

HOSPITAL ÁLVARO CUNQUEIRO



CSC 2024

CORONARY AND STRUCTURAL COURSE
CURSO CORONARIO Y ESTRUCTURAL

Simposios de Innovación I

**Miniaturización, cuantificación y automatización.
La revolución del all-in-one para intervencionismo**

Manuel Barreiro Pérez

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[@manuelbarreiop](https://www.instagram.com/manuelbarreiop)

- Proctorship fees: Abbott, Edwards Scientific, Venus Medtech, Jencare Scientific, P&F
- Lectures fees: Philips Healthcare, Abbott, Edwards Scientific, Venus Medtech

- This lecture contains **commercial information**

PHILIPS

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www.linkedin.com/in/manuel-barreiro-

Miniaturización

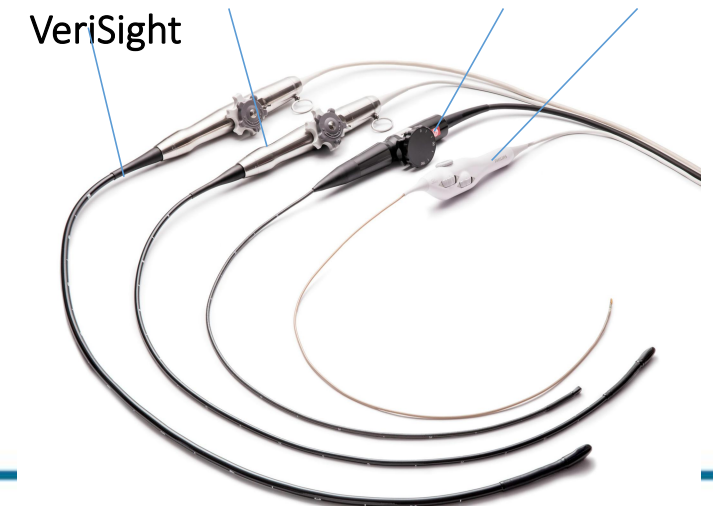
Philips Next-Gen TEE comparison

Transducer	X8-2t	X11-4t	S7-3t Mini	S8-3t Micro	VeriSight Pro
Performance	Best-in-class	Excellent	Good	Good	NA
Main imaging modes	2D, 3D, Biplane	2D, 3D, Biplane	2D	2D	2D, 3D, Biplane
Tech / elements	xMATRIX PureWave 2500	xMATRIX PureWave 2500	Standard 48	Standard 32	Matrix 840
Frequency	8-2 MHz	11-4 MHz	7-3 MHz	8-3 MHz	10-4 MHz
Dimensions	Max. OD: 17.9mm Tip width: 16.9mm Tube width: 10mm Tube length: 101cm	Max. OD: 12.8mm Tip width: 11.0mm Tube width: 7.0mm Tube length: 101cm	Max. OD: 11.7mm Tip width: 10.9mm Tube width: 7.5mm Tube length: 68cm	Max. OD: 8.3mm Tip width: 7.5mm Tube width: 5.2mm Tube length: 80cm	9 French catheter (3mm)
Indication	Adult	Adult & Pediatric	Pediatric	Pediatric (neonatal)	Adult
Recommended Weight	> 30 kg	> 5 kg	> 3.5 kg	> 2.5 kg	NA

35% smaller tip width



X8-2t X11-4t S7-3t S8-3t



Philips Next-Gen TEE comparison

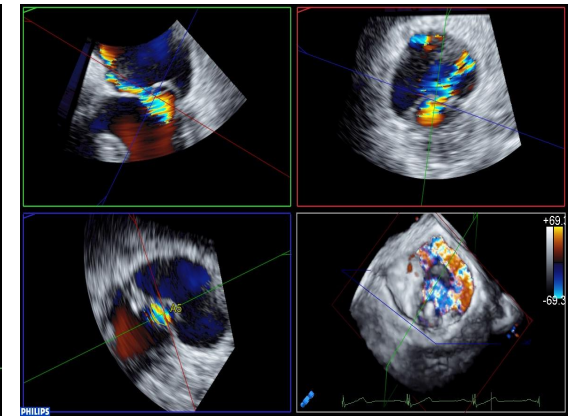
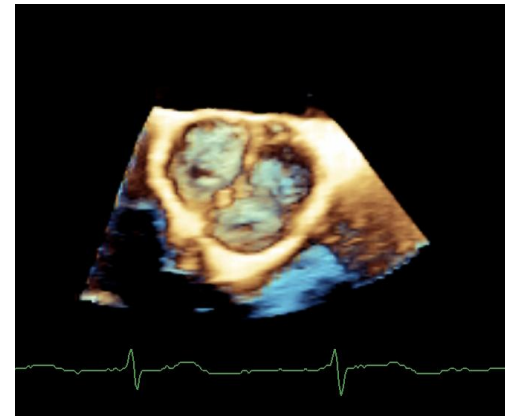
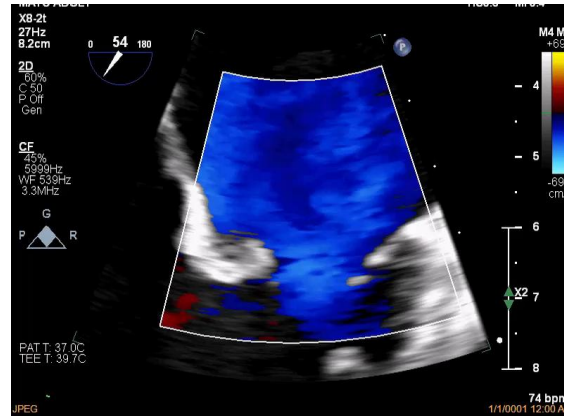
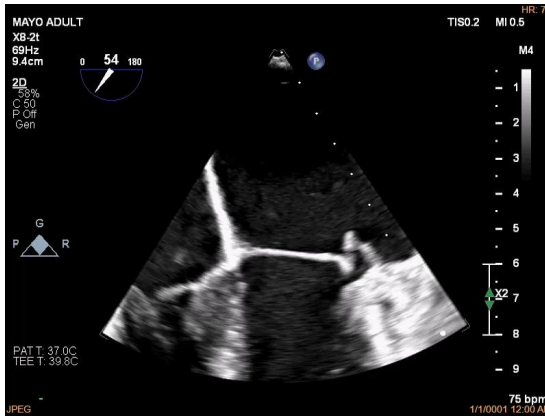
Transducer	X8-2t	X11-4t	S7-3t Mini	S8-3t Micro
Performance	Best-in-class	Excellent	Good	Good
Main imaging modes	2D, 3D, Biplane	2D, 3D (105x105°), Biplane EchoNav	2D	2D
Tech / elements	xMATRIX PureWave 2500	xMATRIX PureWave 2500	Standard 48	Standard 32
Frequency	8-2 MHz	11-4 MHz	7-3 MHz	8-3 MHz
Dimensions	Max. OD: 17.9mm Tip width: 16.9mm Tube width: 10mm Tube length: 101cm 4-way articulation	Max. OD: 12.8mm Tip width: 11.0mm Tube width: 7.0mm Tube length: 101cm 4-way articulation	Max. OD: 11.7mm Tip width: 10.9mm Tube width: 7.5mm Tube length: 68cm 2-way articulation	Max. OD: 8.3mm Tip width: 7.5mm Tube width: 5.2mm Tube length: 80cm 2-way articulation
Indication	Adult	Adult & Pediatric	Pediatric	Pediatric (neonatal)
Recommended Weight	> 30 kg	> 5 kg	> 3.5 kg	> 2.5 kg

VeriSight Pro
NA
2D, 3D, Biplane
Matrix 840
10-4 MHz
9 French catheter (3mm)
Adult
NA

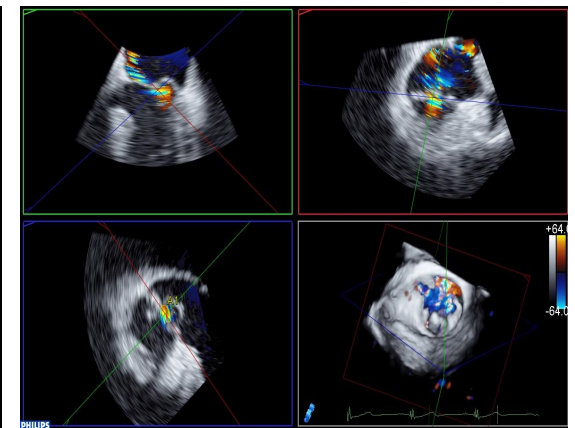
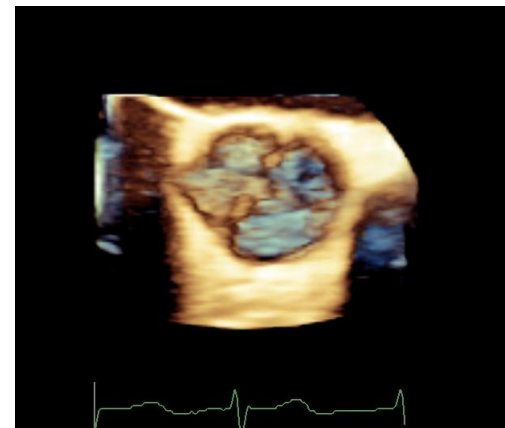
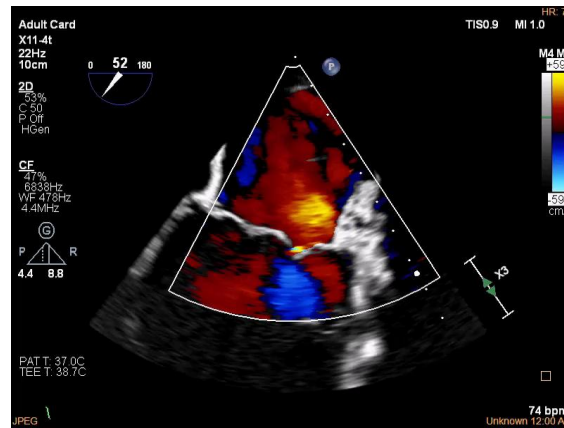
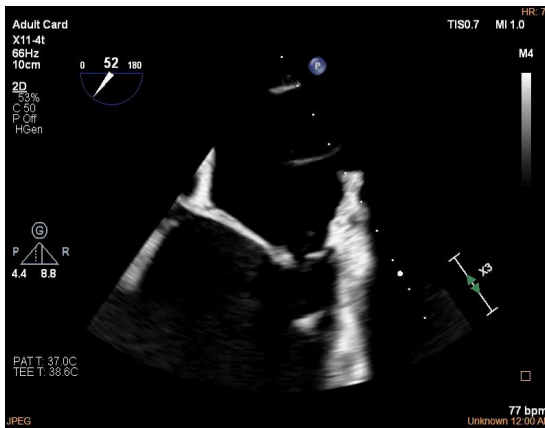


Mini 3D TEE vs Standard 3D TEE

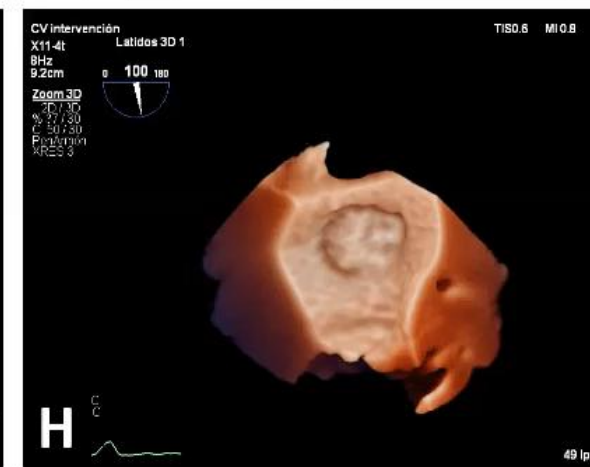
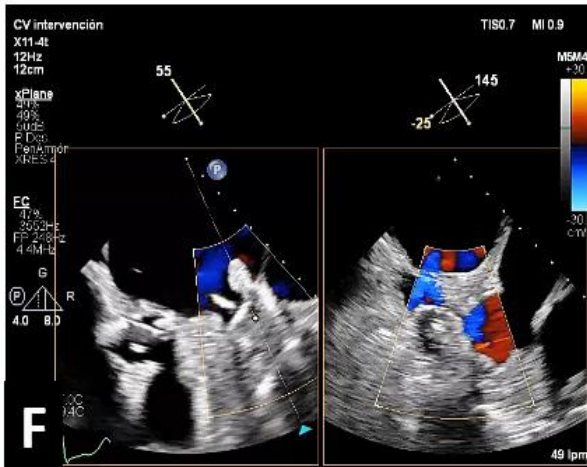
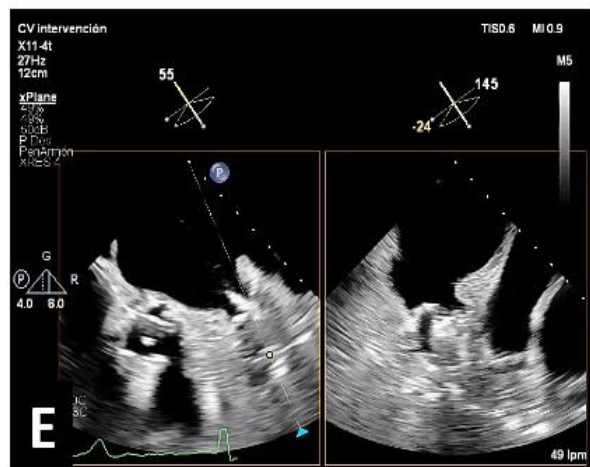
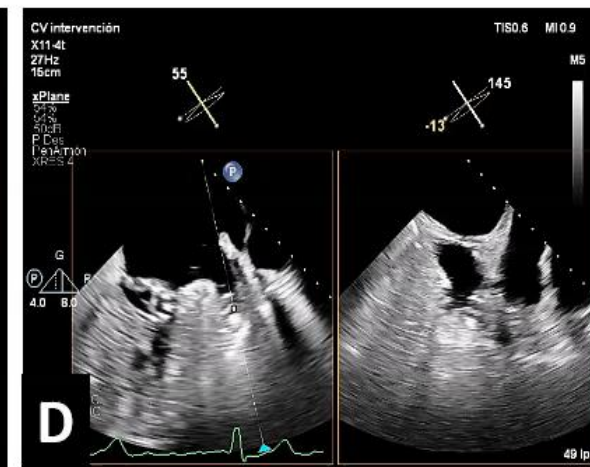
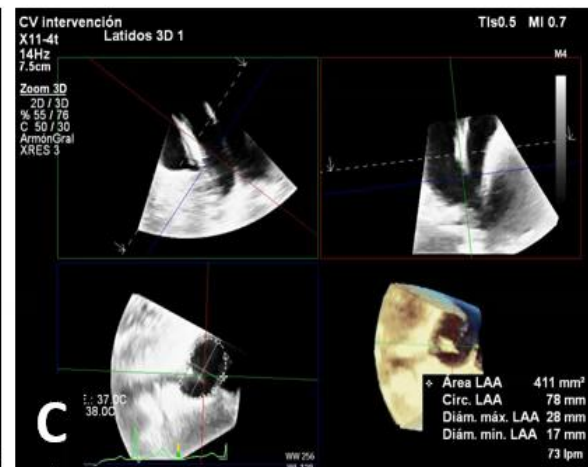
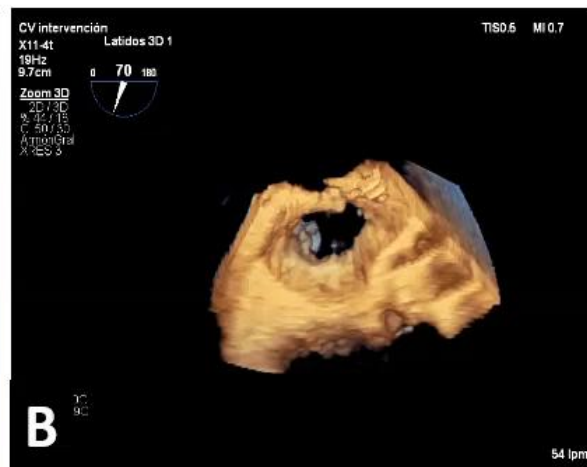
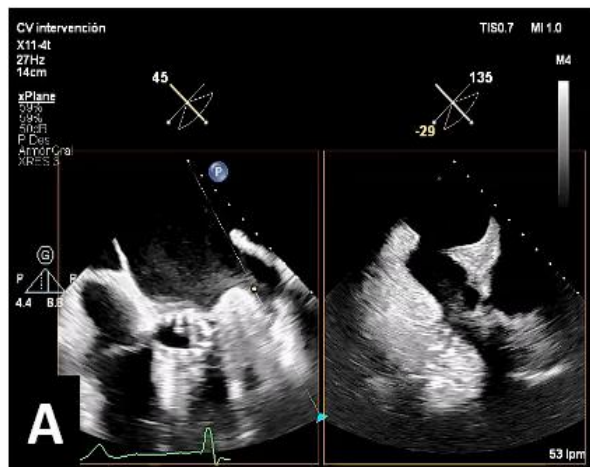
X8-2t



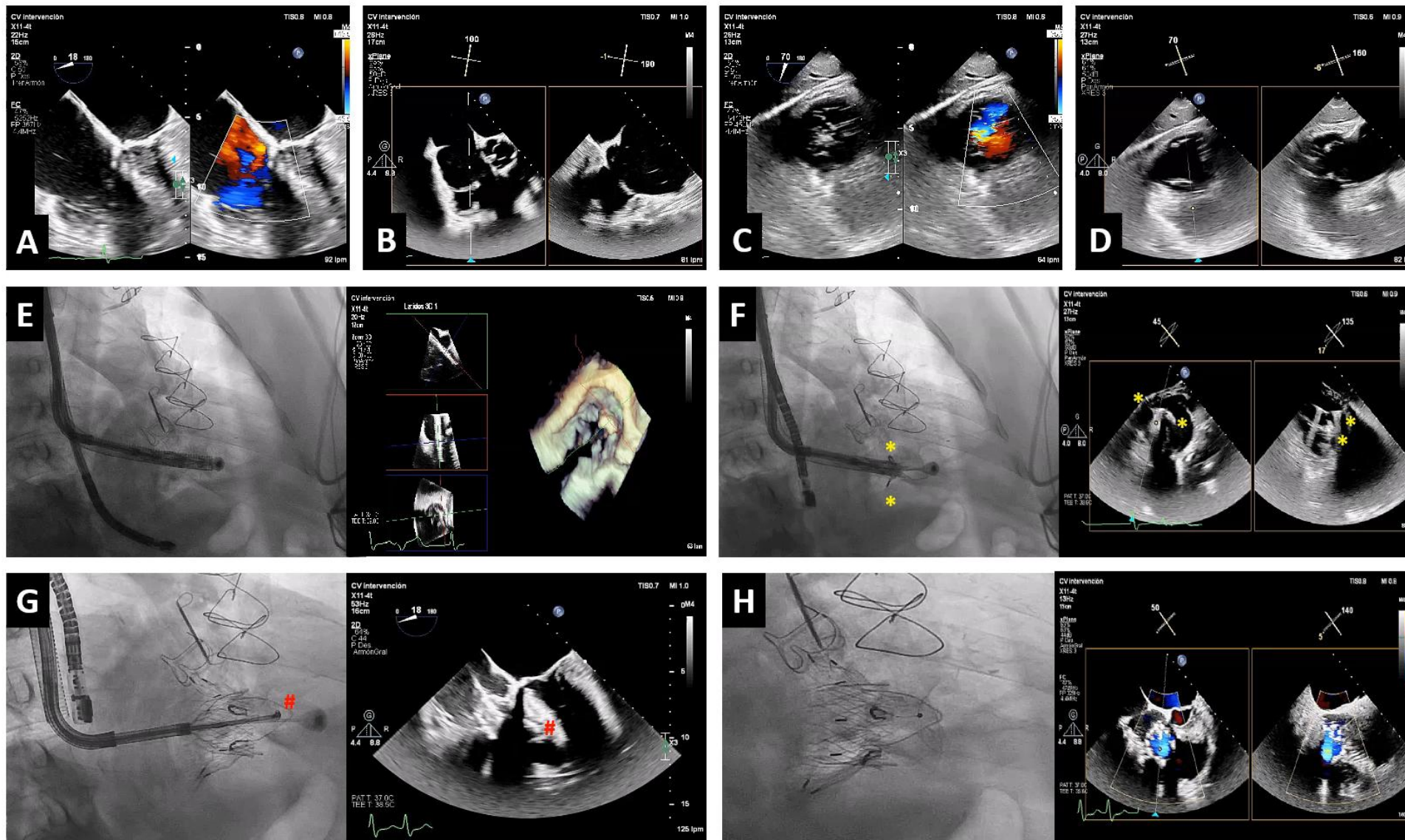
Mini 3D TEE



X11-4t Hosp. Álvaro Cunqueiro



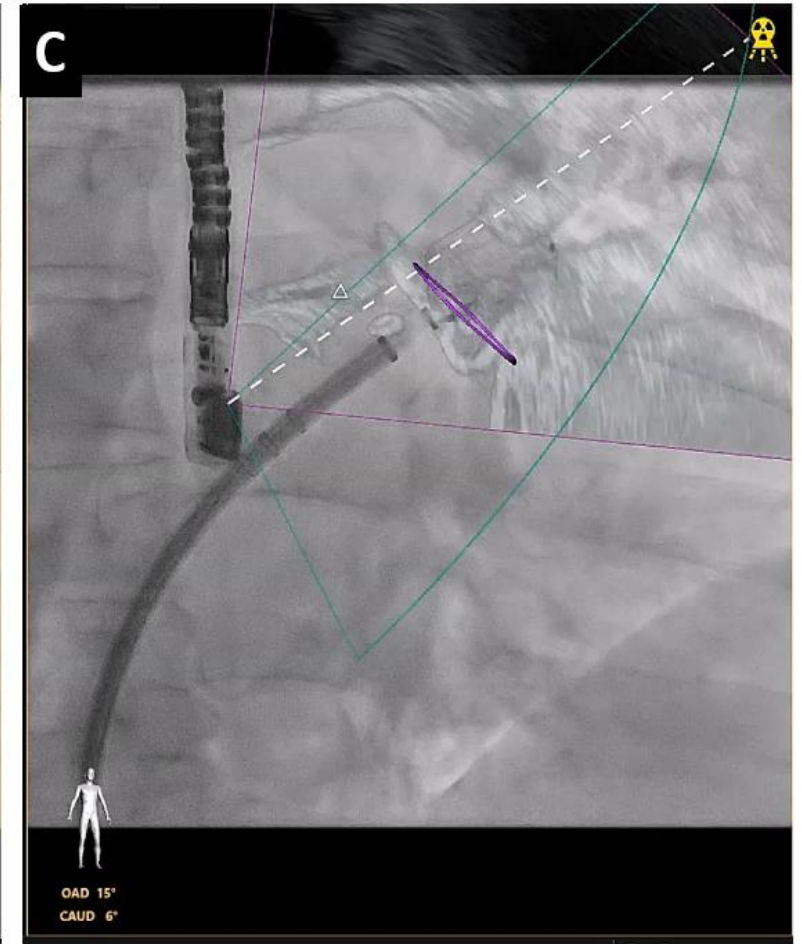
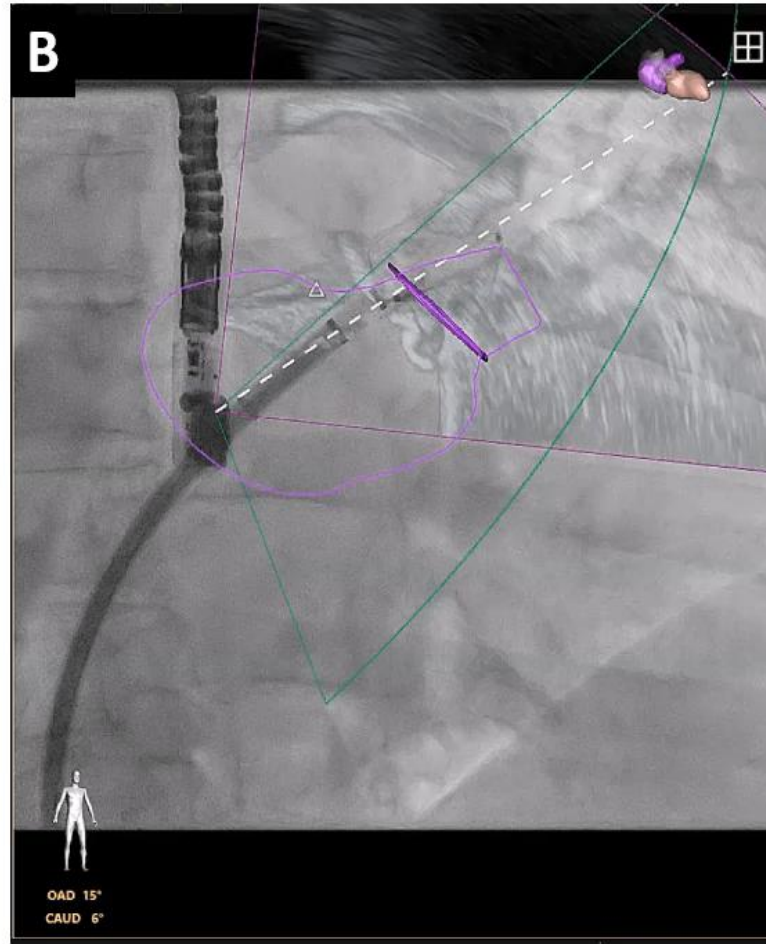
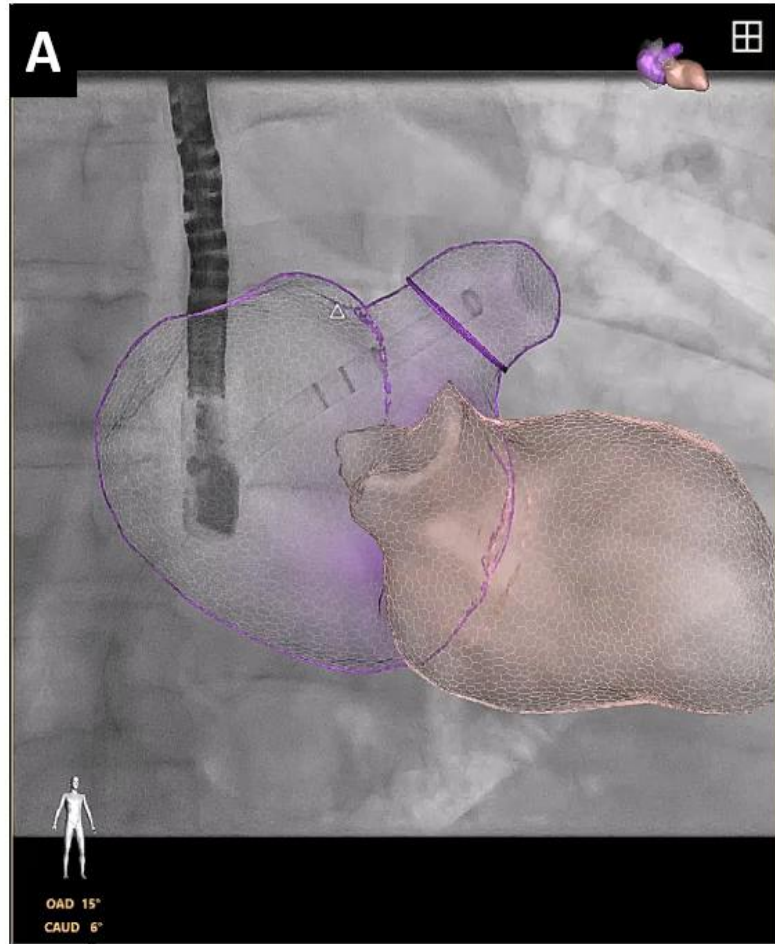
X11-4t Hosp. Álvaro Cunqueiro



EchoNavigator and EPIQ CVxi



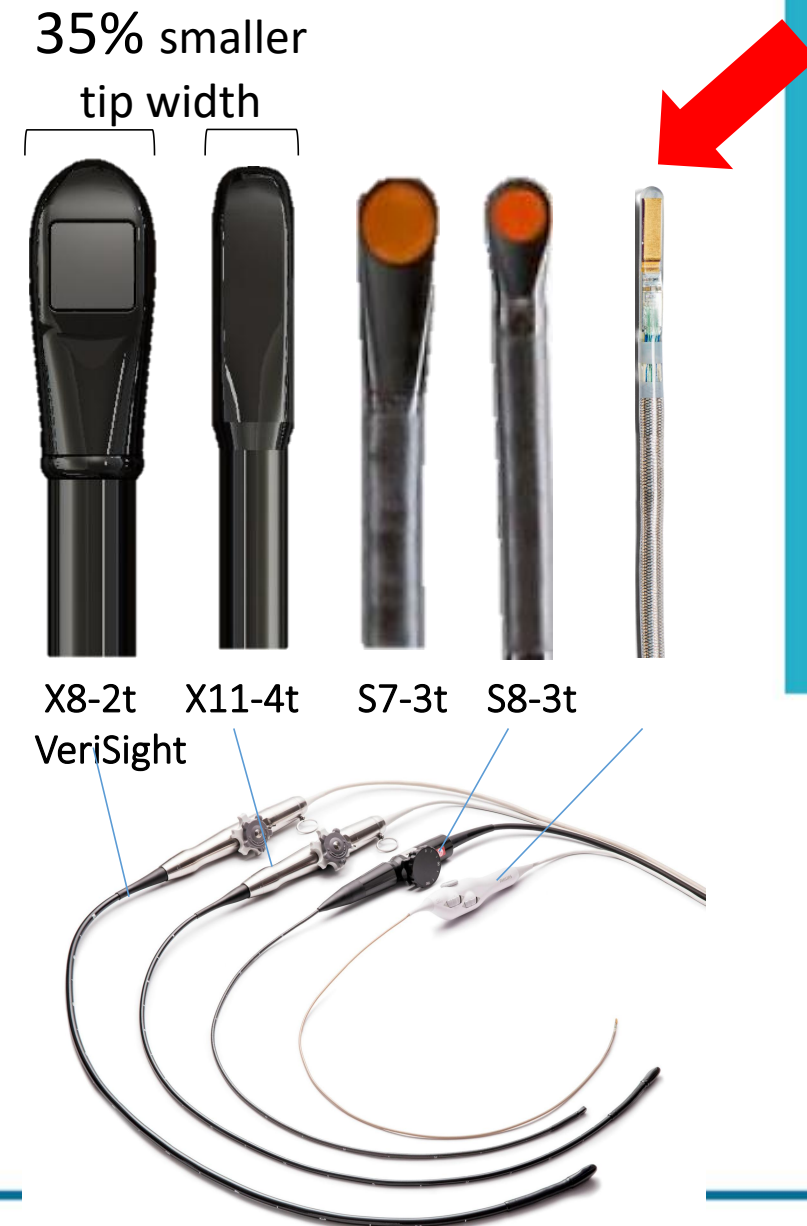
X11-4t Hosp. Álvaro Cunqueiro



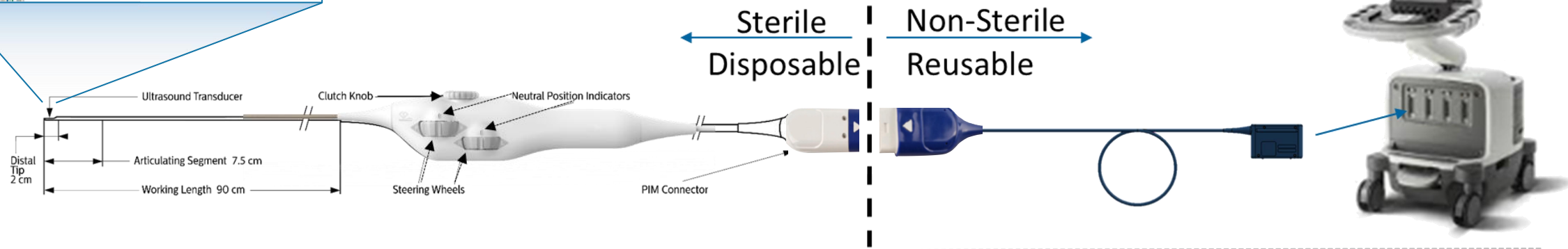
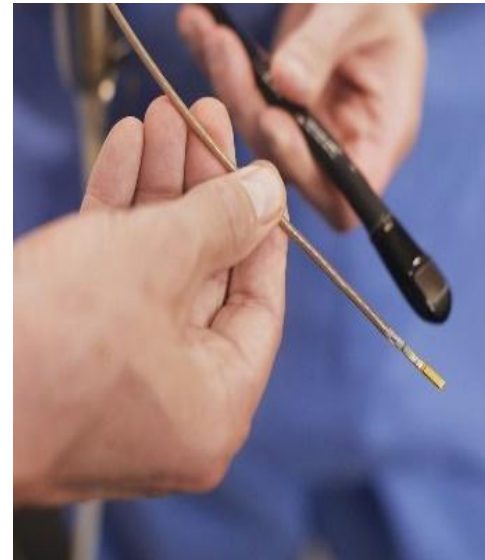
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VeriSight Pro
NA
2D, 3D, Biplane
Matrix 840
10-4 MHz
9 French catheter (3mm)
Adult
NA



VeriSight Pro ICE system Overview



1. VeriSight Pro Catheter

2. Patient Interface Module (PIM)

3. Philips Ultrasound System — EPIQ

VeriSight Pro ICE catheter features

Outer diameter

9 F

Working length

90 cm

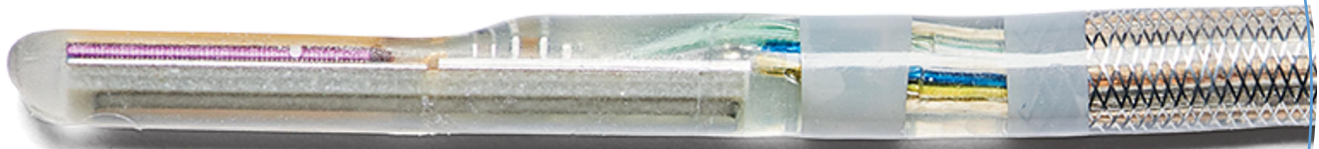
Minimum sheath size

10 F

Catheter tip

2D transducer array

2 cm with softer¹ design



¹VeriSight handling claims validated by clinician feedback collected from a bench study, with
based on images taken by VeriSight Pro in a porcine model. Data on file (D000259724)

... Clinicians also provided feedback

VeriSight Pro ICE catheter articulation

Uniquely engineered for single-handed manipulation, VeriSight Pro features four-way steering on an ergonomically designed handle.

Design:

- Softer catheter tip and flexible shaft help minimize the risk of perforation

Articulation

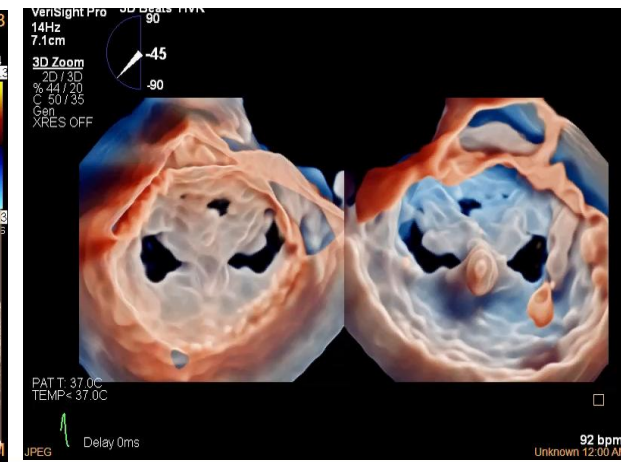
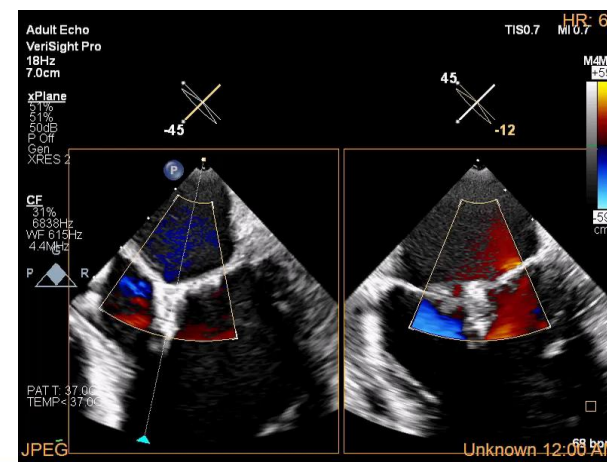
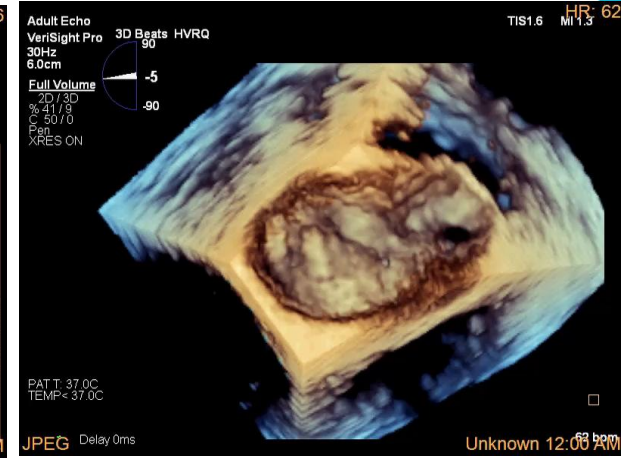
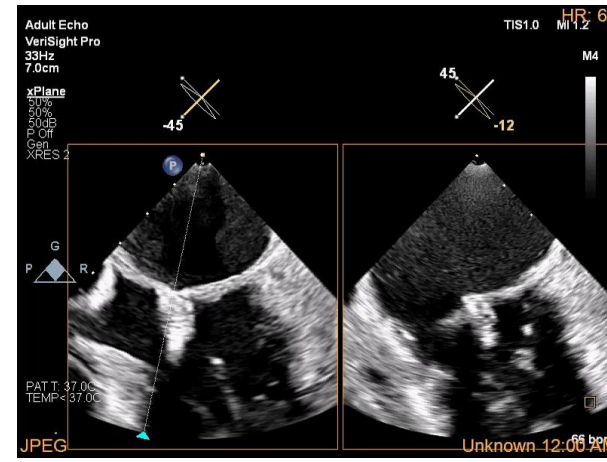
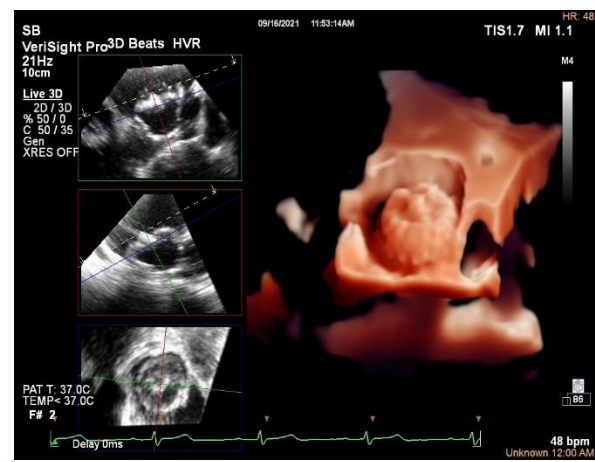
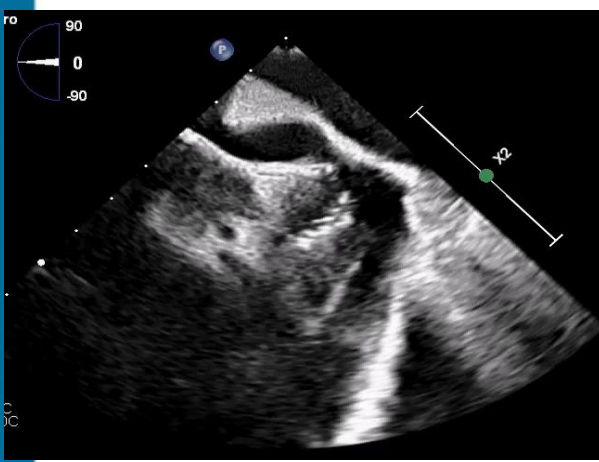
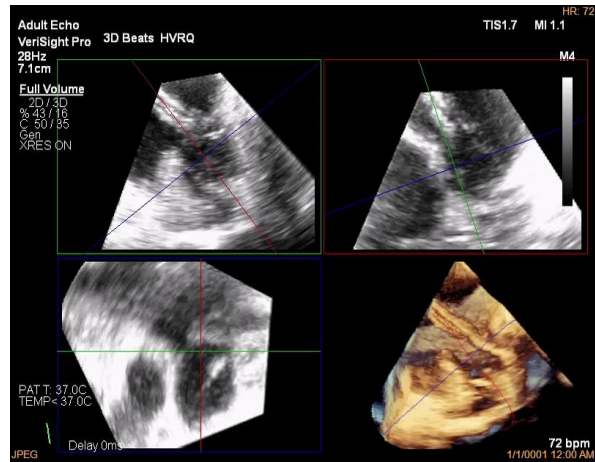
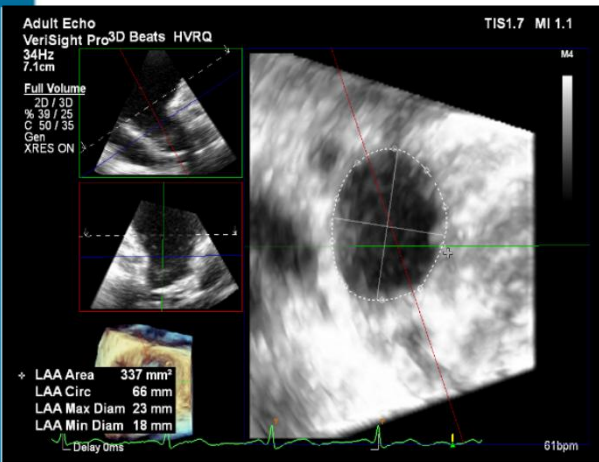
- Clutch knob
- Anterior/posterior
- Left/right



VeriSight Pro ICE imaging modes

LAAO

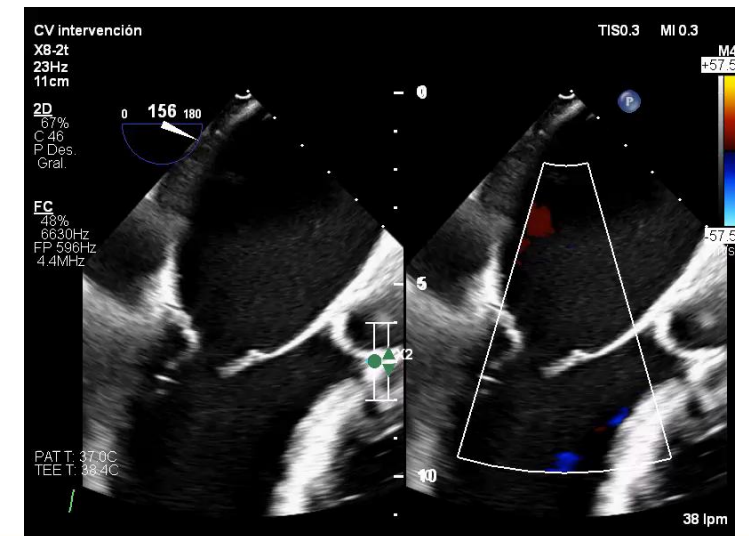
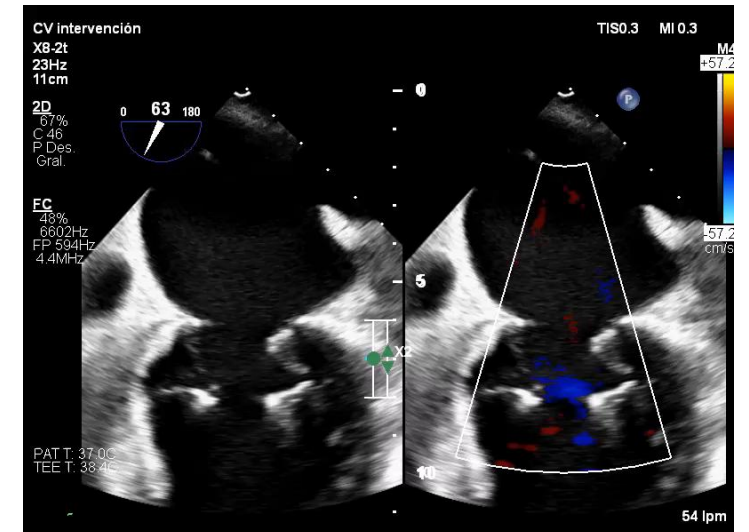
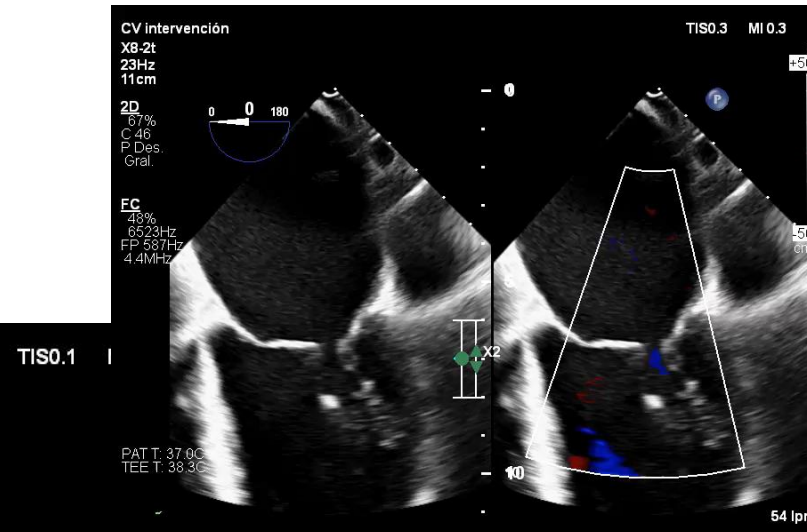
M-TEER



Cuantificación y automatización

Válvula Mitral

Válvula Mitral



AutoMV

CV intervención
X8-2t
12Hz
8.1cm

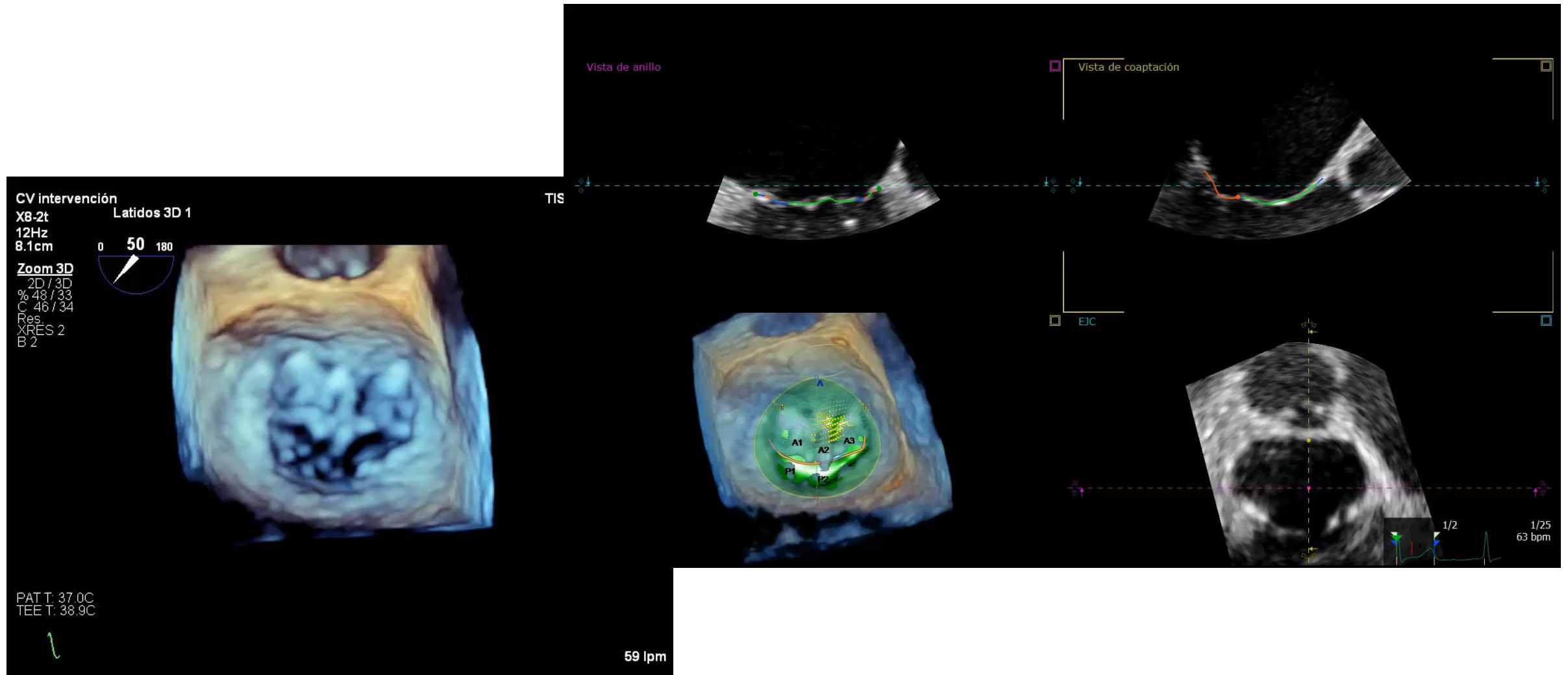
Latidos 3D 1

Zoom 3D
2D / 3D
% 48 / 33
C 46 / 34
Res.
XRES 2
B 2

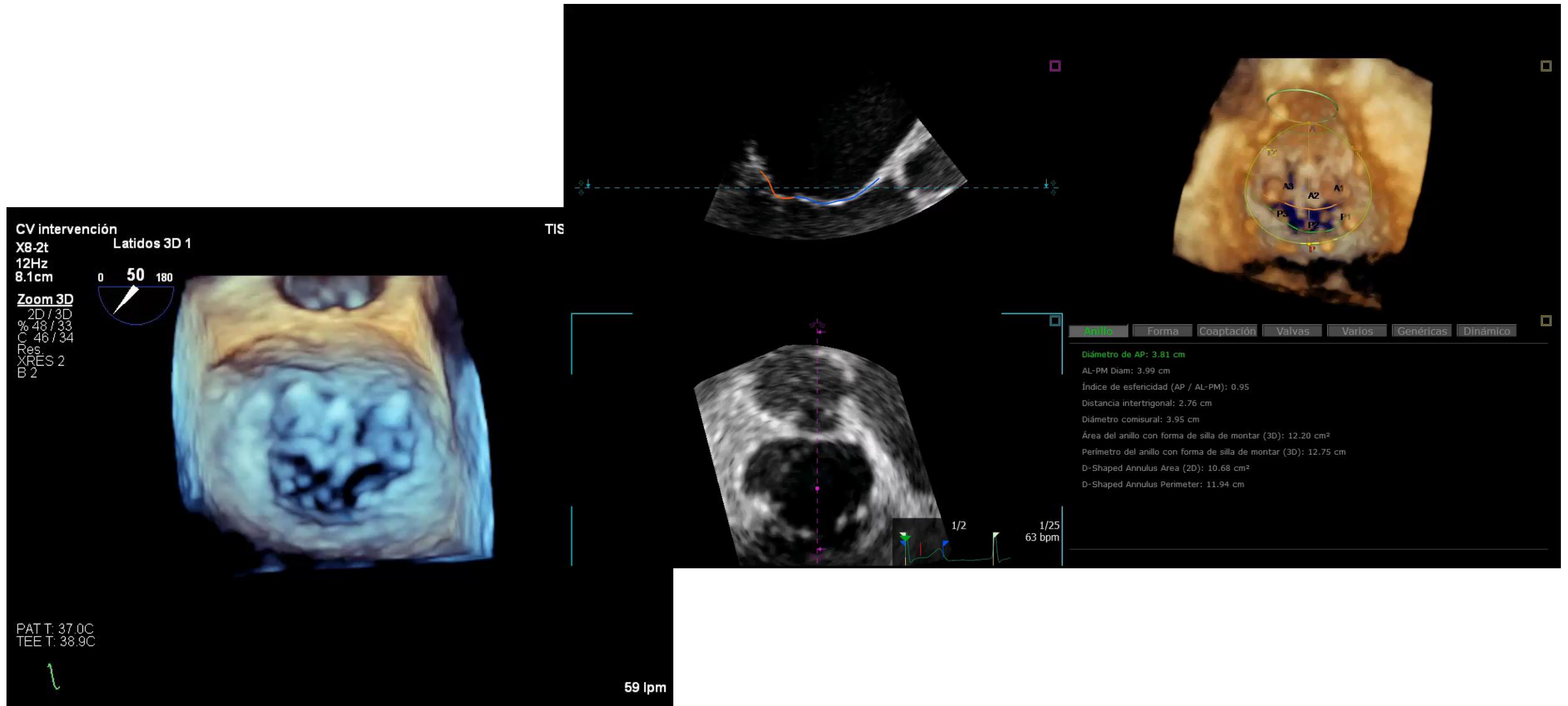
PAT T: 37.0C
TEE T: 38.9C

59 lpm

AutoMV



AutoMV



Válvula Mitral - Color

CV intervención
X8-2t
32Hz
7.8cm

Zoom 3D
2D / 3D
% 57 / 42
C 46 / 34
Res.
XRES 2
B 2

FC
% 60 / 50
7982Hz
FP 798Hz
4.4MHz

PAT T: 37.0C
TEE T: 39.0C

0 50 180

CV intervención
X8-2t
32Hz
7.8cm

Latidos 3D 1

Zoom 3D
2D / 3D
% 57 / 42
C 46 / 34
Res.
XRES 2
B 2

FC
% 60 / 50
7982Hz
FP 798Hz
4.4MHz

TIS0.2 MI 0.1

M5 M4
+34.6

-104

TEMP. PCTE.: 37.0C
TEMP. ETE: 39.0C
F# 4

62 lpm

❖ Mayor 0.682 cm
Menor 0.234 cm
Área 0.125 cm²
62 lpm

3D auto CFQ

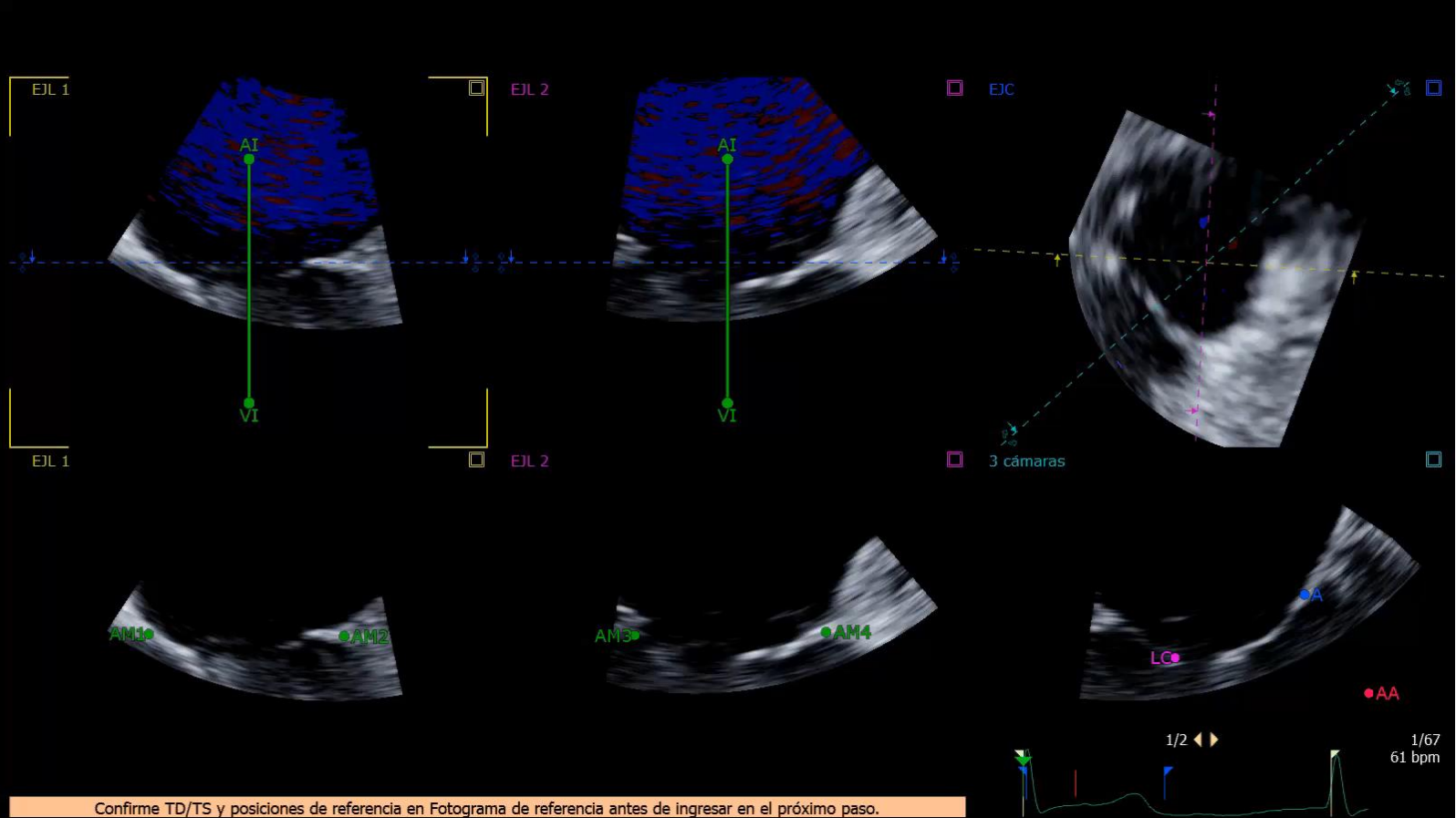
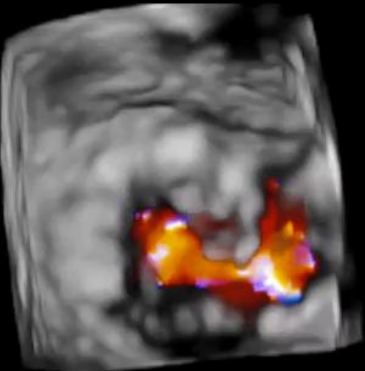
CV intervención
X8-2t Latidos 3D 1
32Hz
7.8cm

Zoom 3D
2D / 3D
% 57 / 42
C 46 / 34
Res.
XRES 2
B 2

FC
% 60 / 50
7982Hz
FP 798Hz
4.4MHz

PAT T: 37.0C
TEE T: 39.0C

62 lpm



EJL 1 EJL 2 EJC

AI VI AI VI

EJL 1 EJL 2

3 cámaras

AM1 AM2 AM3 AM4

LC AA

1/2 1/67
61 bpm

Confirme TD/TS y posiciones de referencia en Fotograma de referencia antes de ingresar en el próximo paso.

3D auto CFQ

CV intervención
X8-2t Latidos 3D 1
32Hz
7.8cm

Zoom 3D
2D / 3D
% 57 / 42
C 46 / 34
Res.
XRES 2
B 2

Fc
% 60 / 50
7982Hz
FP 798Hz
4.4MHz

PAT T: 37.0C
TEE T: 39.0C

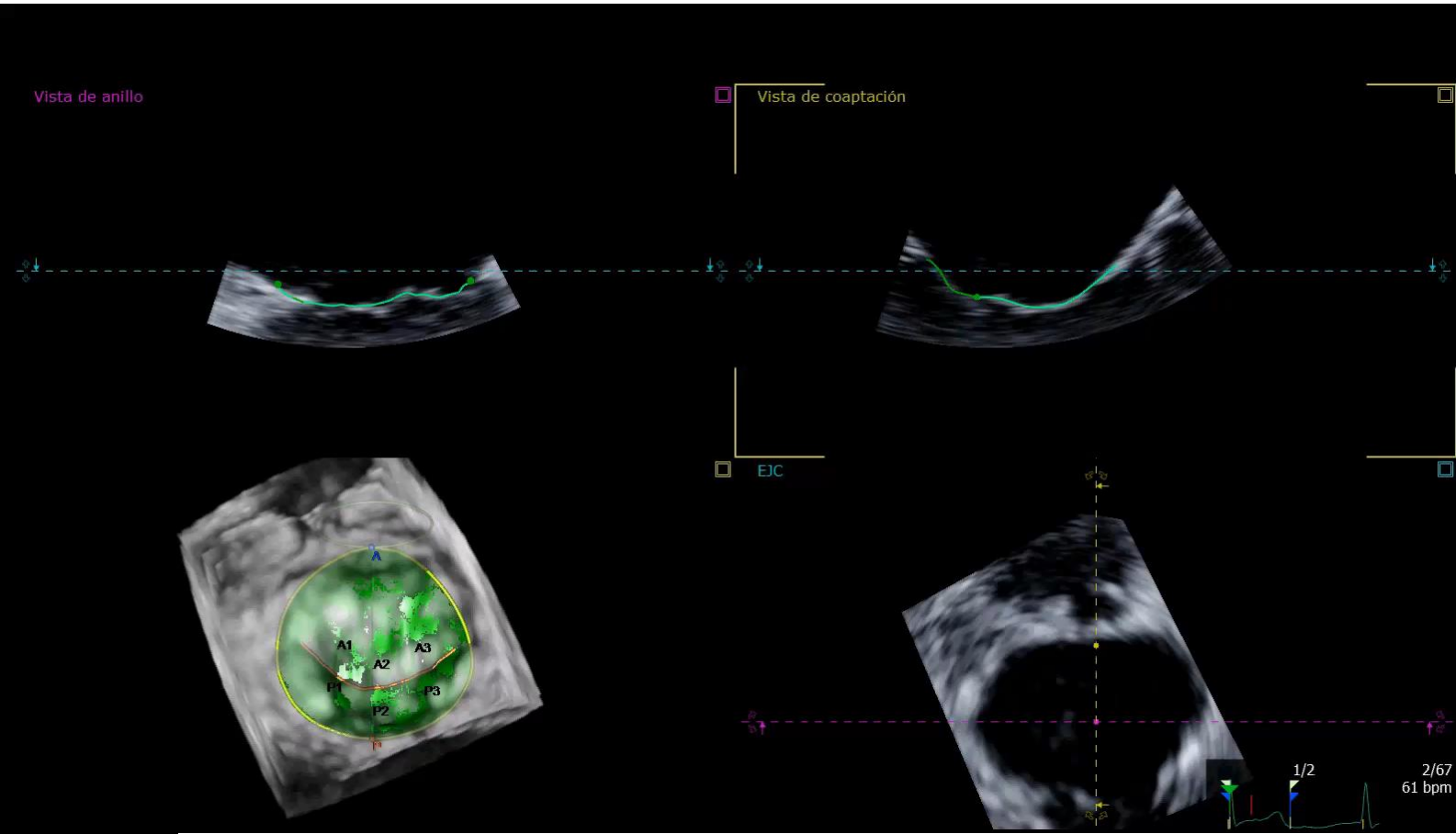


62 lpm

Vista de anillo

Vista de coaptación

EJC



1/2

2/67

61 bpm

3D auto CFQ



CV intervención
X8-2t
32Hz
7.8cm

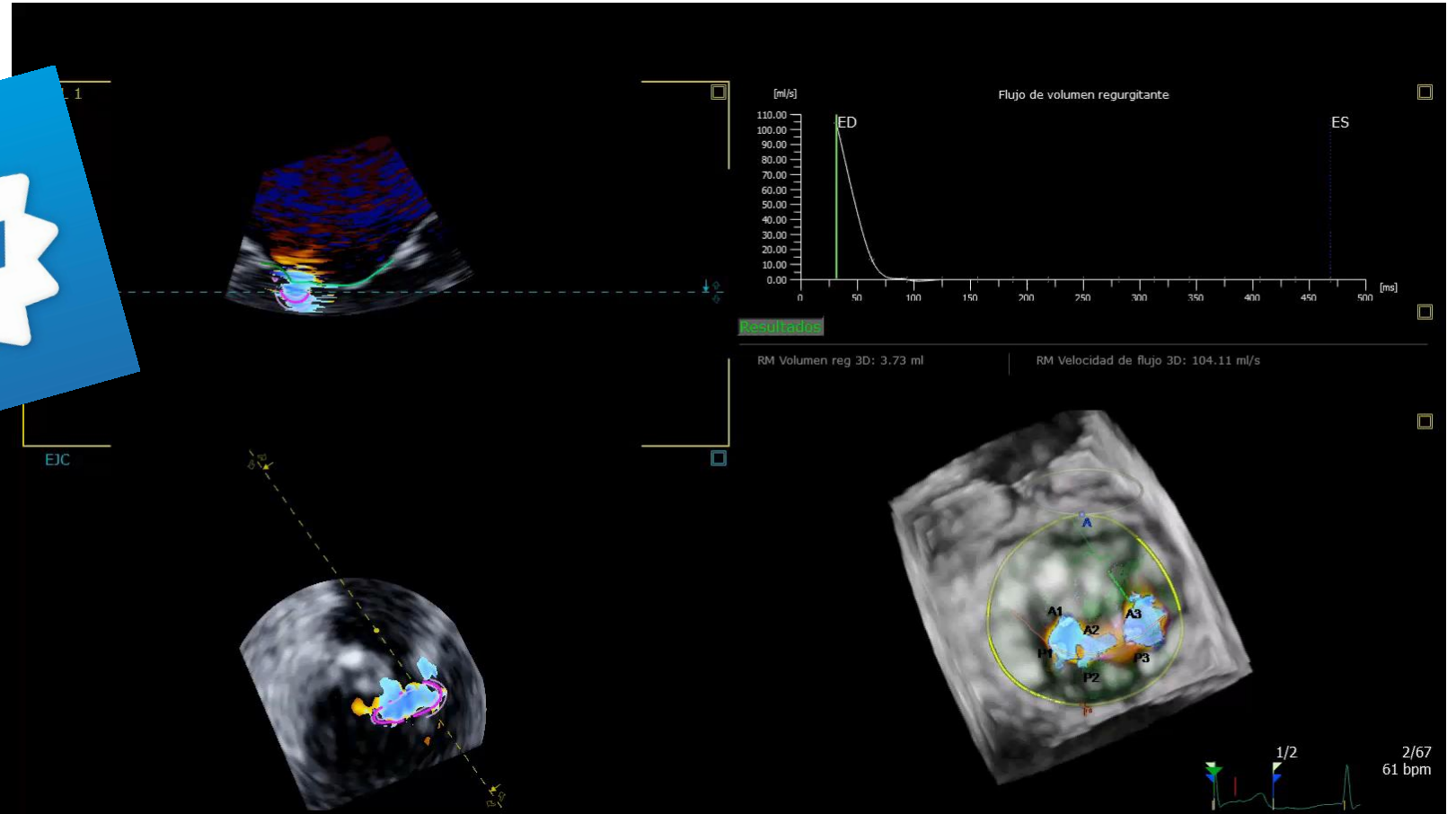
Latidos 3D 1

Zoom 3D
2D / 3D
% 57 / 42
C 46 / 34
Res.
XRES 2
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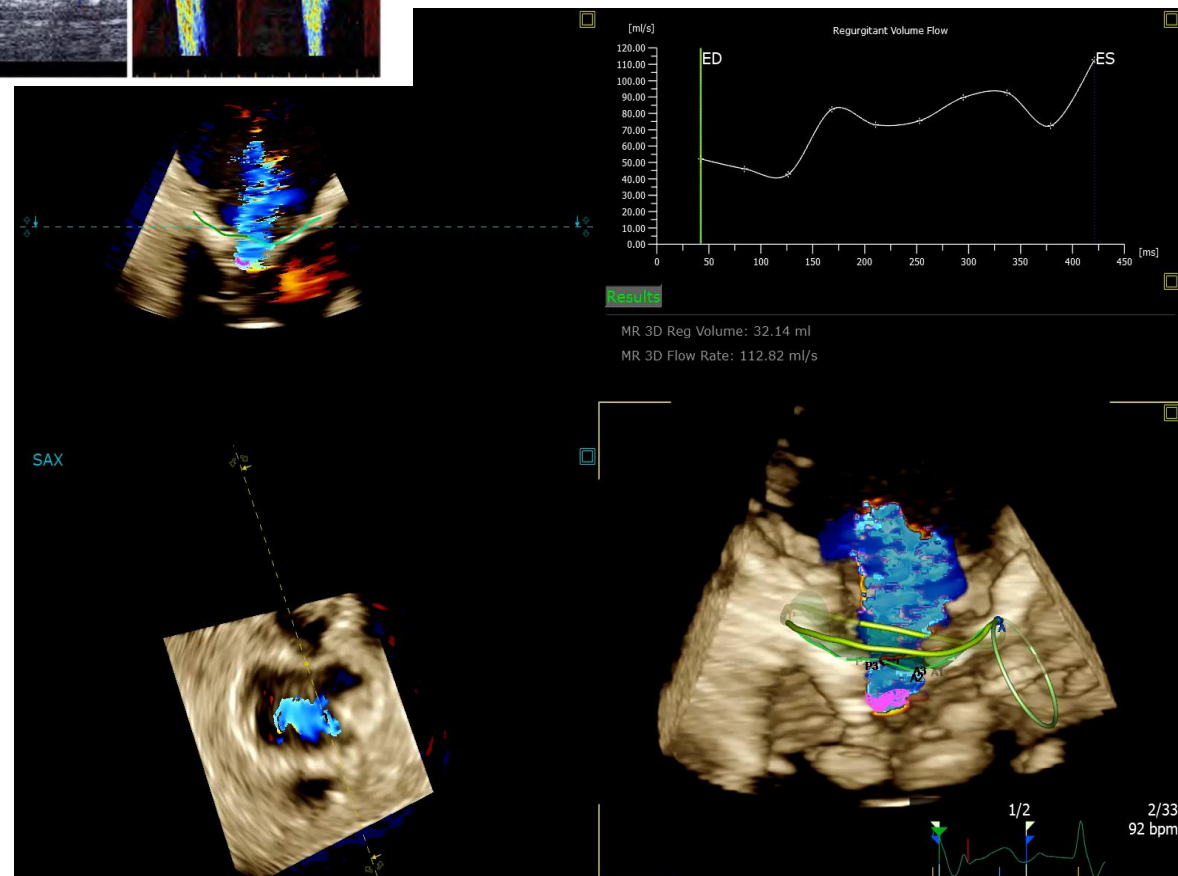
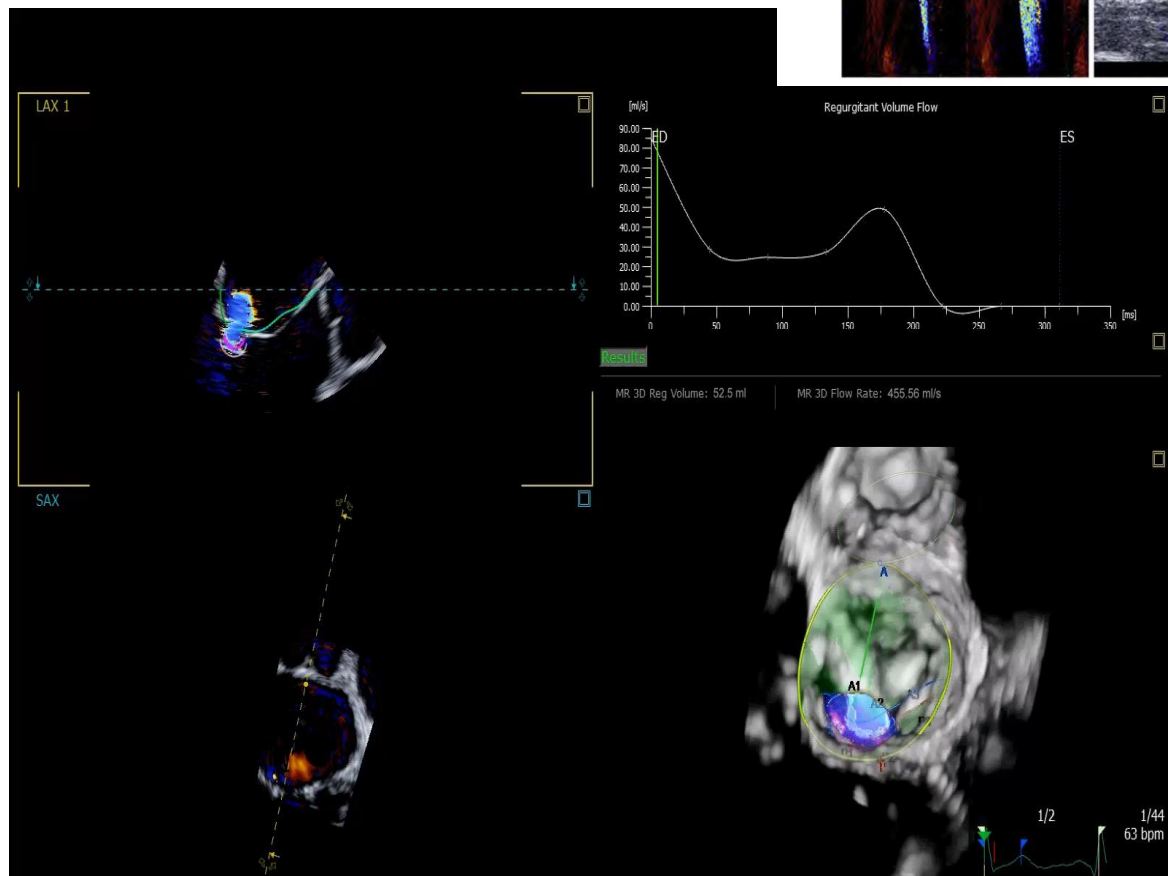
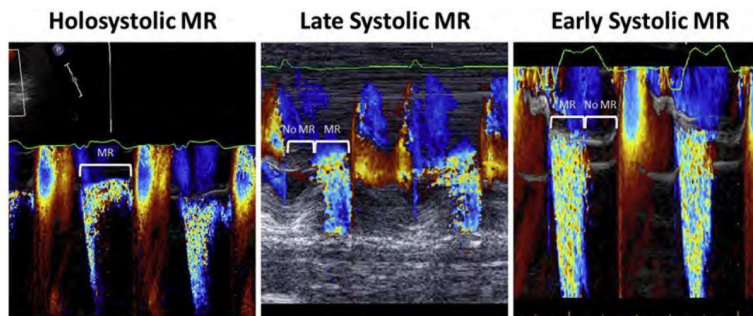
Fc
% 60 / 50
7982Hz
FP 798Hz
4.4MHz

PAT T: 37.0C
TEE T: 39.0C

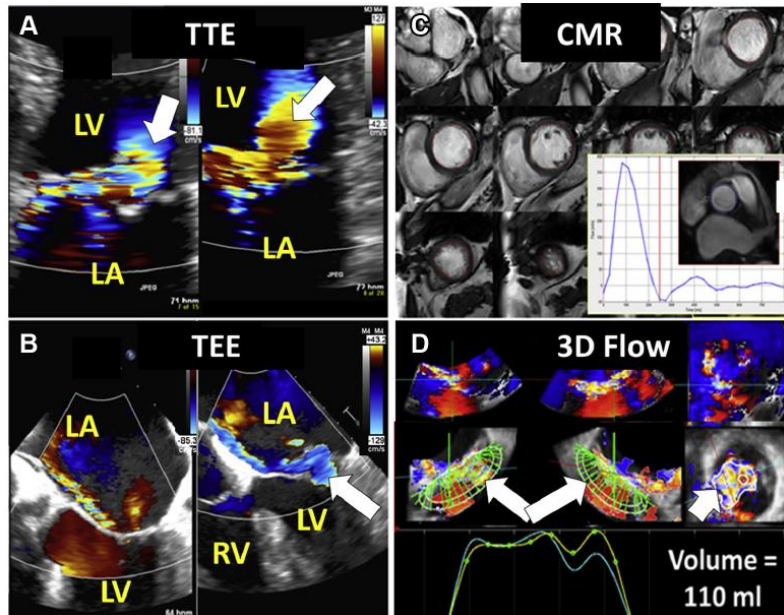
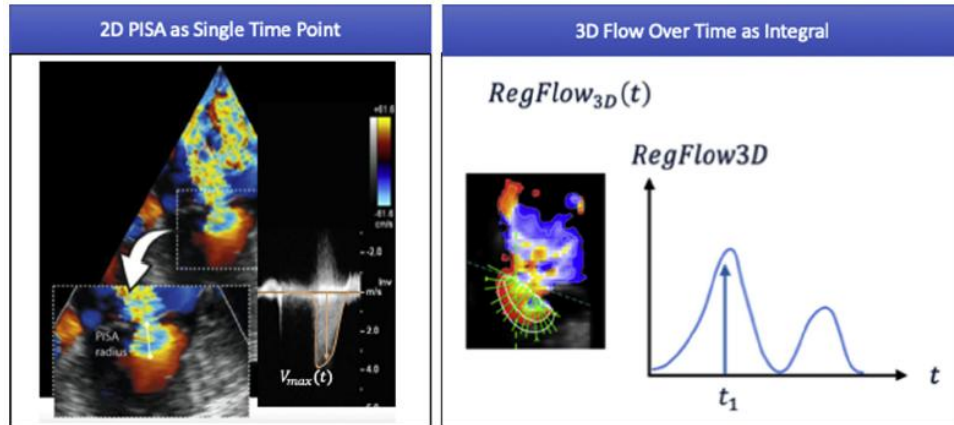
62 lpm



3D auto CFQ



3D auto CFQ



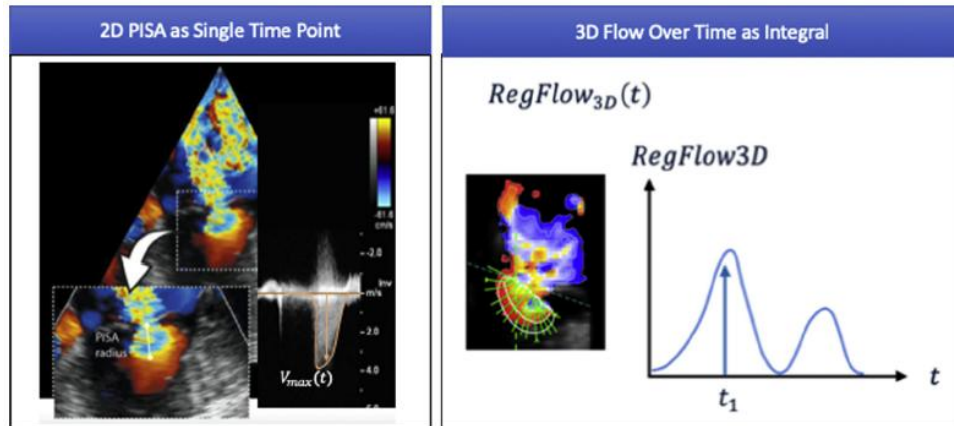
A Novel Approach for Semiautomated Three-Dimensional Quantification of Mitral Regurgitant Volume Reflects a More Physiologic Approach to Mitral Regurgitation



Amita Singh, MD, Jimmy Su, PhD, Alexandre This, PhD, Stéphane Allaire, PhD, Jean-Michel Rouet, PhD, Andrea Laghi, Kalie Kebed, MD, Karima Addetia, MD, Marcus Schreckenberg, Roberto M. Lang, MD, and Odile Bonnefous, PhD, *Chicago, Illinois; Cambridge, Massachusetts; Suresnes, France; Minneapolis, Minnesota; and Unterschleissheim, Germany*

(J Am Soc Echocardiogr 2022;35:940-6.)

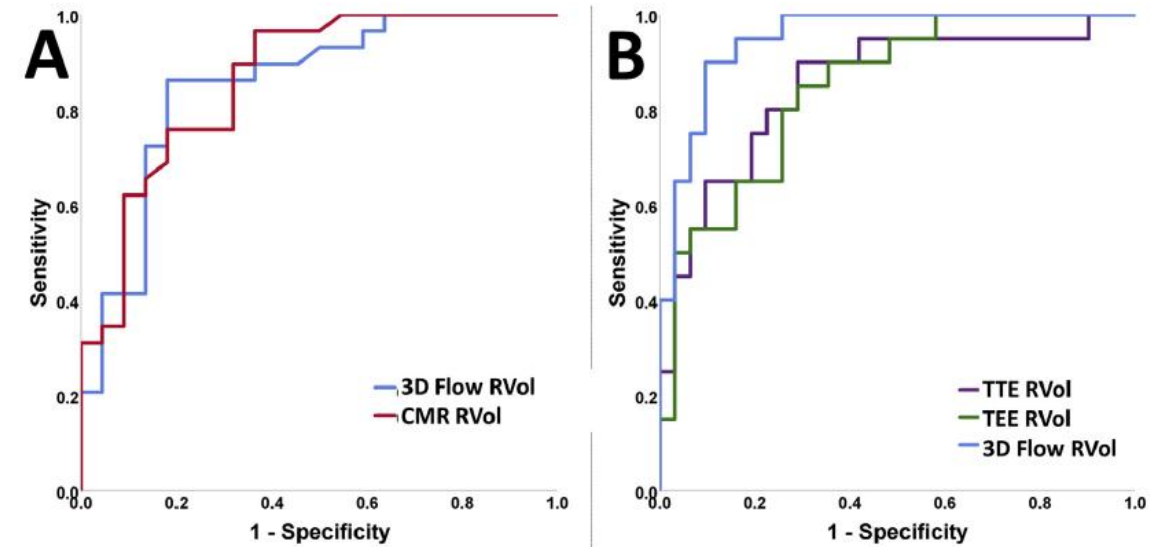
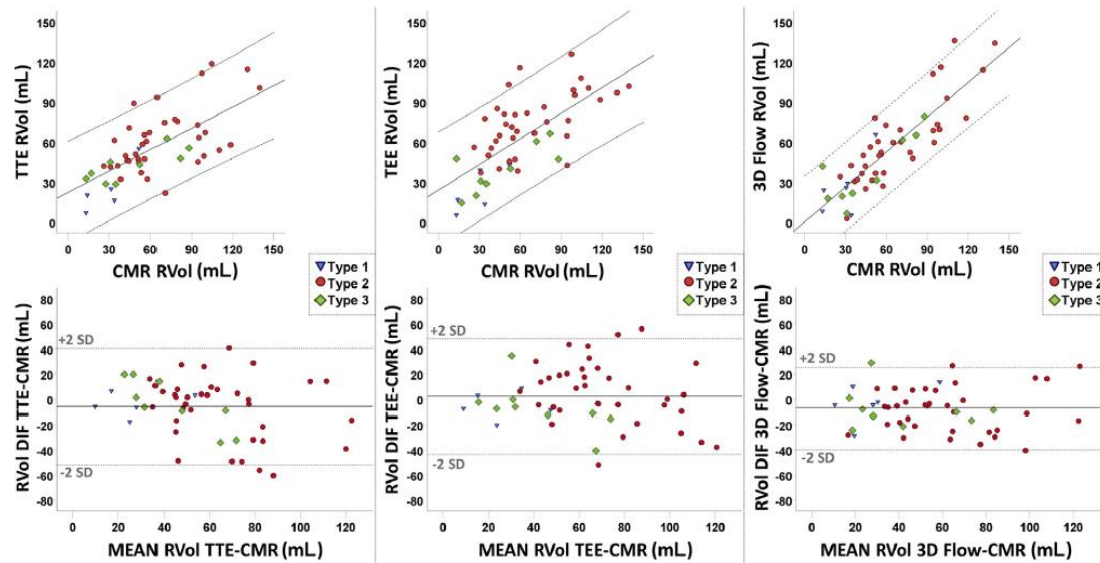
3D auto CFQ



A Novel Approach for Semiautomated Three-Dimensional Quantification of Mitral Regurgitant Volume Reflects a More Physiologic Approach to Mitral Regurgitation

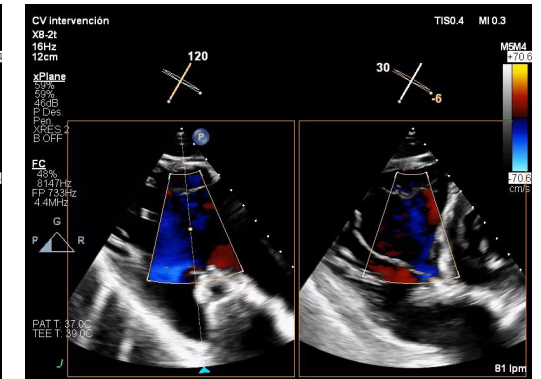
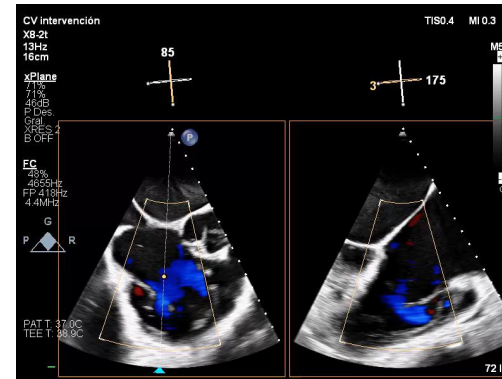
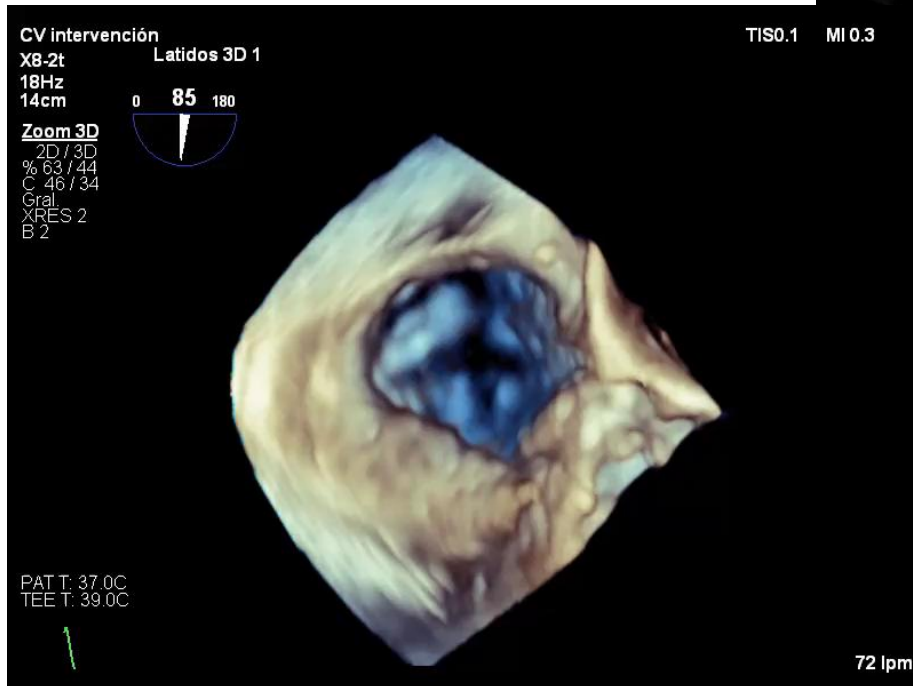
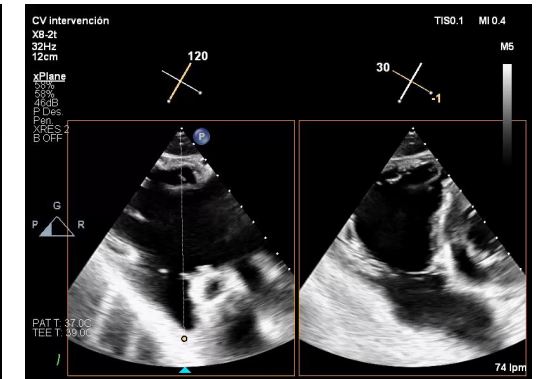
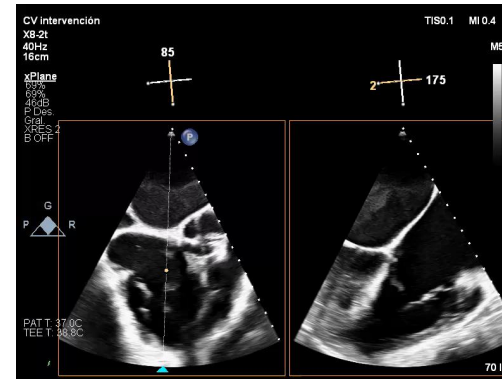
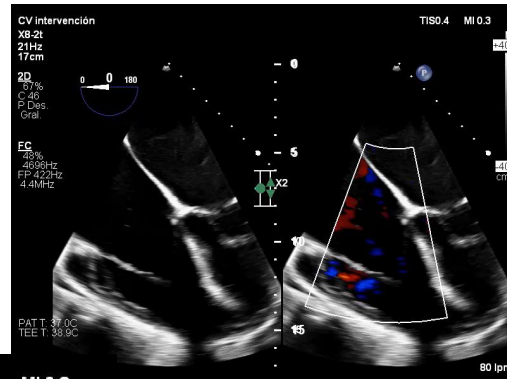
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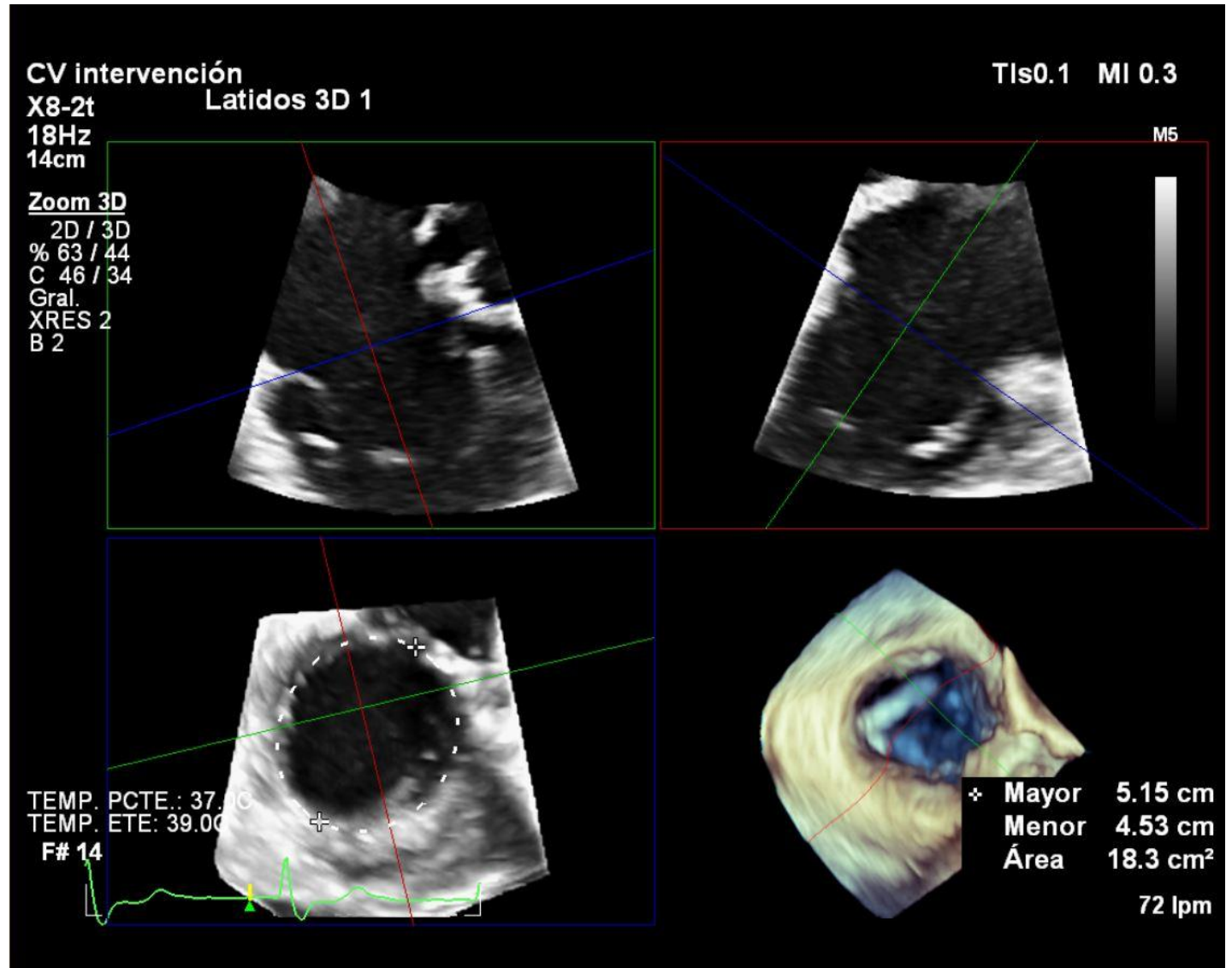
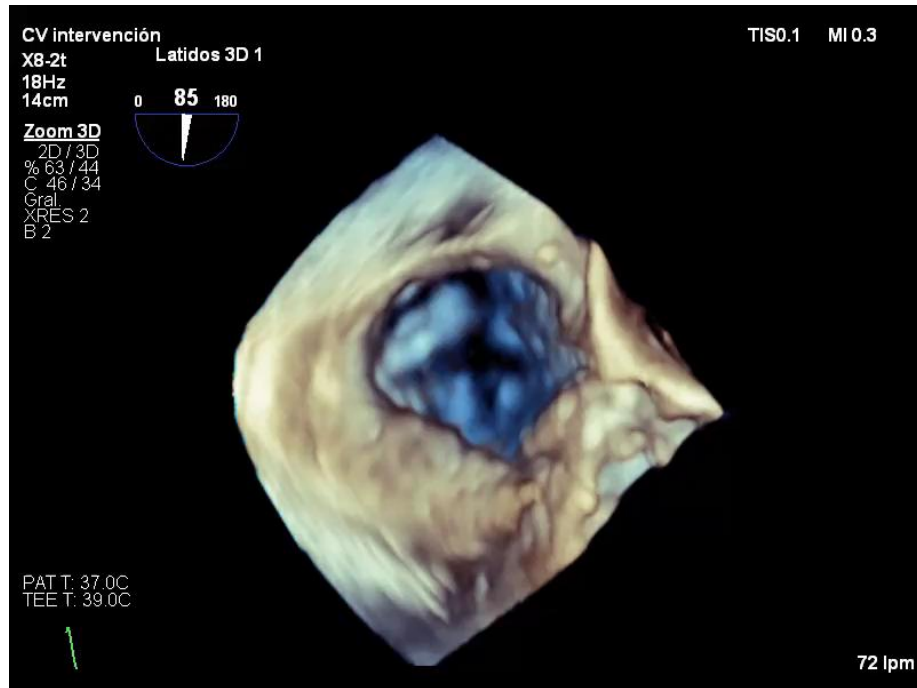


Válvula tricúspide

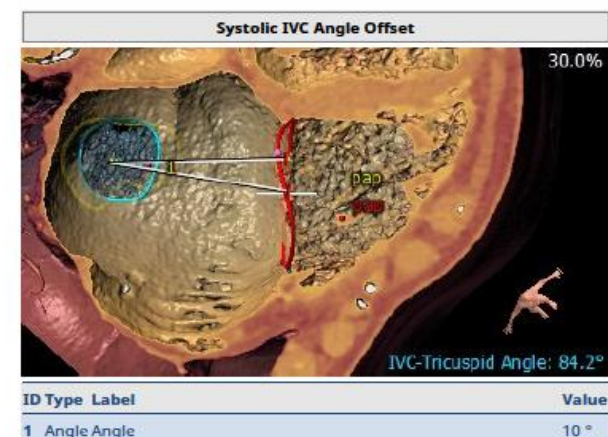
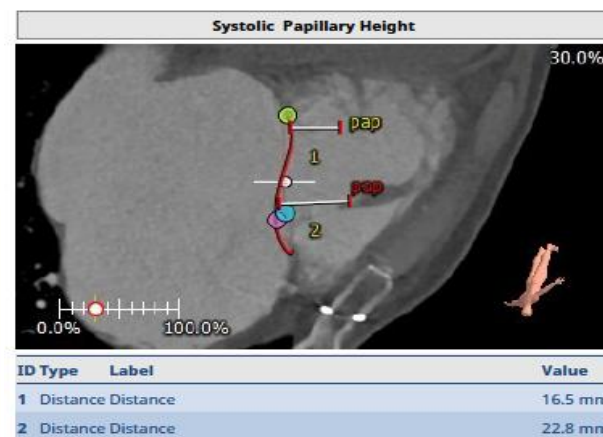
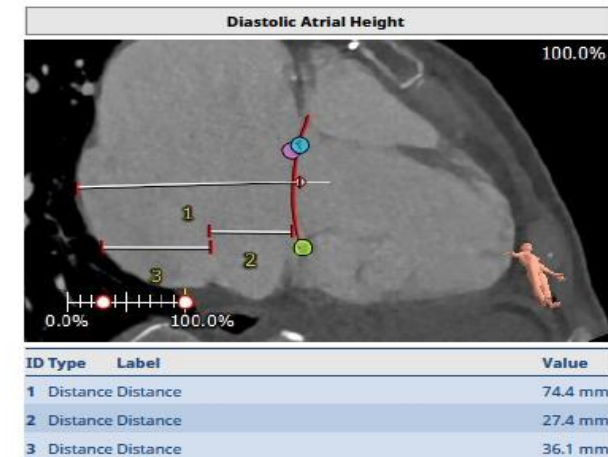
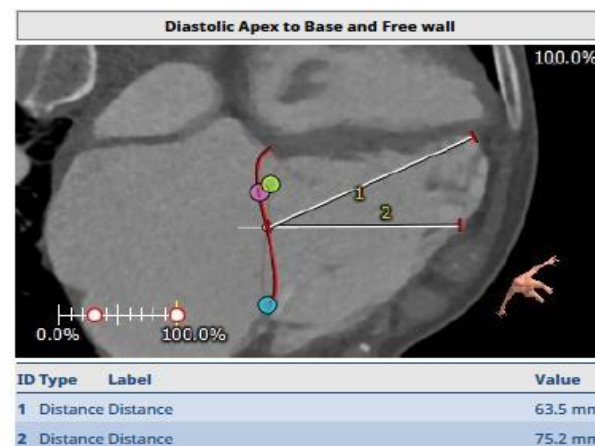
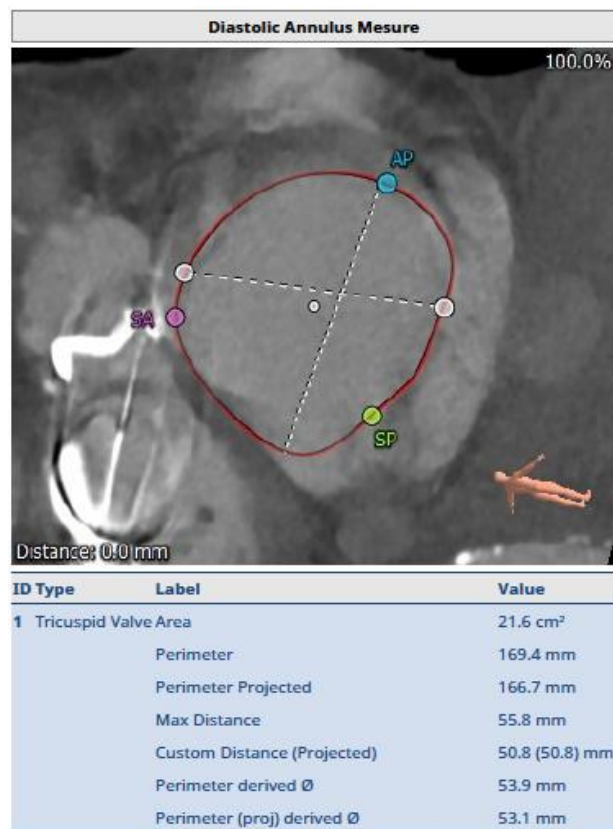
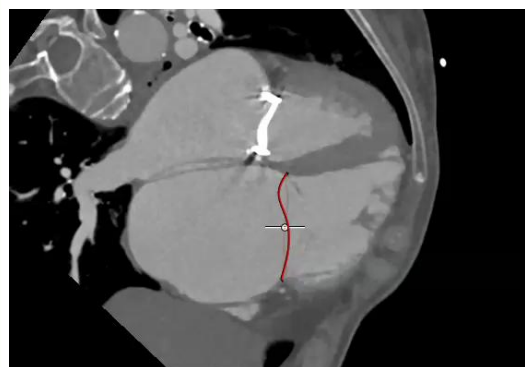
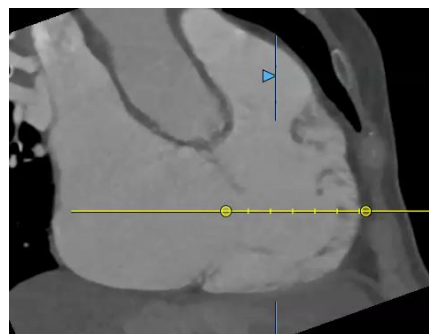
Válvula tricúspide



Válvula tricúspide



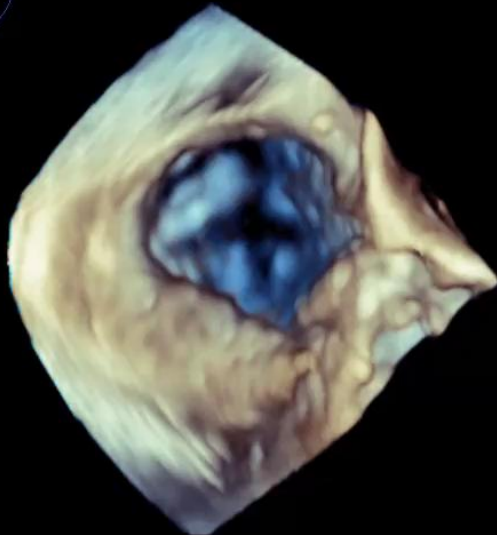
4D CT pre-TTVR



AutoTV

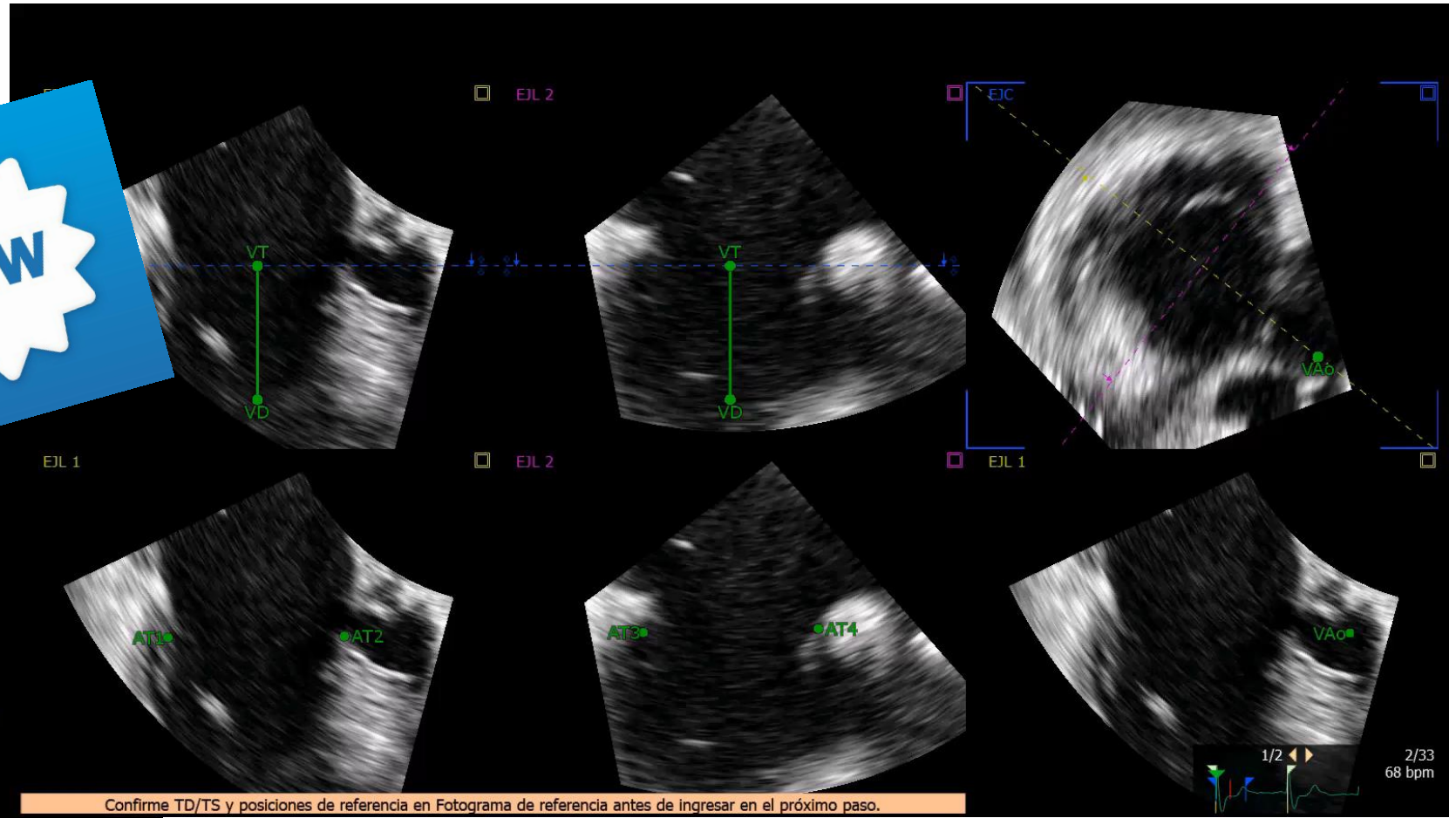


CV intervención
X8-2t Latidos 3D 1
18Hz
14cm
0 85 180
Zoom 3D
2D / 3D
% 63 / 44
C 46 / 34
Gral.
XRES 2
B 2

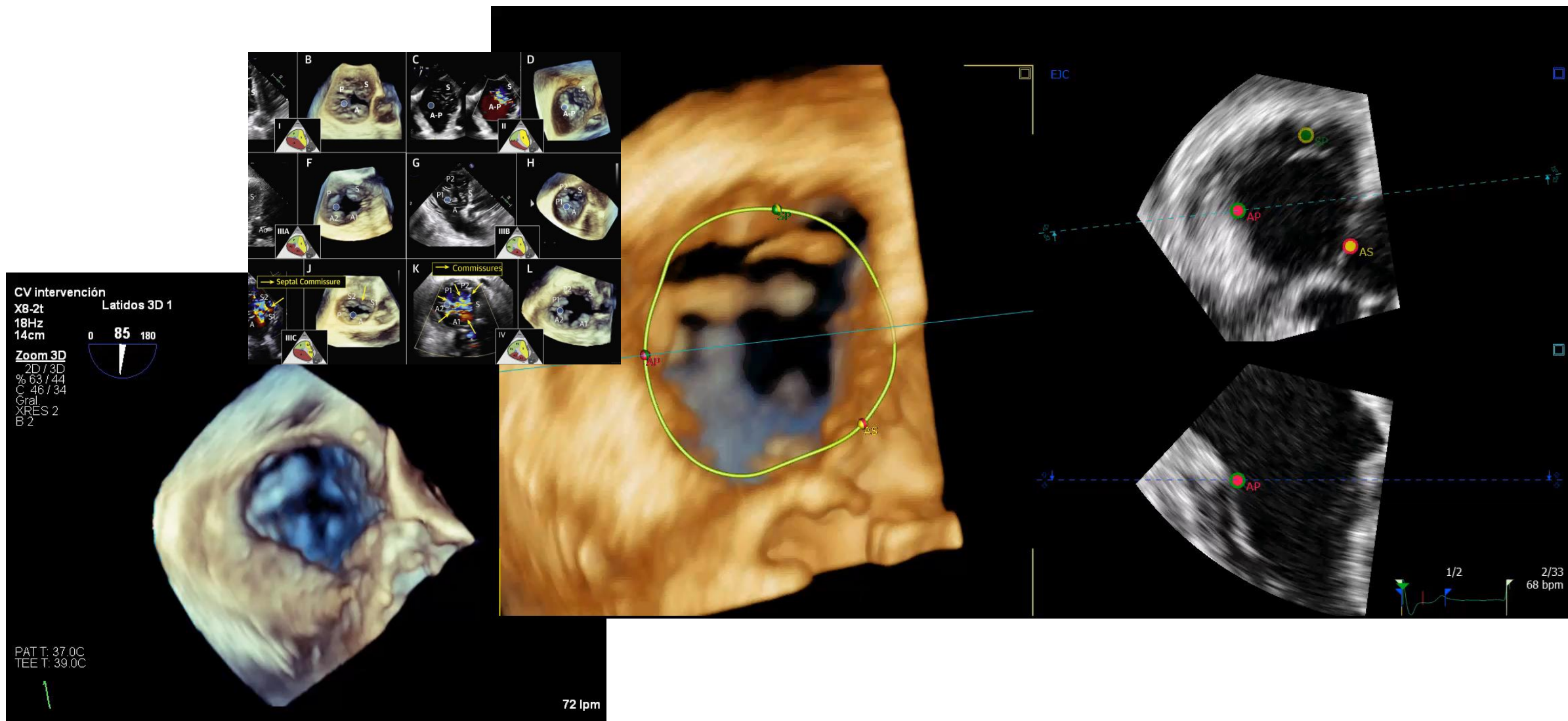


PAT T: 37.0C
TEE T: 39.0C

72 lpm

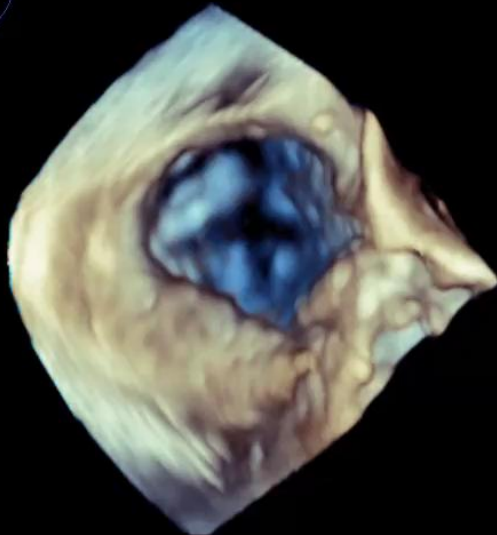


AutoTV



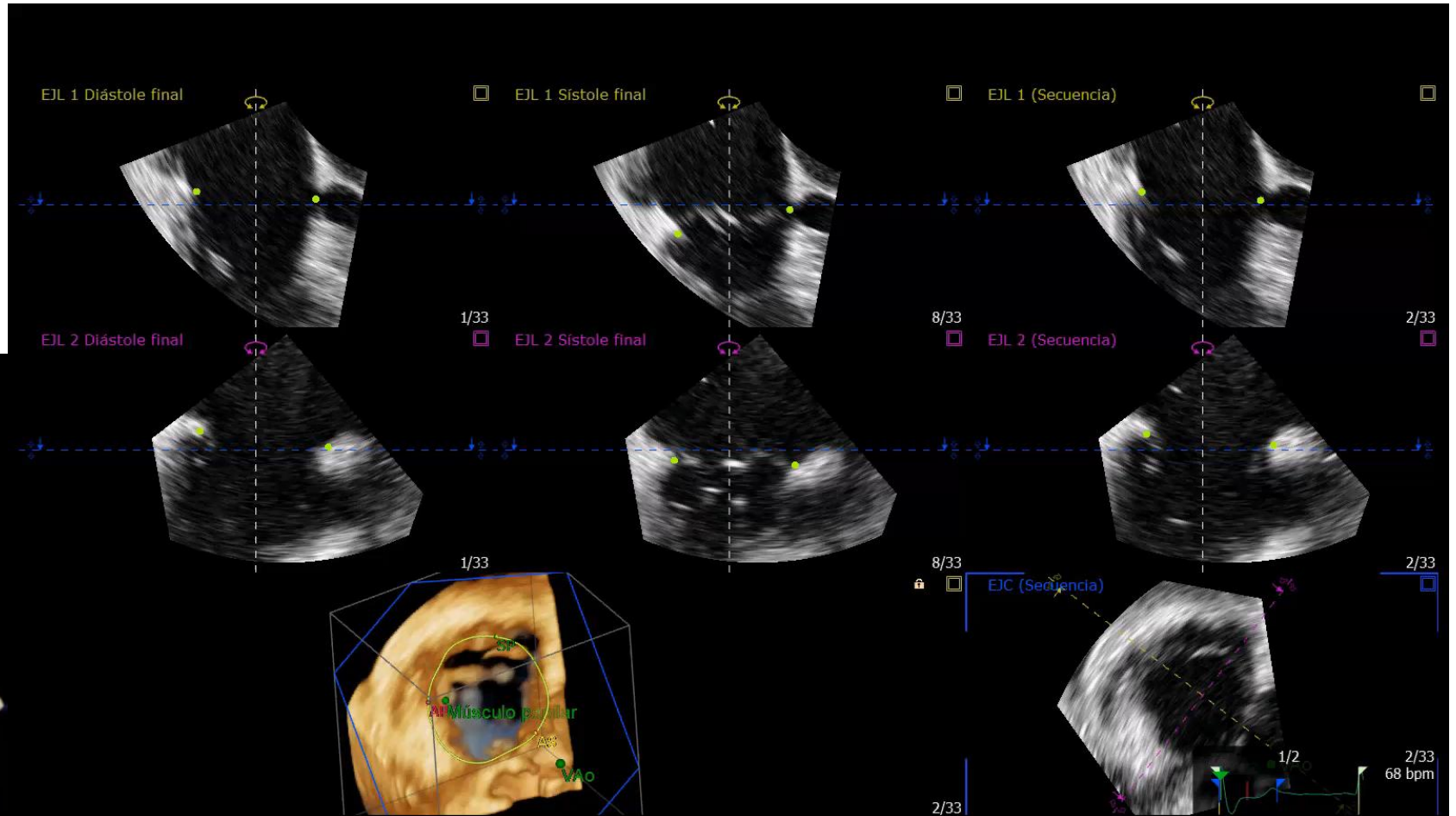
AutoTV

CV intervención
X8-2t Latidos 3D 1
18Hz
14cm
Zoom 3D
2D / 3D
% 63 / 44
C 46 / 34
Gral.
XRES 2
B 2



PAT T: 37.0C
TEE T: 39.0C

72 lpm

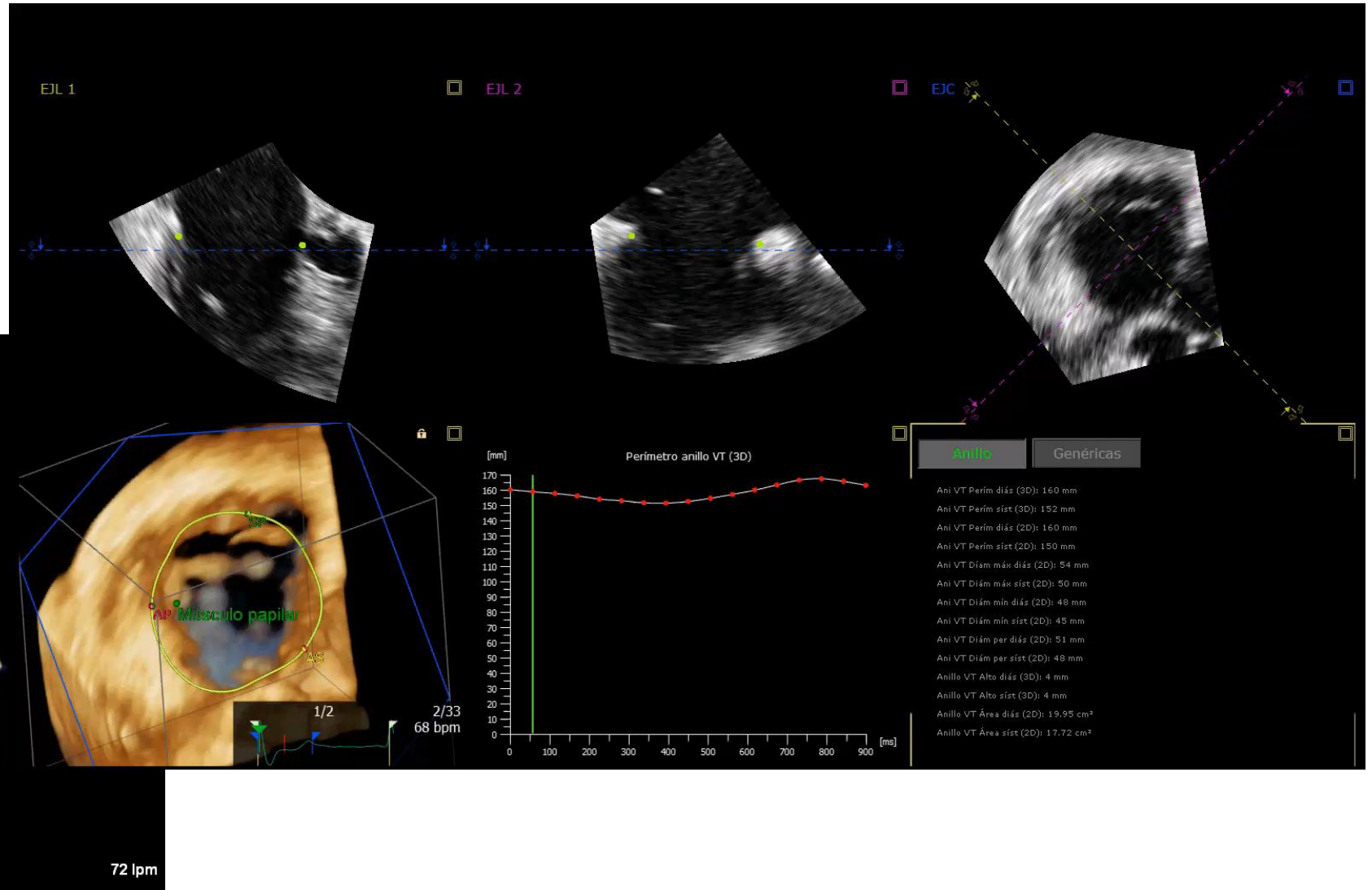
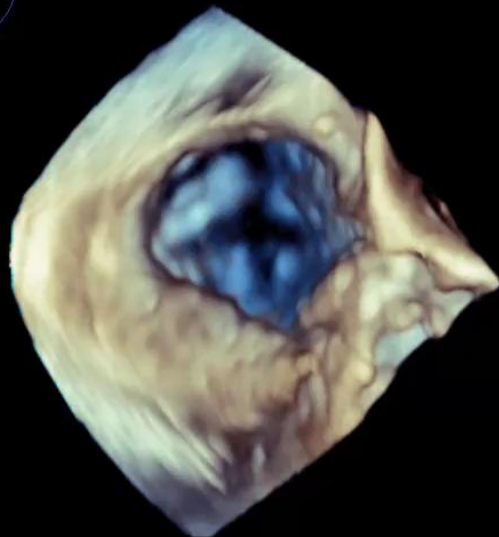


AutoTV

CV intervención
X8-2t Latidos 3D 1
18Hz
14cm

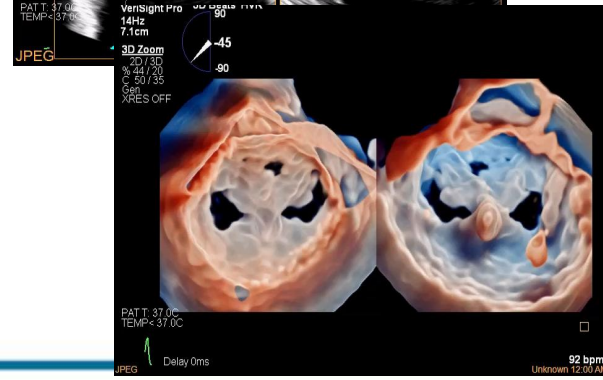
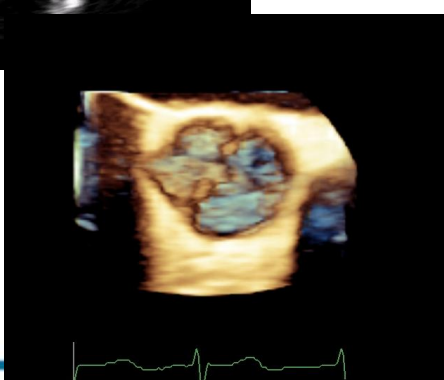
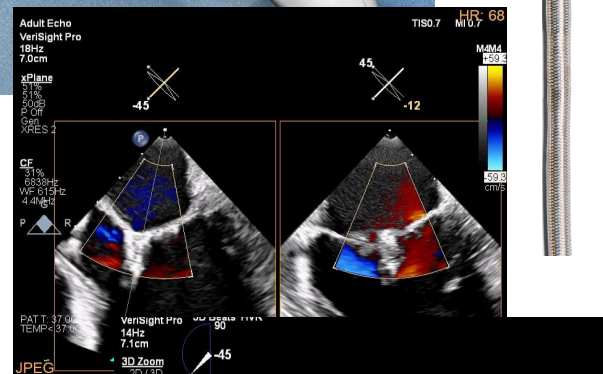
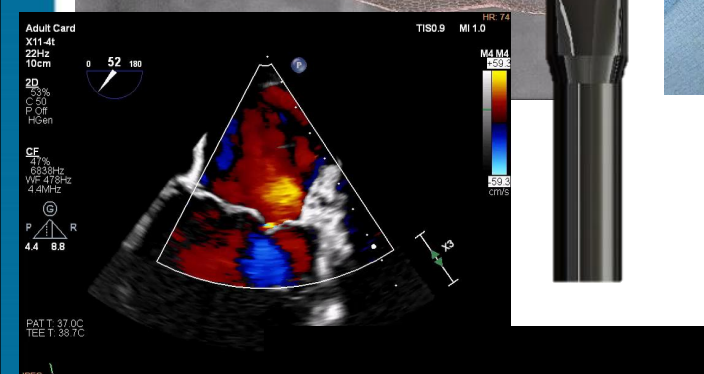
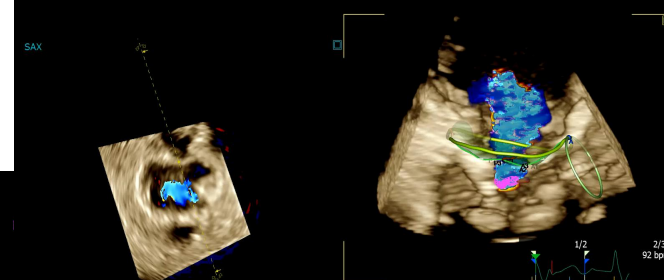
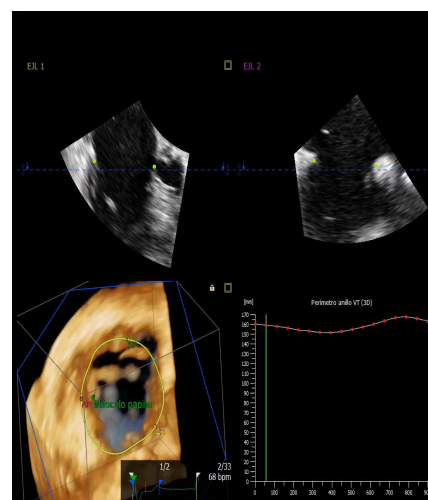
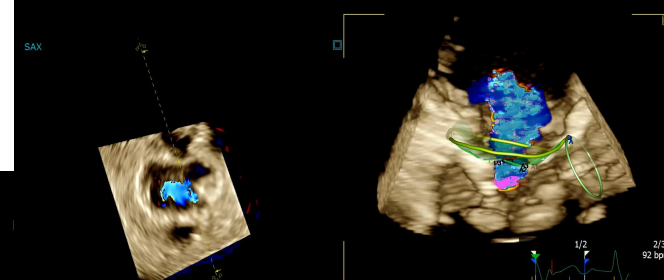
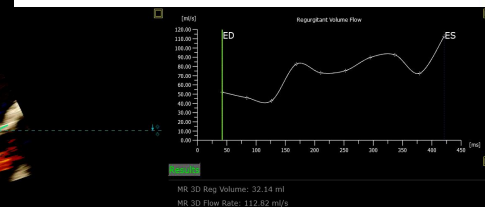
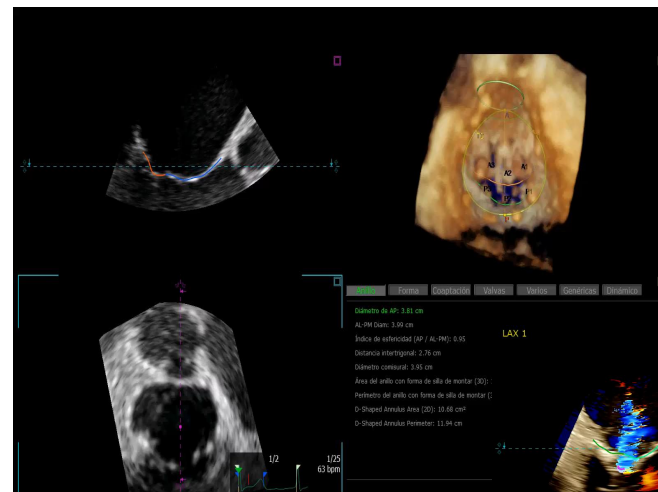
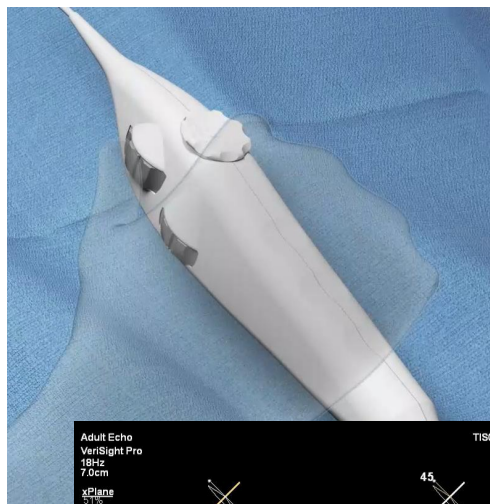
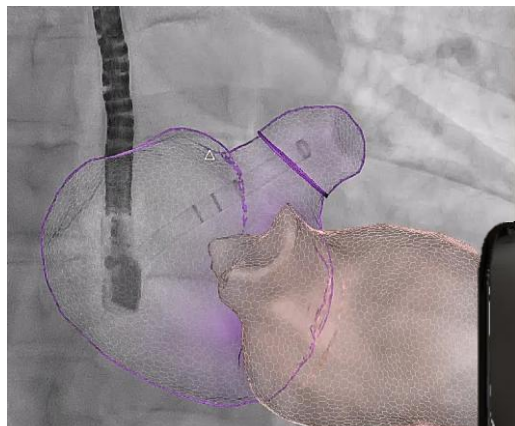
Zoom 3D
2D / 3D
% 63 / 44
C 46 / 34
Gral.
XRES 2
B 2

PAT T: 37.0C
TEE T: 39.0C



Conclusiones

Conclusiones



HOSPITAL ÁLVARO CUNQUEIRO



CSC 2024

CORONARY AND STRUCTURAL COURSE
CURSO CORONARIO Y ESTRUCTURAL

Simposios de Innovación I

**Miniaturización, cuantificación y automatización.
La revolución del all-in-one para intervencionismo**

Manuel Barreiro Pérez

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Hospital Universitario Álvaro Cunqueiro, Vigo
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[@manuelbarreiop](https://www.instagram.com/manuelbarreiop)

