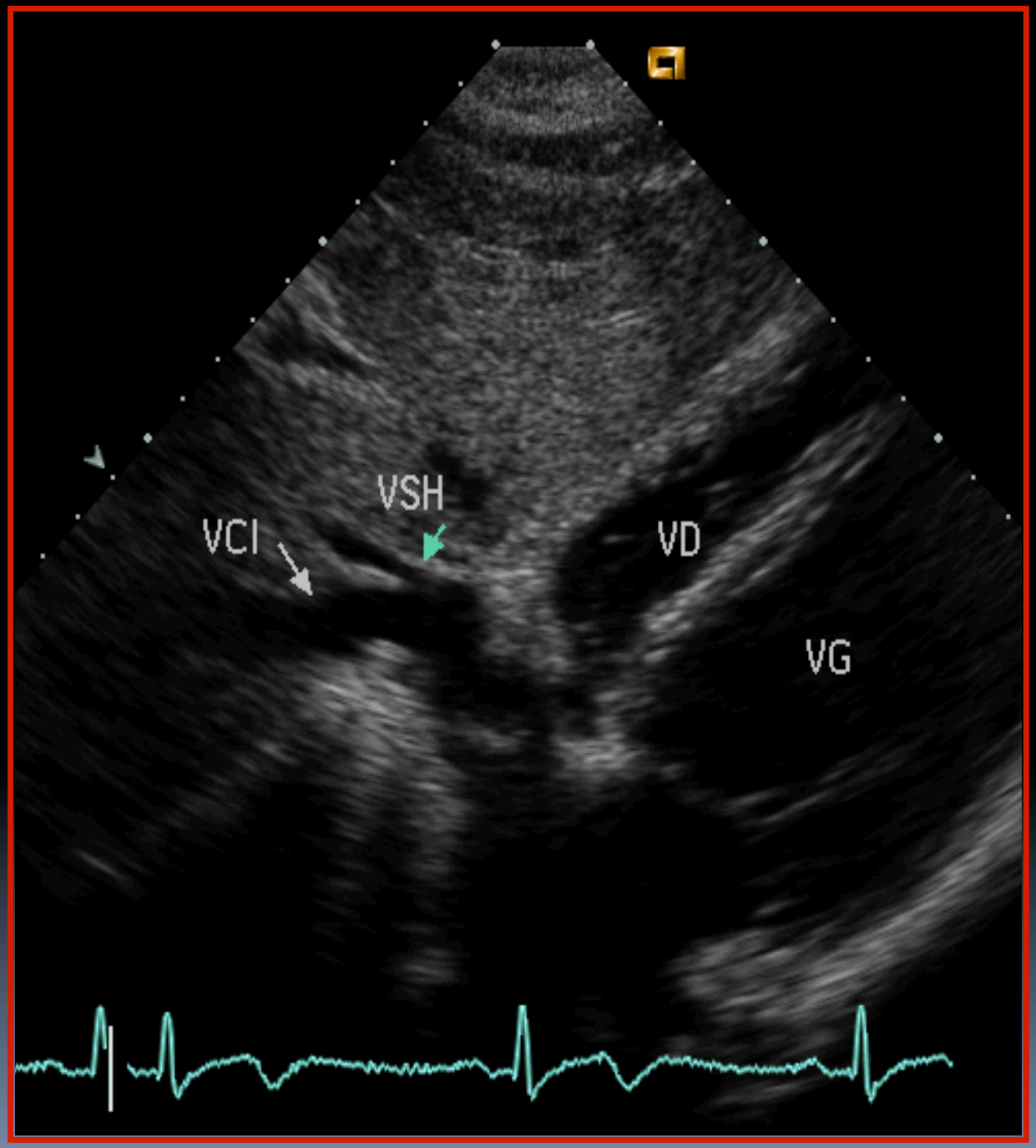
COMP 60
58BPM
16cm
25Hz
P
T
R
1.6 3.2

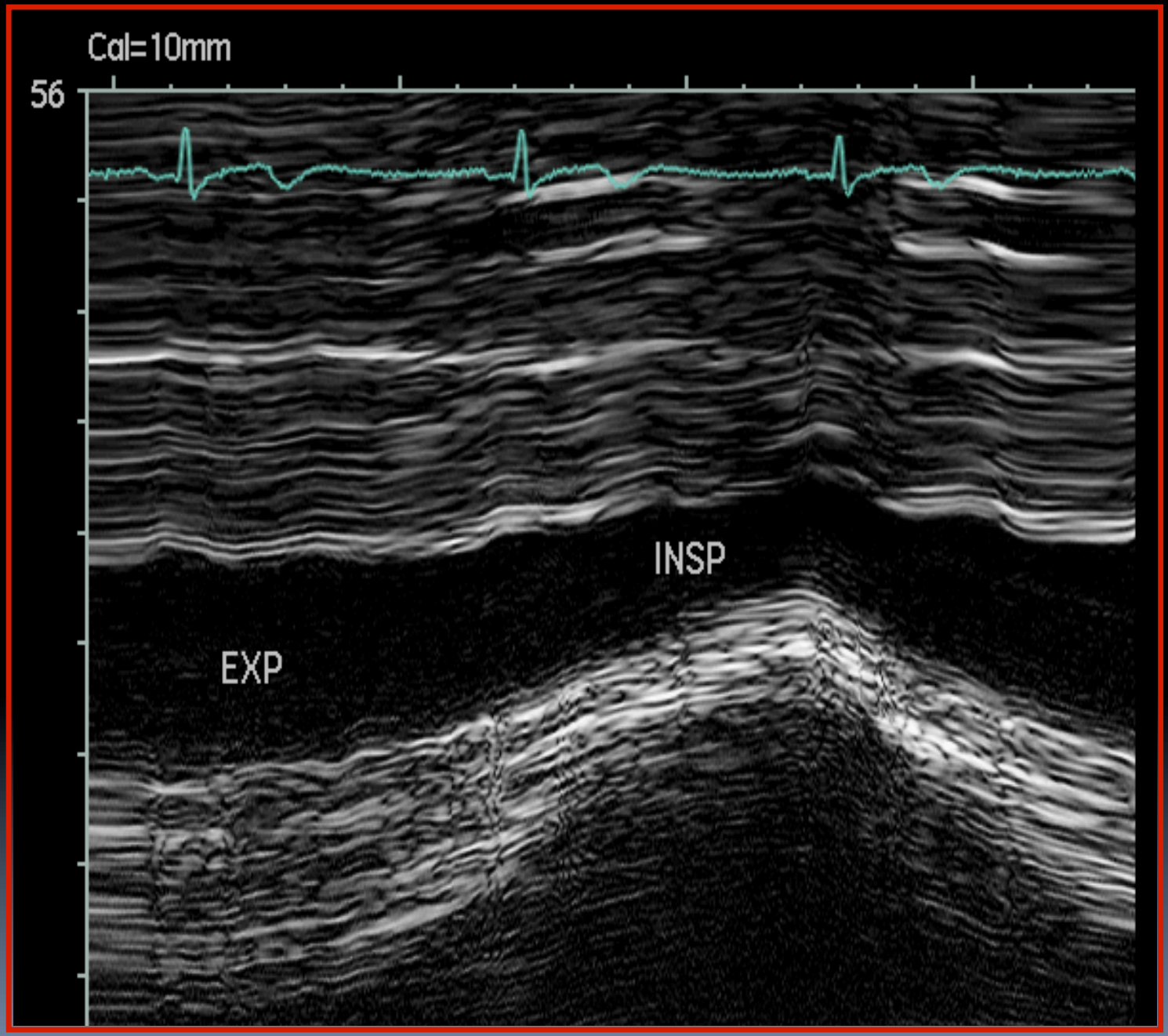
Incidence sous-costale



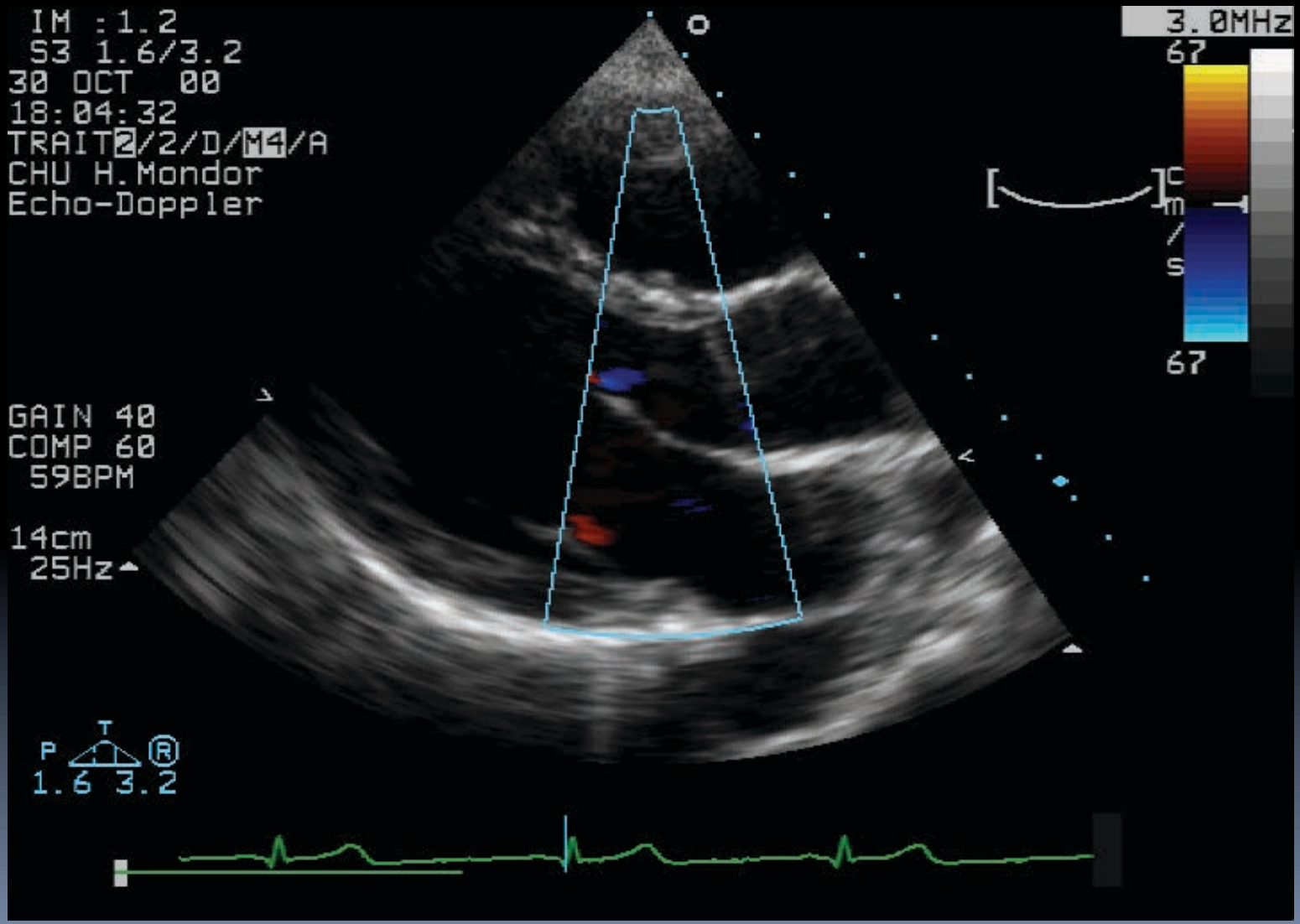
Incidence sous-costale



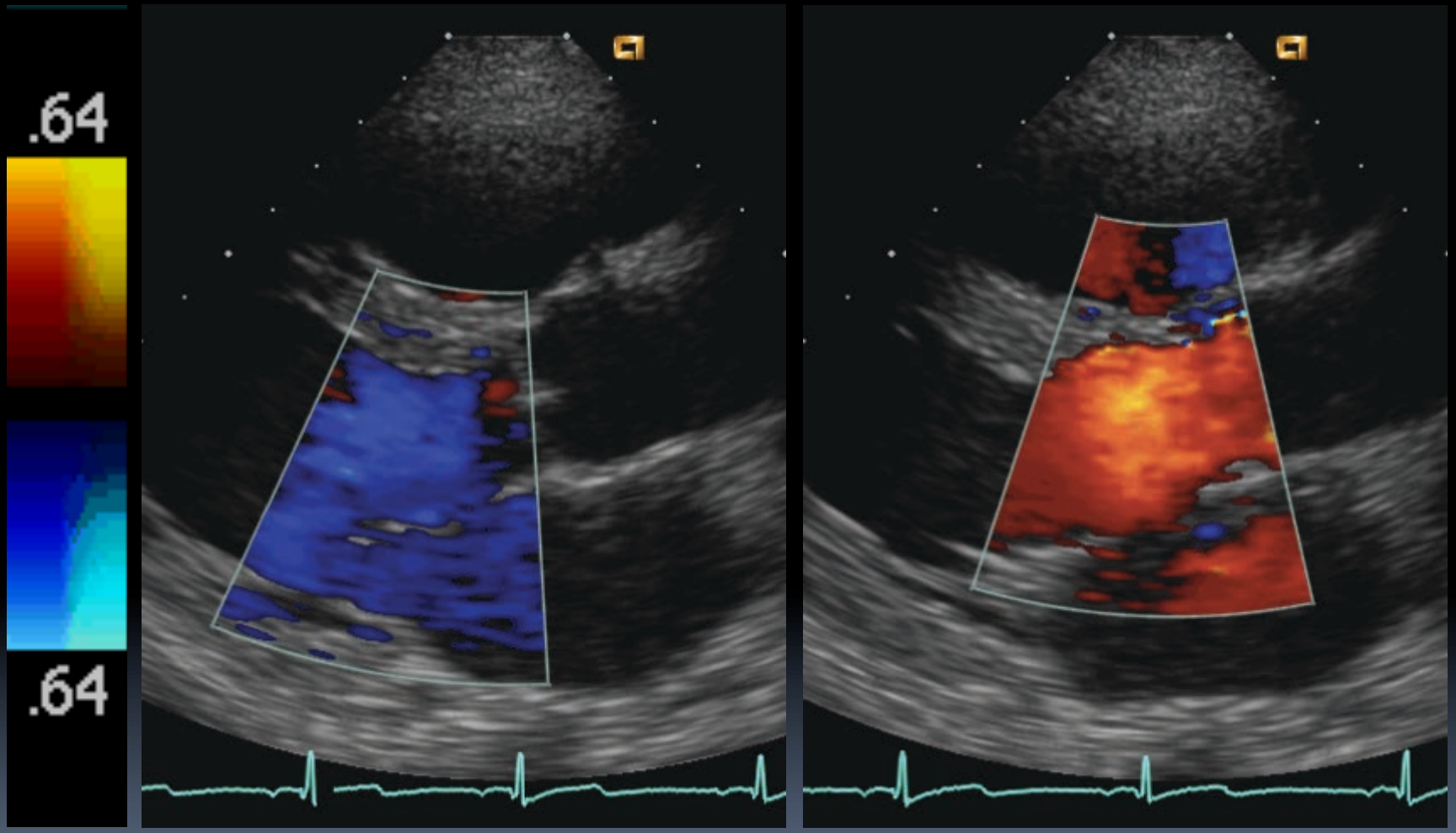

VSH
VCI
VD
VG


Cal=10mm
56
INSP
EXP

Doppler Couleur

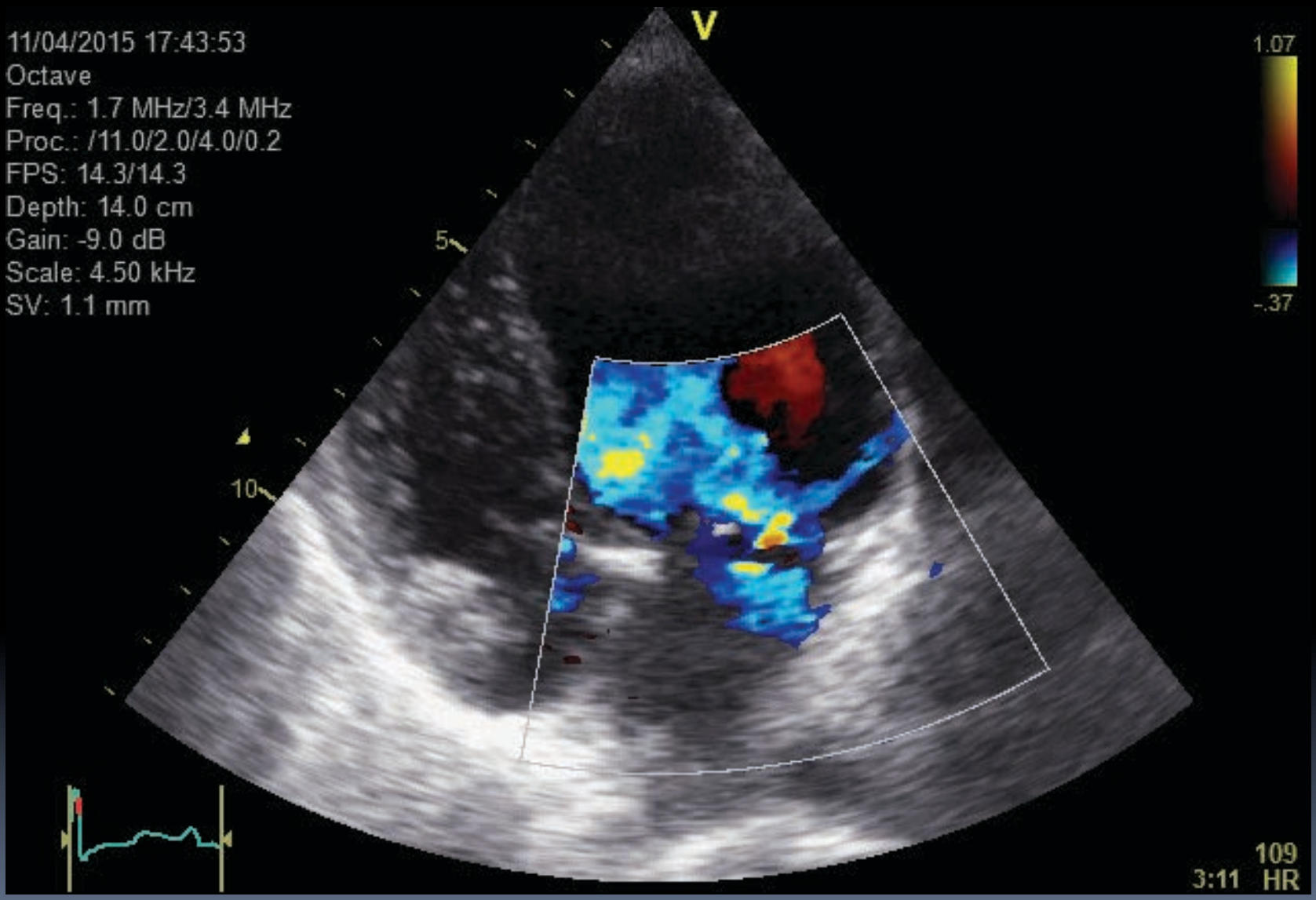


Doppler couleur



Diastole

Systole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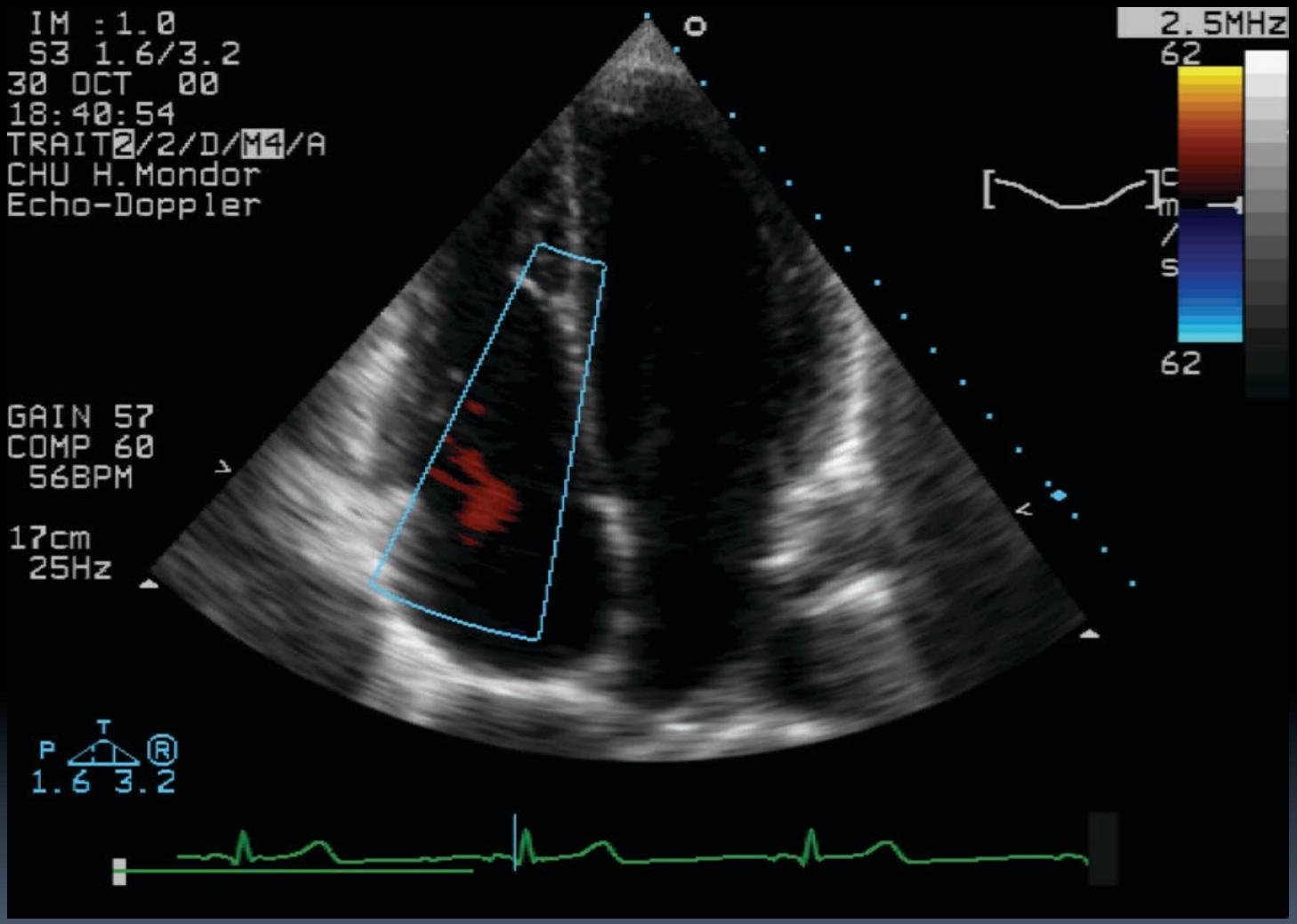
Octave
Freq.: 1.7 MHz/3.4 MHz
Proc.: /11.0/2.0/4.0/0.2
FPS: 14.3/14.3
Depth: 14.0 cm
Gain: -9.0 dB
Scale: 4.50 kHz
SV: 1.1 mm
V
5
10
1.07
-.37
109
3:11 HR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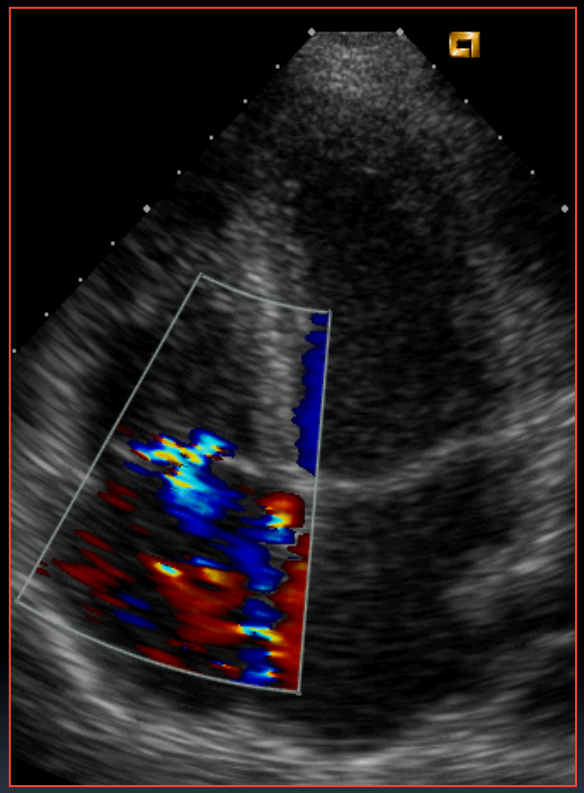
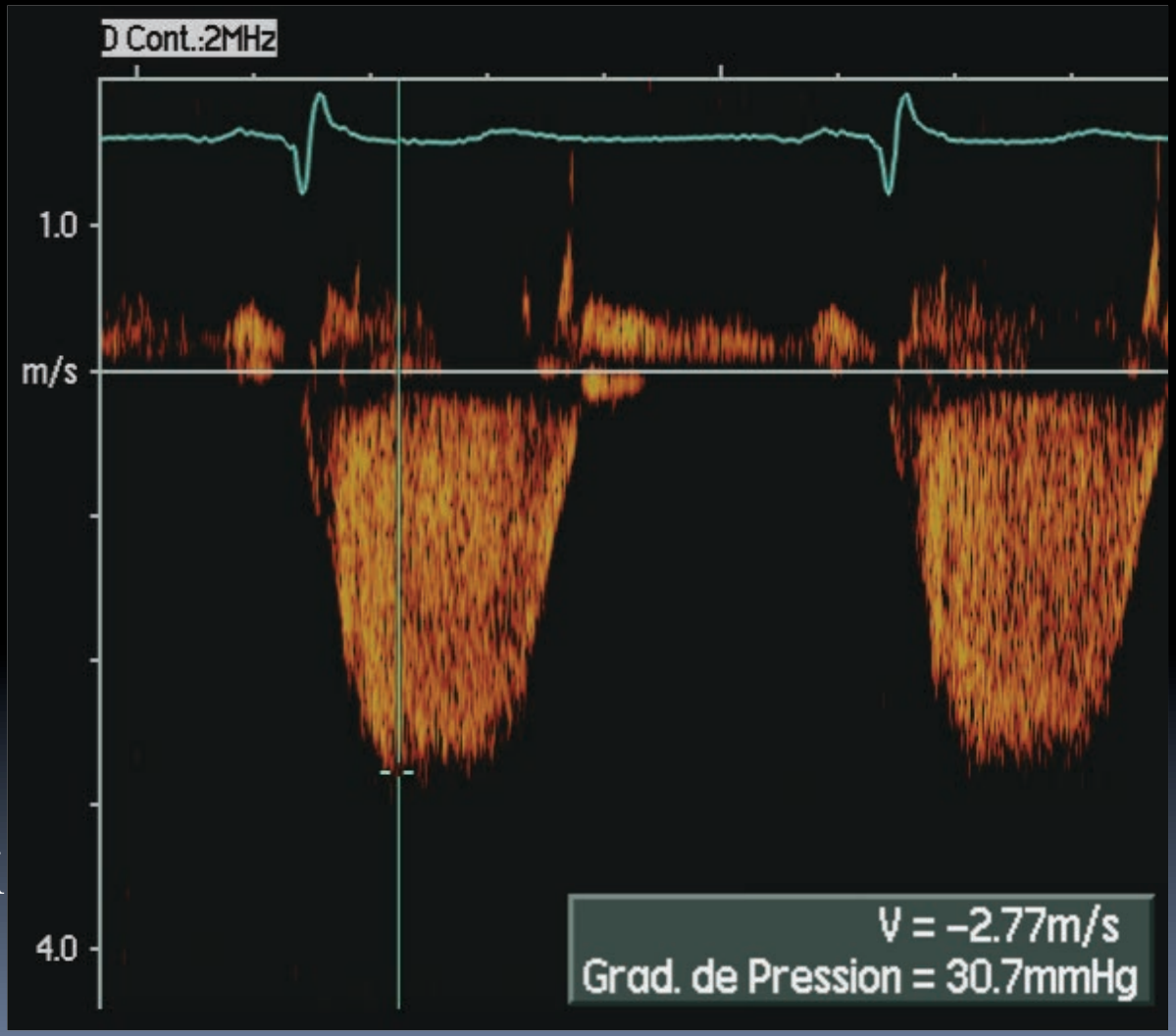
TRAIT2/2/D/M4/A
CHU H.Mondor
Echo-Doppler
GAIN 57
COMP 60
56BPM
17cm
25Hz
P
T
R
1.6 3.2
2.5MHz
62
cm/s
62

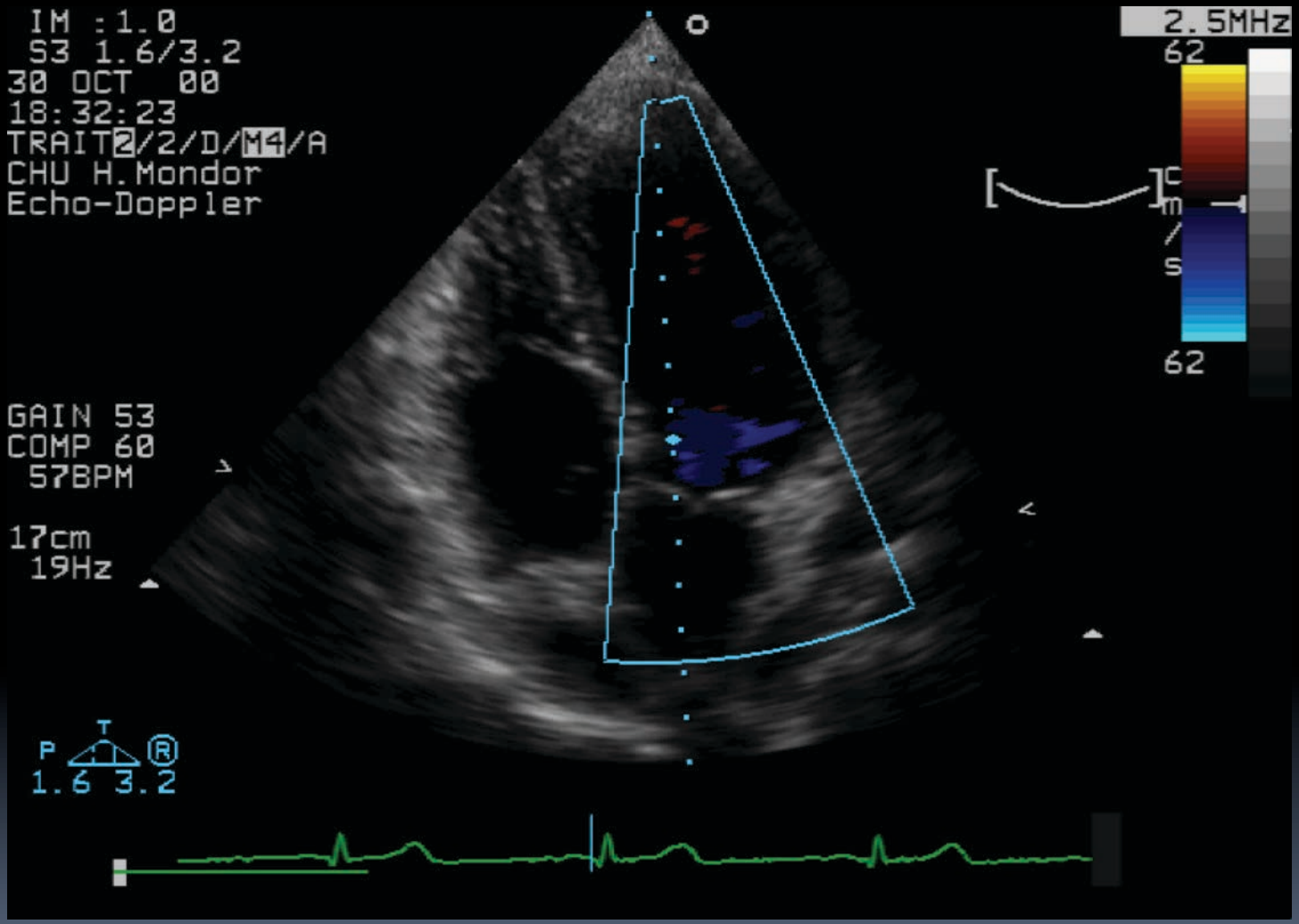
Doppler continu: mesure de la PAPS





Equation de Bernoulli simplifiée

$\Delta P = 4V^2$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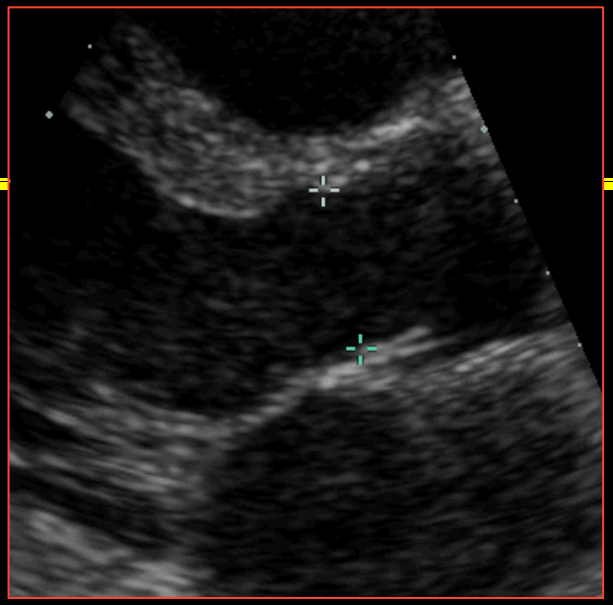
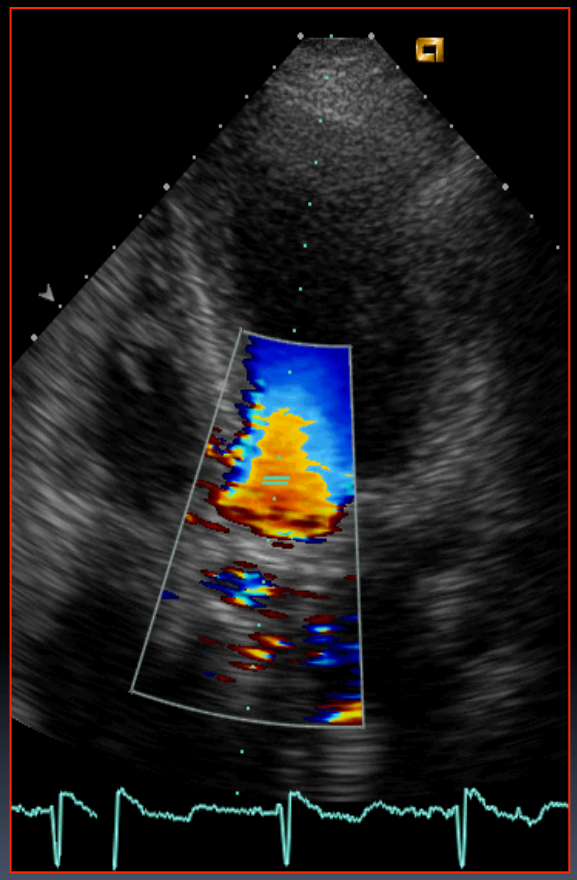
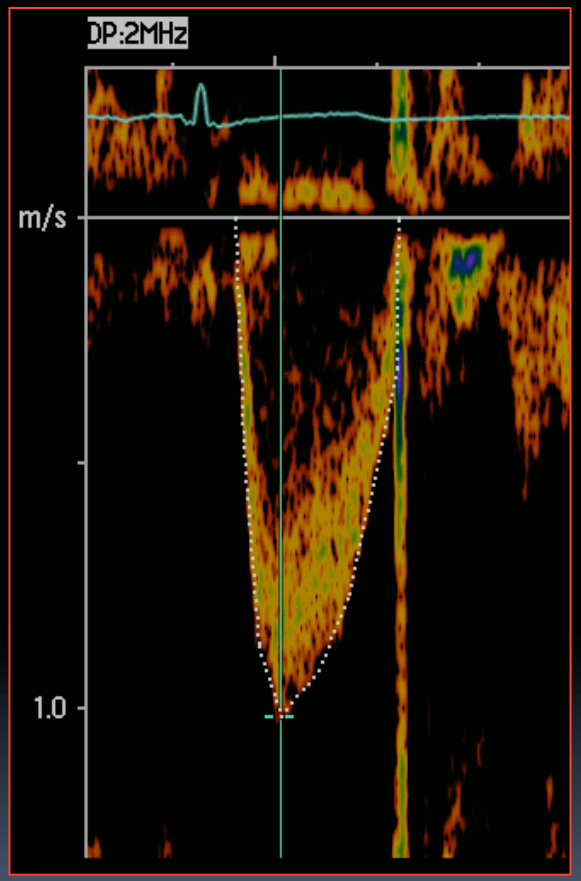
S3 1.6/3.2
30 OCT 00
18:32:23
TRAIT2/2/D/M4/A
CHU H.Mondor
Echo-Doppler
GAIN 53
COMP 60
57BPM
17cm
19Hz
P T R
1.6 3.2
2.5MHz
62
cm/s
62

Mesure du débit aortiqu





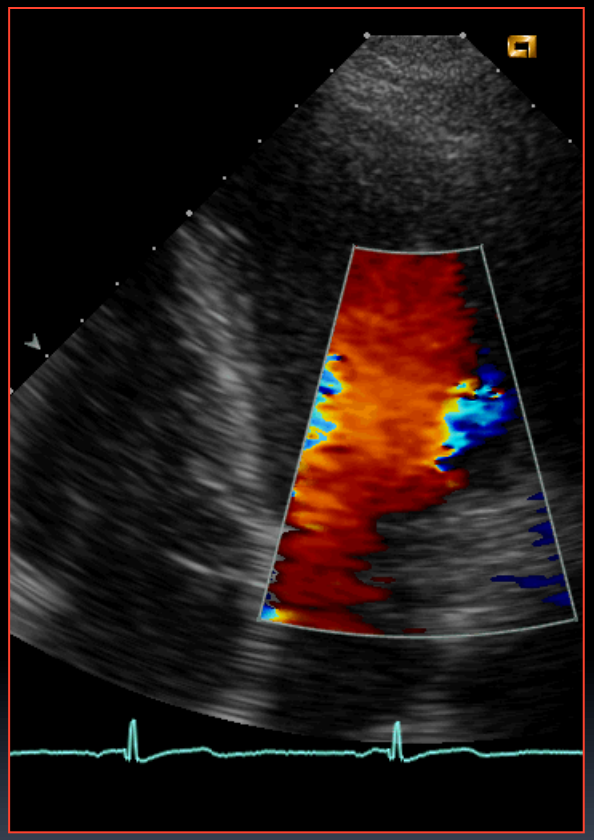


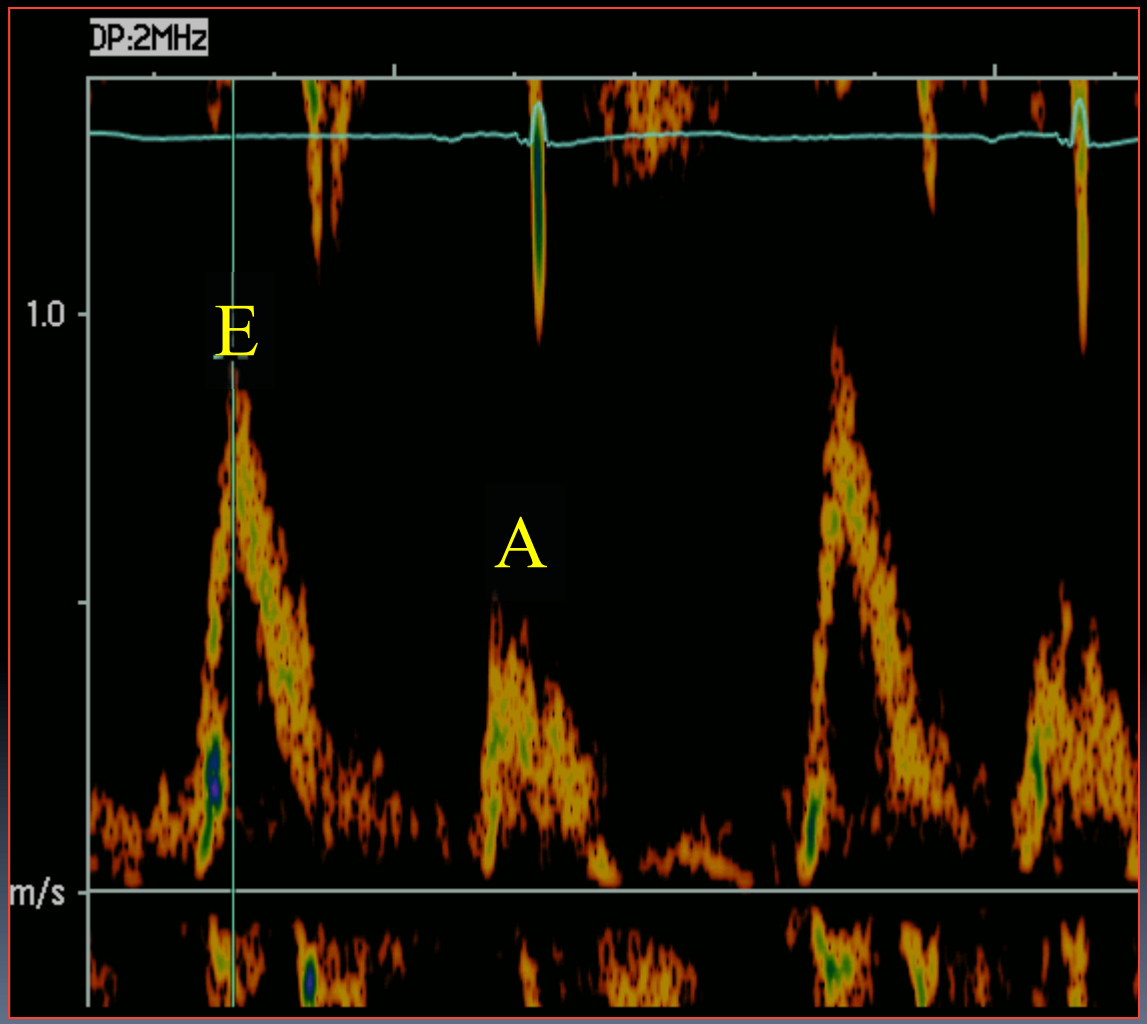
$S\ (cm^2) = \pi \times D^2 / 4$

$VES\ (cm^3) = S \times ITV$

$Qc\ (cm^3/min) = VES \times FC$

Doppler pulsé: flux transmitral





E : 1 m /s
E/A < 1