

Renal Denervation & LAA Closure

Tips and Tricks in Using Amulet and Lambre Devices

TCTAP 2019 Presentation Theater 1, Level 1

28/4/2019 5:38pm to 5:46pm

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Structural Heart Intervention Program

Division of Cardiology, Department of Medicine,
Queen Mary Hospital, Hong Kong



Disclosures

- Proctor
 - St Jude Medical/Abbott
 - Edwards LifeScience
 - Lifetech Scientific
 - Claret Medical

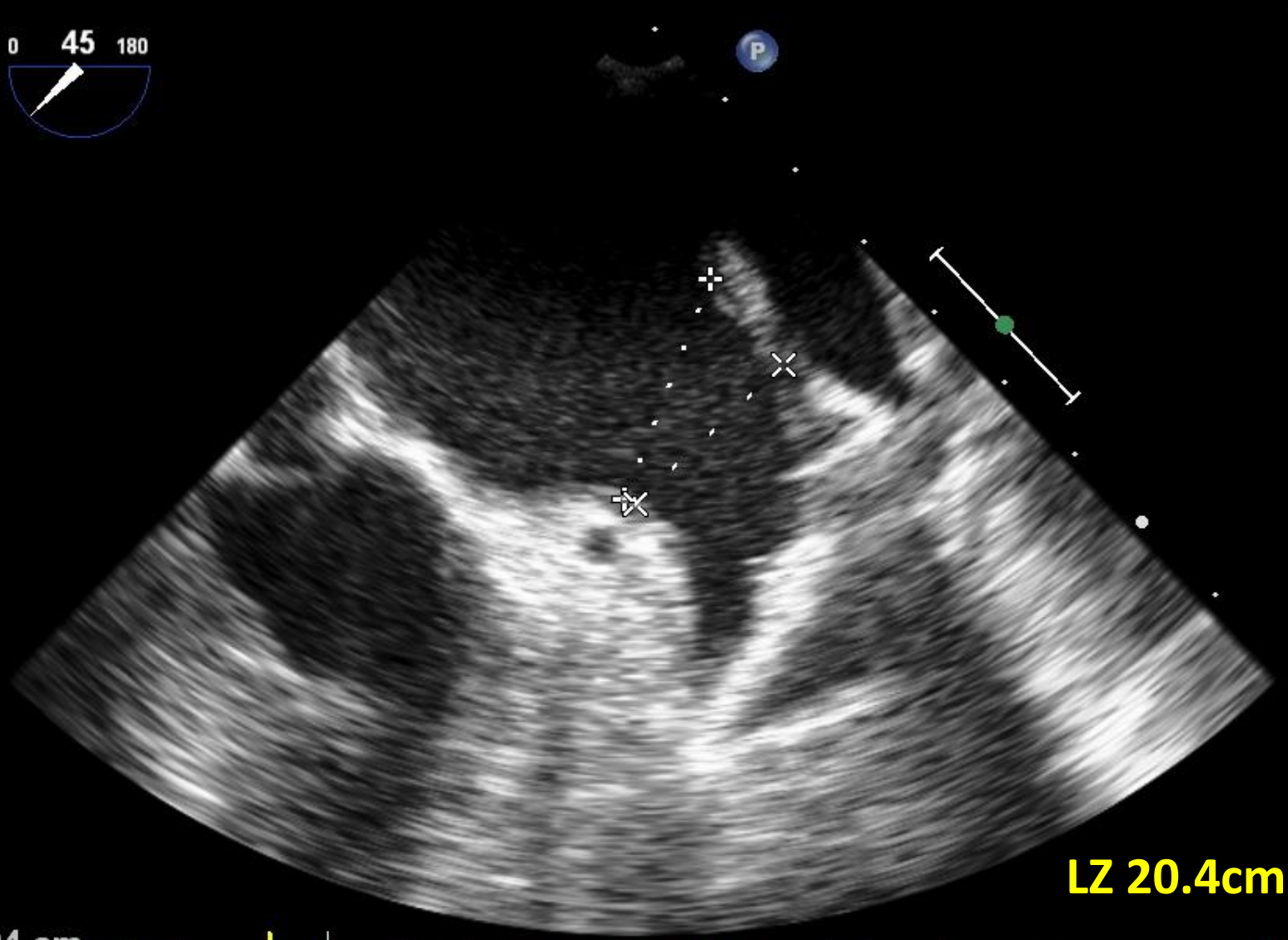
AMULET



A1

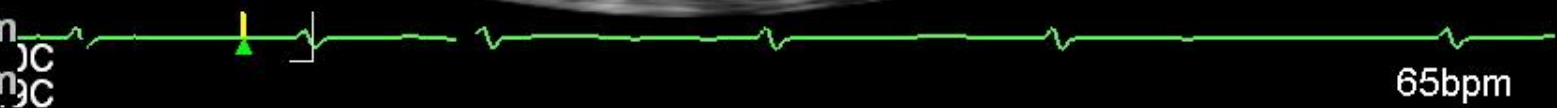
FR 50Hz
9.0cm

2D
64%
C 50
P Off
Gen



LZ 20.4cm

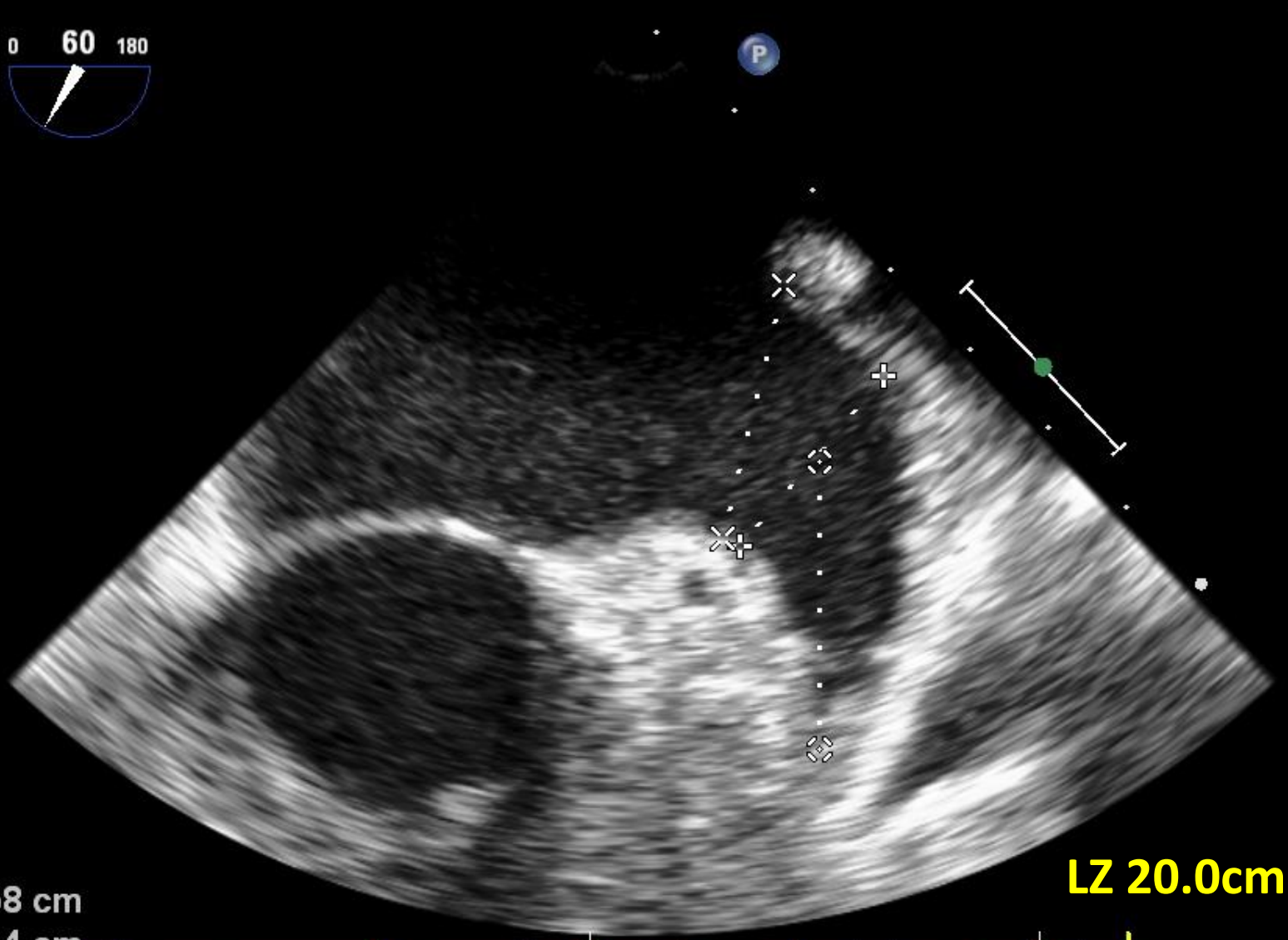
x Dist 2.04 cm
+ Dist 2.37 cm



65bpm

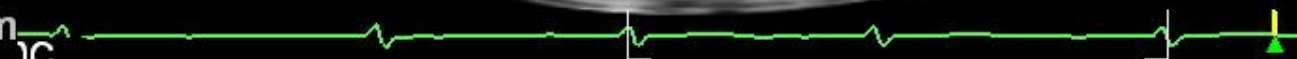
FR 50Hz
8.1cm

2D
62%
C 50
P Off
Gen



LZ 20.0cm

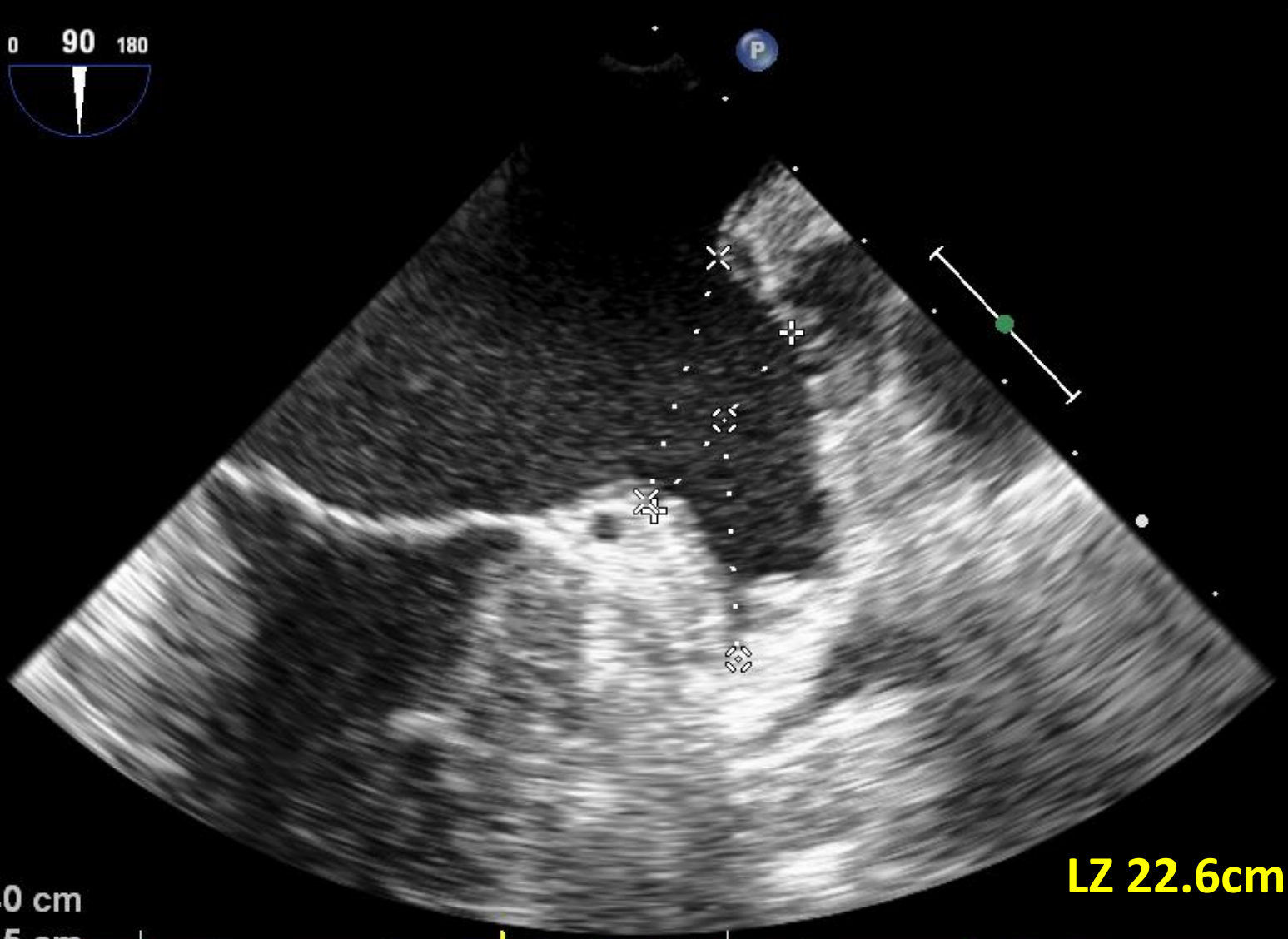
- ◇ Dist 2.58 cm
- × Dist 2.34 cm
- + Dist 2.00 cm



78bpm

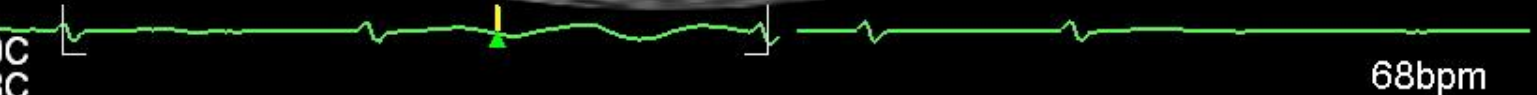
FR 50Hz
9.0cm

2D
64%
C 50
P Off
Gen



LZ 22.6cm

- ◇ Dist 2.40 cm
- × Dist 2.55 cm
- + Dist 2.26 cm

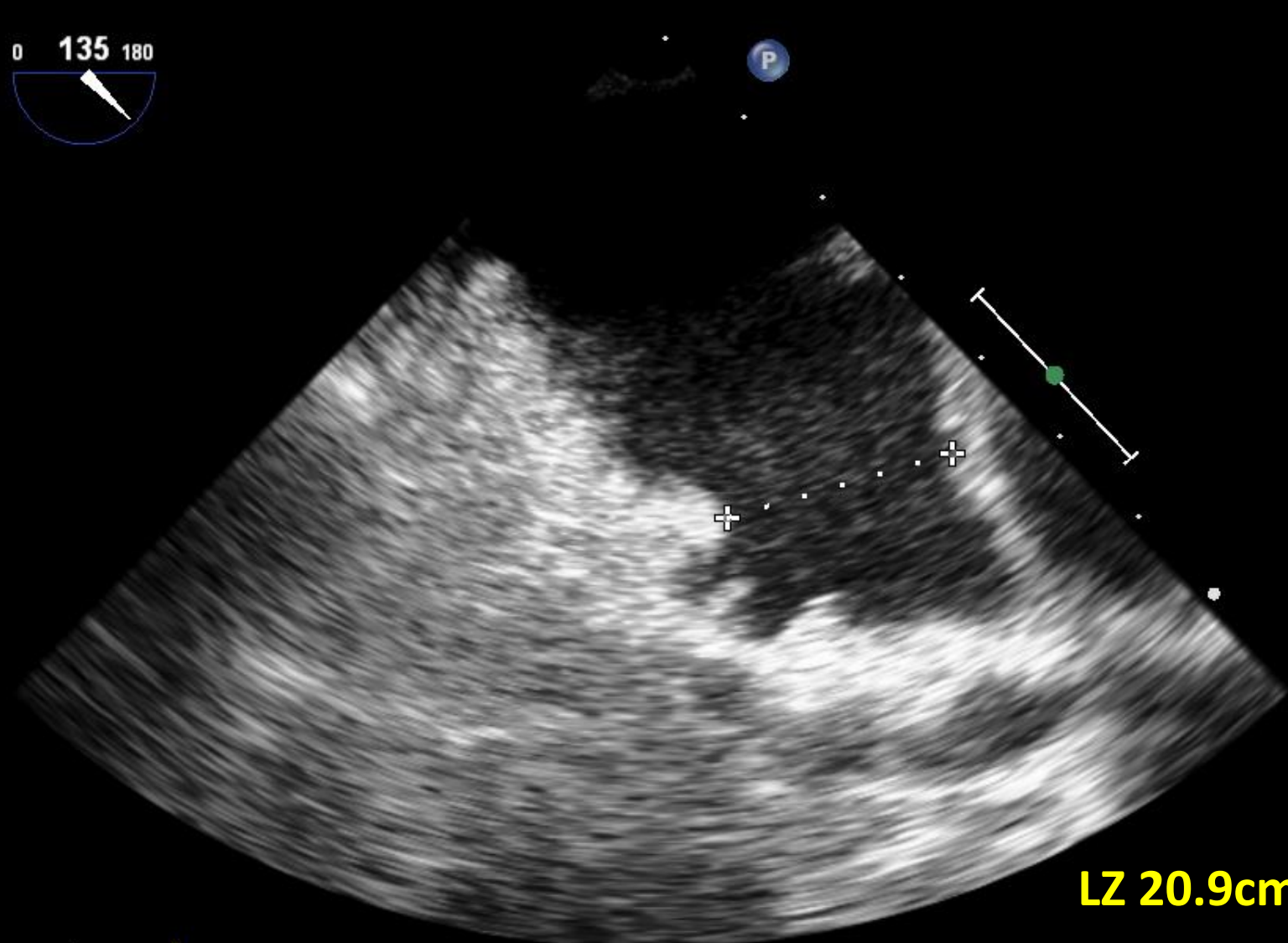


FR 50Hz
8.1cm

2D
62%
C 50
P Off
Gen



M4



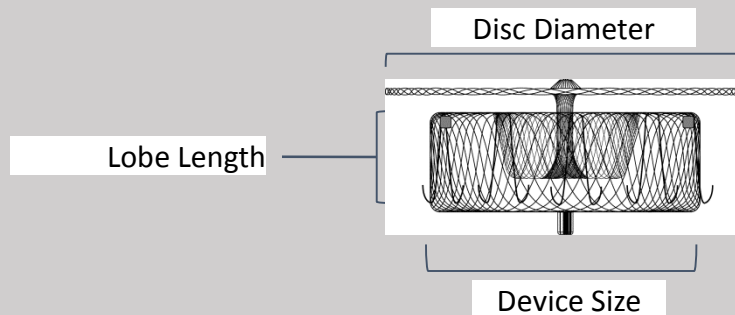
LZ 20.9cm

Dist 2.09 cm

71bpm

Device Size Selection - Amulet

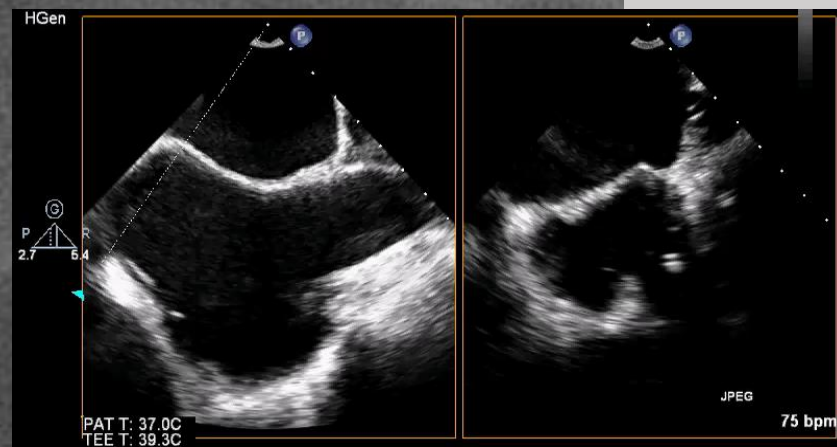
Maximum Landing Zone Width (mm)	Amulet™ Device Size	Lobe Length (mm)	Minimum LAA Depth (mm)	Disc Diameter (mm)	Sheath Diameter
11.0-13.0	16	7.5	≥ 10	22	12 F <i>or</i> 14 F (with adaptor)
13.0-15.0	18	7.5	≥ 10	24	
15.0-17.0	20	7.5	≥ 10	26	
17.0-19.0	22	7.5	≥ 10	28	
19.0-22.0	25	10	≥ 12	32	
22.0-25.0	28	10	≥ 12	35	14 F
25.0-28.0	31	10	≥ 12	38	
28.0-31.0	34	10	≥ 12	41	



Im: 1/150
Se: 1

QUEEN MARY HOSPITAL
CG160232
Cardiac Special
Fluoroscopy

WL: 128 WW: 256 [D]
AP



Im: 1/150
Sa: 1

QUEEN MARY HOSPITAL
CG160232
Cardiac Special
Fluoroscopy

WL: 128 WW: 256 [D]
AP

PHILIPS 11/08/2016 03:22:34PM TIS0.3 MI 0.6
X7-2t/Adult

FR 50Hz
9.0cm

2D
61%
C 50
P Off
HGen



⊙
P 2.7 R 5.4



PAT T: 37.0C
TEE T: 40.1C

JPEG

61 bpm

Im: 1/107
Se: 1

QUEEN MARY HOSPITAL
CG160232
Cardiac Special
Fluoroscopy



WL: 128 WW: 256 [D]
RAO: 30 CRA: 20

PHILIPS 11/08/2016 03:23:58PM TISO.3 MI 0.6
X7-2t/Adult

FR 50Hz
8.1cm
2D
60%
C 50
P Off
HGen



PAT T: 37.0C
TEE T: 39.7C

JPEG 54 bpm

Im: 1/134

Se: 1

QUEEN MARY HOSPITAL
CG160232
Cardiac Special
Fluoroscopy

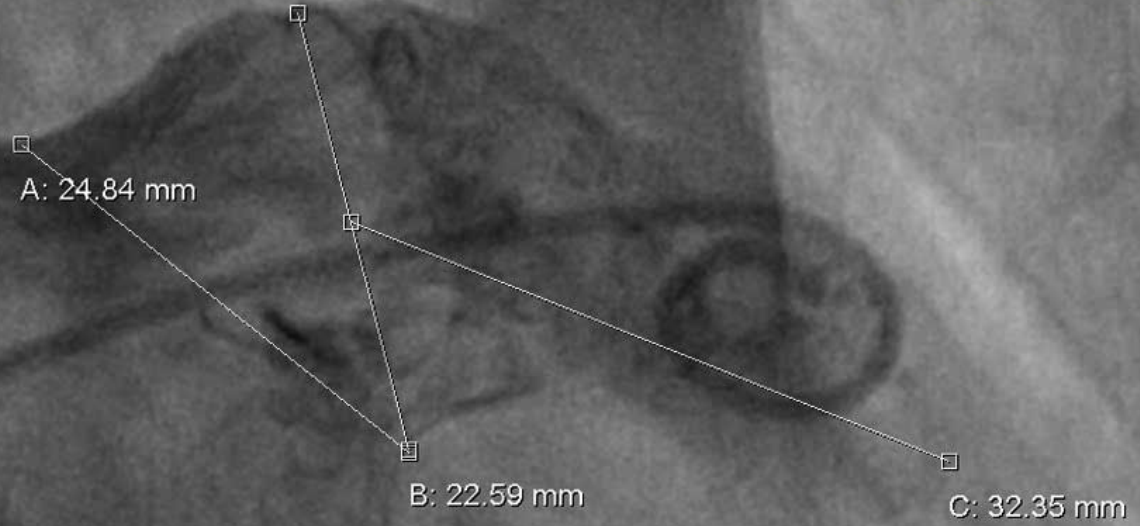
WL: 128 WW: 222 [D]

RAO: 30 CAU: 20

11/8/2016 15:22:19

Im: 1/1
Se: 4

CG160232
Cardiac Special
Ped 30 fps High Contrast

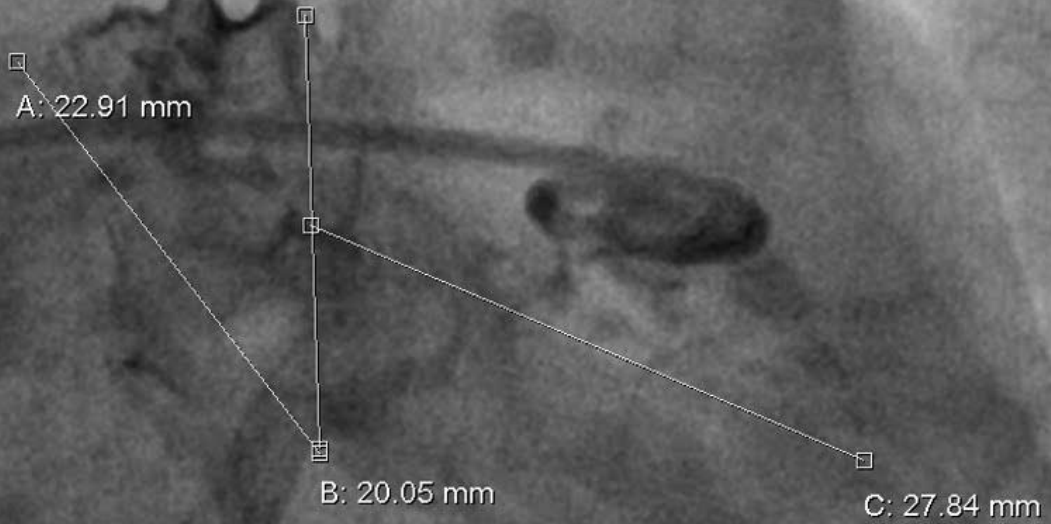


WL: 512 WW: 1024 [D]
CF 0.1216 mm/pix

11/8/2016 15:20:40

Im: 1/1
Se: 5

CG160232
Cardiac Special
Ped 30 fps High Contrast



WL: 512 WW: 1024 [D]
CF 0.1119 mm/pix

11/8/2016 15:22:20

Im: 1/150

Se: 1

QUEEN MARY HOSPITAL
CG160232
Cardiac Special
Fluoroscopy

WL: 128 WW: 256 [D]

RAO: 30

11/8/2016 15:31:23

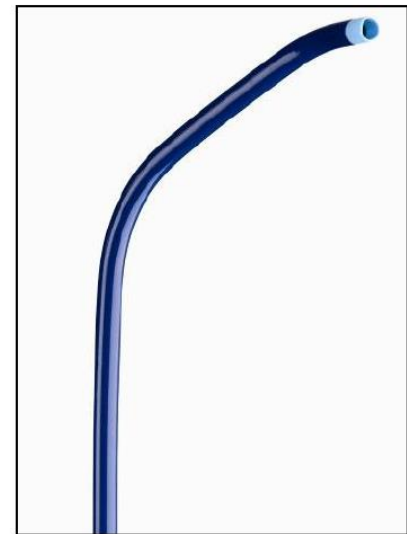
Im: 1/150

Se: 1

QUEEN MARY HOSPITAL
CG160232
Cardiac Special
Fluoroscopy

WL: 128 WW: 256 [D]
RAO: 30

11/8/20



AMPLATZER™
TorqVue™ 45°x 45°
Delivery System

Im: 1/21
Se: 1

QUEEN MARY HOSPITAL
CG160232
Cardiac Special
Fluoroscopy

WL: 128 WW: 256 [D]
RAO: 30

11/8/2016 15:37:58

Im: 1/41
Se: 1

QUEEN MARY HOSPITAL
CG160232
Cardiac Special
Fluoroscopy

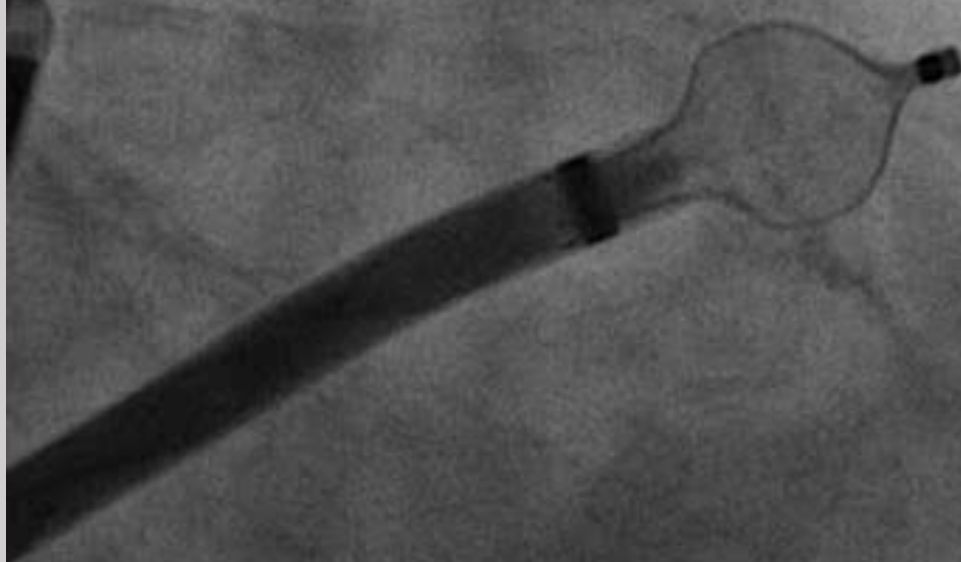
WL: 128 WW: 256 [D]
RAO: 30 CAU: 20

11/8/2016 15:39:42

Im: 1/48

Se: 1

QUEEN MARY HOSPITAL
CG160232
Cardiac Special
Fluoroscopy



WL: 128 WW: 256 [D]
RAO: 30 CAU: 20

11

PHILIPS MH 11/08/2016 03:45:00PM TISO.3 MI 0.6
X7-2t/Adult M4

FR 50Hz
10cm

2D
68%
C 50
P Off
HGen

0 44 180

P R
2.7 5.4

PAT T: 37.0C
TEE T: 39.5C

64bpm

Detailed description: This panel contains an echocardiogram image showing a cross-section of the heart. A measurement line is drawn across a portion of the heart, with a green crosshair at its center. The image is in grayscale and shows the internal structure of the heart. The top of the panel has a dark blue header with patient and system information. The left side has technical specifications for the ultrasound machine. The bottom left shows a small diagram of the heart's orientation. The bottom right shows a heart rate of 64bpm and temperature readings.

Im: 1/12
Se: 1

QUEEN MARY HOSPITAL
CG160232
Cardiac Special
Fluoroscopy

WL: 128 WW: 256 [D]
RAO: 30 CAU: 20

11/8/

PHILIPS QMH 11/08/2016 03:45:36PM TISO.3 MI 0.6 X7-2UAdult

FR 50Hz
10cm

2D
66%
C 50
P Off
HGen

0 44 180

ⓐ
P R
2.7 6.4



PAT T: 37.0C
TEE T: 39.7C 58bpm

The image shows a Philips echocardiogram interface. At the top, it displays the hospital name 'QUEEN MARY HOSPITAL', patient ID 'CG160232', and the procedure 'Cardiac Special Fluoroscopy'. The main display area shows a 2D echocardiogram of the heart. Technical parameters on the left include 'FR 50Hz', '10cm' scale, '2D' mode, '66%' gain, 'C 50', 'P Off', and 'HGen'. A circular dial shows a value of '44' between '0' and '180'. Below the dial is a small diagram with 'P', 'R', and '2.7 6.4' labels. The echocardiogram itself shows a cross-section of the heart with a white measurement line and a scale bar on the right. At the bottom, patient temperature 'PAT T: 37.0C', TEE temperature 'TEE T: 39.7C', and heart rate '58bpm' are displayed.

Im: 1/39
Se: 1

QUEEN MARY HOSPITAL
CG160232
Cardiac Special
Fluoroscopy

WL: 128 WW: 256 [D]
RAO: 30 CAU: 20

PHILIPS 11/08/2016 03:46:05PM TISO.3 MI 0.6
X7-2tAdult

FR 50Hz
10cm

2D
66%
C 50
P Off
HGen

0 74 180

P R
2.7 6.4

M4

JPEG 60 bpm

PAT T: 37.0C
TEE T: 39.8C

Im: 1/150

Se: 1

QUEEN MARY HOSPITAL
CG160232
Cardiac Special
Fluoroscopy

WL: 128 WW: 256 [D]

RAO: 30 CAU: 20

11/8/2016 15:42:28

Im: 1/9
Se: 1

QUEEN MARY HOSPITAL
CG160232
Cardiac Special

PHILIPS 11/08/2016 03:46:57PM TISO.3 MI 0.6
X7-2t/Adult

FR 50Hz
11cm

2D
68%
C 50
P Off
HGen

0 74 180



M4

PAT T: 37.0C
TEE T: 40.0C

JPEG 63 bpm

PHILIPS 11/08/2016 03:47:13PM TISO.3 MI 0.6
X7-2t/Adult

FR 50Hz
11cm

2D
68%
C 50
P Off
HGen

0 74 180



M4

PAT T: 37.0C
TEE T: 39.8C

JPEG 72 bpm

WL: 128 WW: 256 [D]
RAO: 30 CAU: 20

Im: 1/53
Se: 1

QUEEN MARY HOSPITAL
CG160232
Cardiac Special
Fluoroscopy

WL: 128 WW: 256 [D]
RAO: 30 CAU: 20

PHILIPS 11/08/2016 03:48:43PM TIS0.4 MI 0.7
X7-2t/Adult

FR 17Hz
11cm

2D
70%
C 50
P Crf
HGen

CF
59%
4.4MHz
WF High
Med

0 74 100

M4 M4
+38.5
-38.5
cm/s

P R
2.7 5.4

PAT T: 37.0C
TEE T: 39.9C

JPEG 60 bpm

Im: 1/50
Se: 1

QUEEN MARY HOSPITAL
CG160232
Cardiac Special
Fluoroscopy

WL: 128 WW: 256 [D]
RAO: 30 CRA: 20

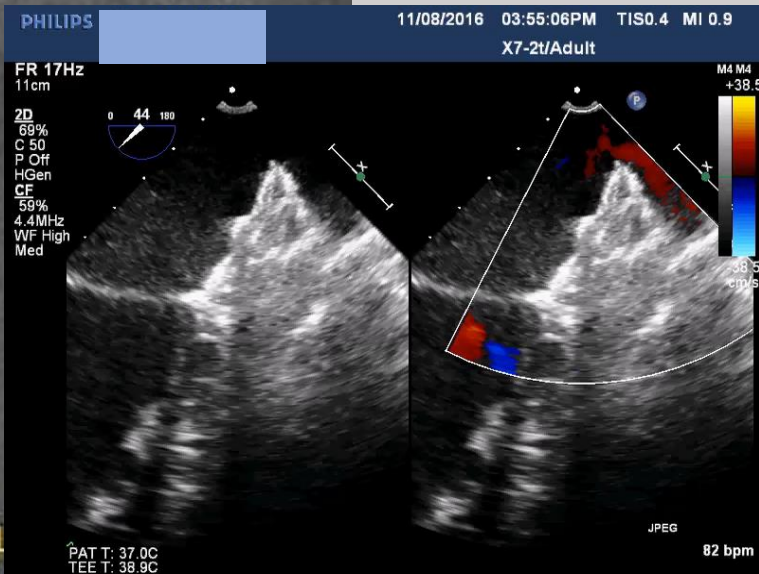
11/8/2016 15:44:31

Im: 1/56
Se: 1

QUEEN MARY HOSPITAL
CG160232
Cardiac Special
Fluoroscopy

WL: 128 WW: 256 [D]
RAO: 30 CAU: 20

11



Im: 1/47
Se: 1

QUEEN MARY HOSPITAL
CG160232
Cardiac Special
Fluoroscopy

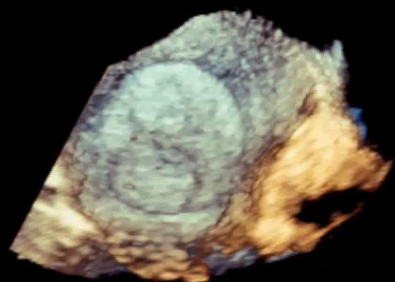
WL: 128 WW: 256 [D]
RAO: 30 CRA: 20

PHILIPS 11/08/2016 04:02:53PM TISO.4 MI 1.0
X7-2t/Adult

FR 6Hz 6.6cm 3D Beats 1

3D 47% 3D 40dB

0 75 180



M4

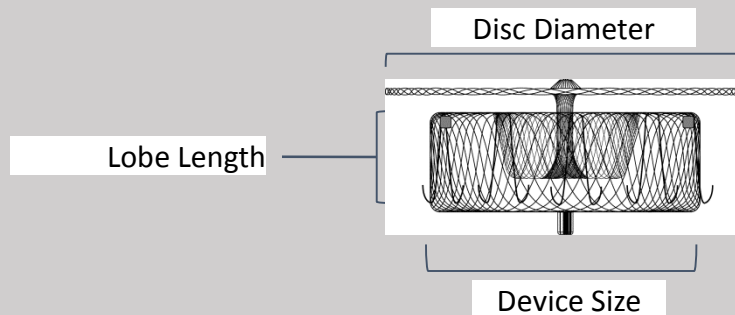
PAT T: 37.0C TEE T: 39.6C

JPEG 61 bpm

A2

Device Size Selection - Amulet

Maximum Landing Zone Width (mm)	Amulet™ Device Size	Lobe Length (mm)	Minimum LAA Depth (mm)	Disc Diameter (mm)	Sheath Diameter
11.0-13.0	16	7.5	≥ 10	22	12 F <i>or</i> 14 F (with adaptor)
13.0-15.0	18	7.5	≥ 10	24	
15.0-17.0	20	7.5	≥ 10	26	
17.0-19.0	22	7.5	≥ 10	28	
19.0-22.0	25	10	≥ 12	32	
22.0-25.0	28	10	≥ 12	35	14 F
25.0-28.0	31	10	≥ 12	38	
28.0-31.0	34	10	≥ 12	41	





Im: 1/57

Seq: 16

Landing Zone 25mm

AMULET #28mm

Queen Mary Hospital

0342-2017

XA

Left Coronary 15 fps

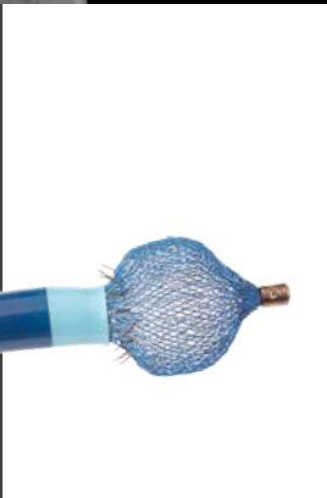
WL: 129 WW: 190 [D]

RAO: 30 CAU: 20

10/3/2017 17:14:25

Im: 1/300
Se: 17

Queen Mary Hospital
0342-2017
XA
Fluoroscopy



WL: 115 WW: 213 [D]
RAO: 30 CAU: 20

Im: 1/300
Se: 18



Queen Mary Hospital
0342-2017
XA
Fluoroscopy

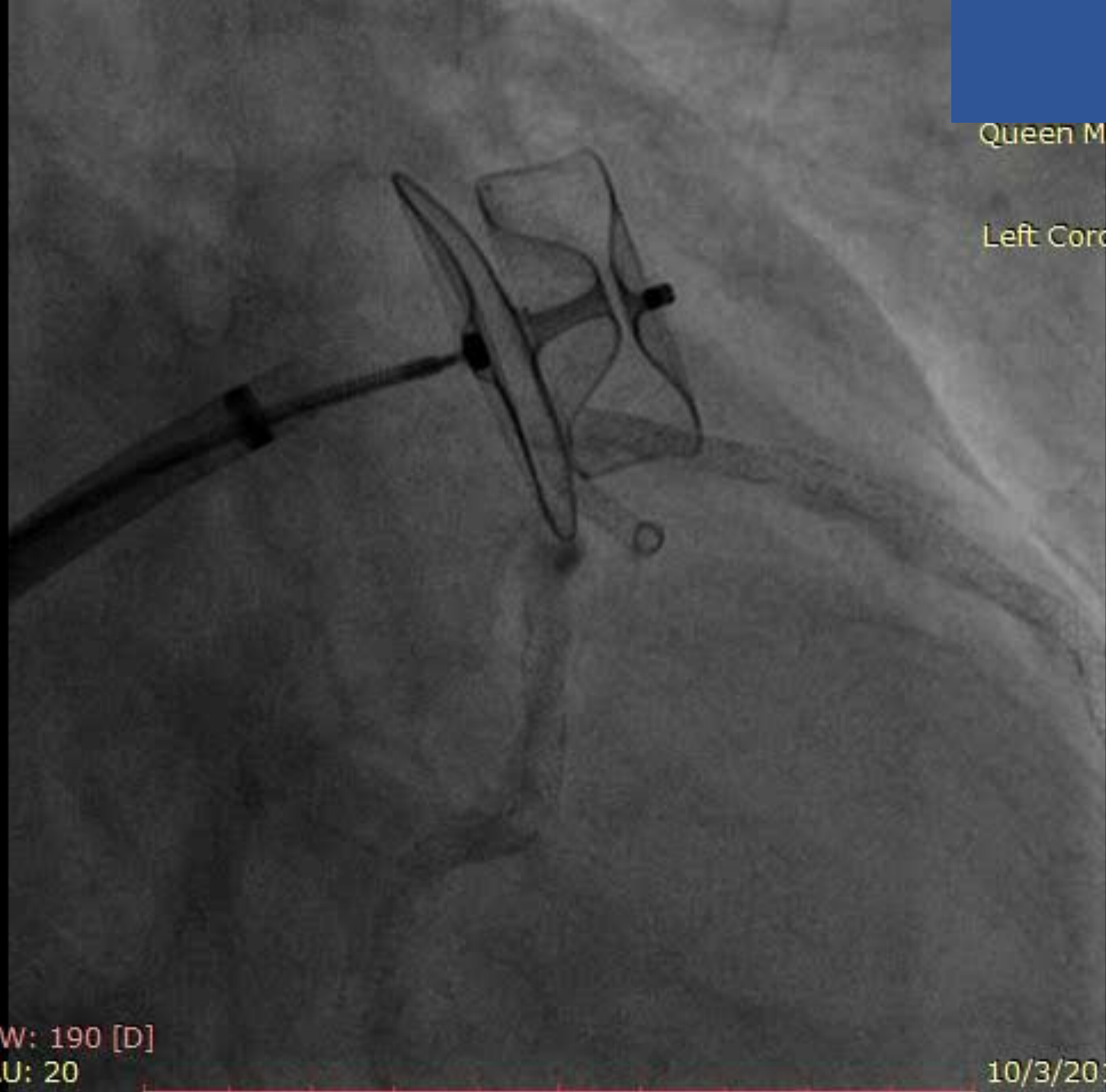


WL: 115 WW: 213 [D]
RAO: 30 CAU: 20

10/3/2017 17:17:21

Im: 1/60
Se: 19

Queen Mary Hospital
0342-2017
XA
Left Coronary 15 fps

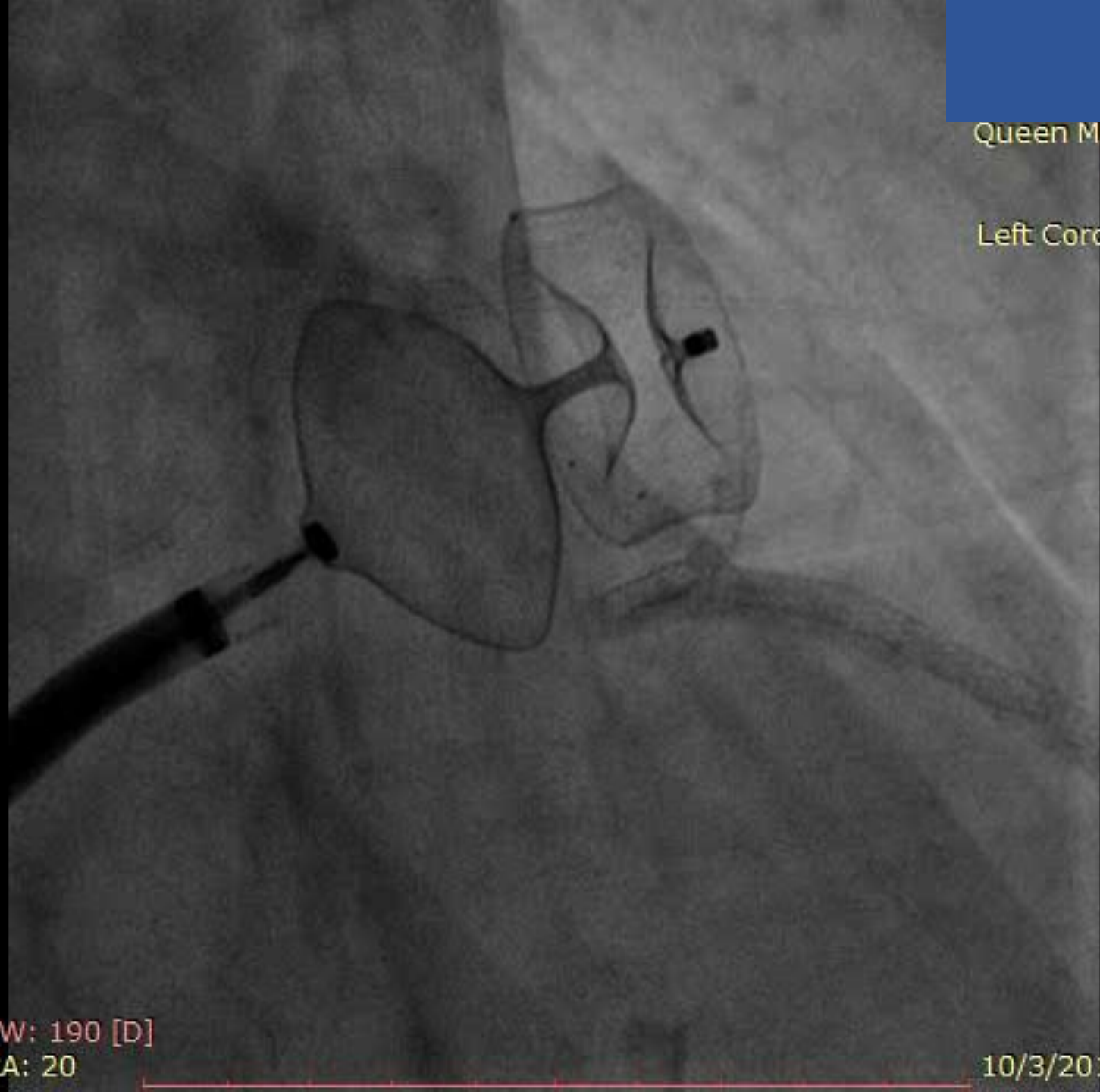


WL: 129 WW: 190 [D]
RAO: 30 CAU: 20

10/3/2017 17:18:13

Im: 1/15
Se: 24

Queen Mary Hospital
0342-2017
XA
Left Coronary 15 fps



WL: 129 WW: 190 [D]
RAO: 30 CRA: 20

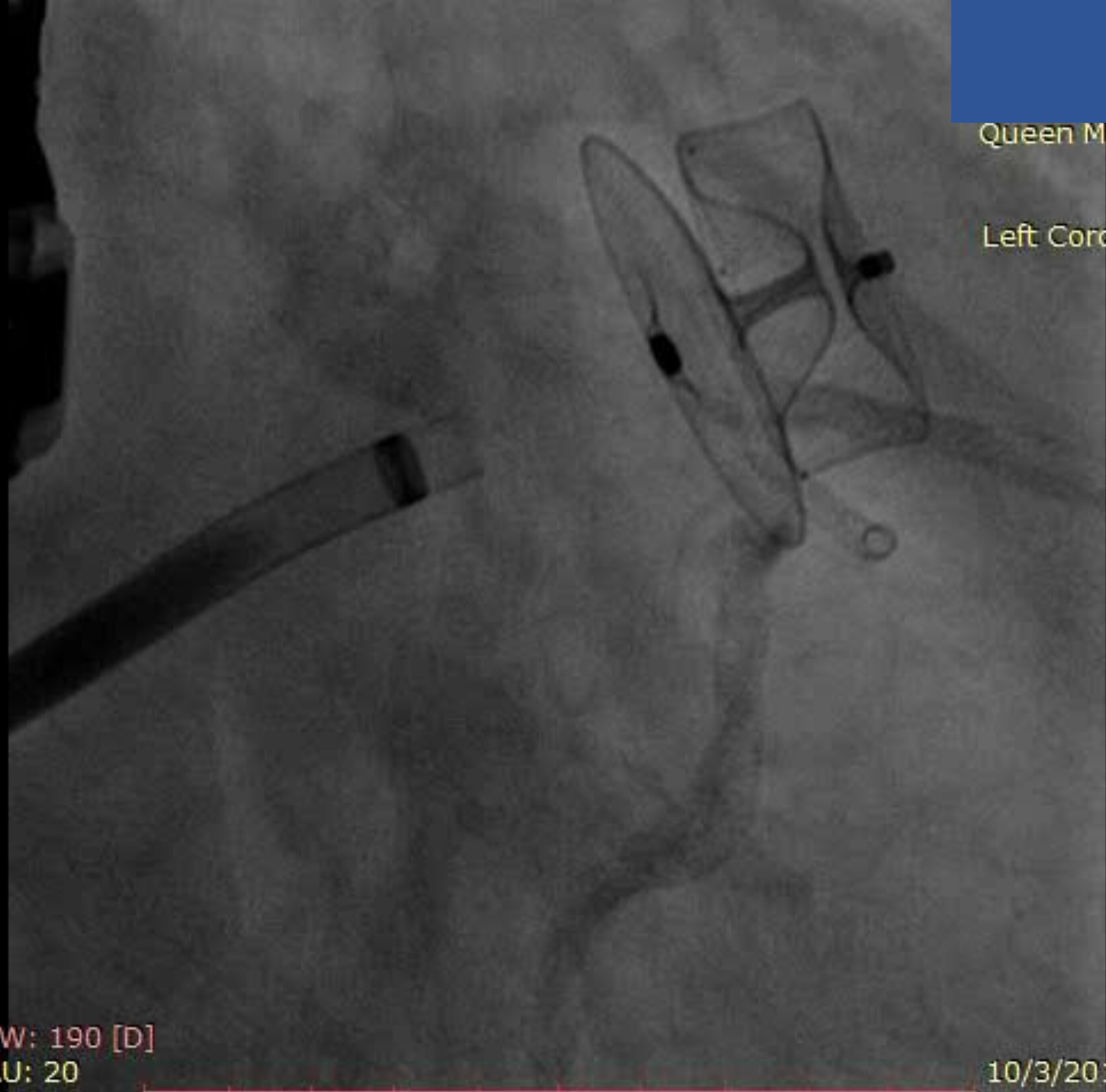
10/3/2017 17:22:25

Im: 1/53
Se: 31

Queen Mary Hospital
0342-2017
XA
Left Coronary 15 fps

WL: 129 WW: 190 [D]
RAO: 30 CAU: 20

10/3/2017 17:29:23



A3

Im: 1/91
Se: 24

QUEEN MARY HOSPITAL
CG160207

EP 15 fps



PHILIPS 22/07/2016 01:18:24PM TISO.3 MI 0.6
X7-2t/Adult

FR 50Hz
12cm
2D
64%
C 50
P Off
HGen



WL: 128 WW: 256 [D]
RAO: 30 CAU: 19

PAT T: 37.0C
TEE T: 39.9C

JPEG 60 bpm

Im: 1/9
Se: 25

QUEEN MARY HOSPITAL
CG160207

EP 15 fps



PHILIPS 22/07/2016 01:18:59PM TISO.3 MI 0.6
X7-2t/Adult

FR 50Hz
12cm

2D 64%
C 50
P Off
HGen

0 62 180

M4

©
P 2.7 R 5.4

PAT T: 37.0C
TEE T: 39.9C

JPEG 73 bpm

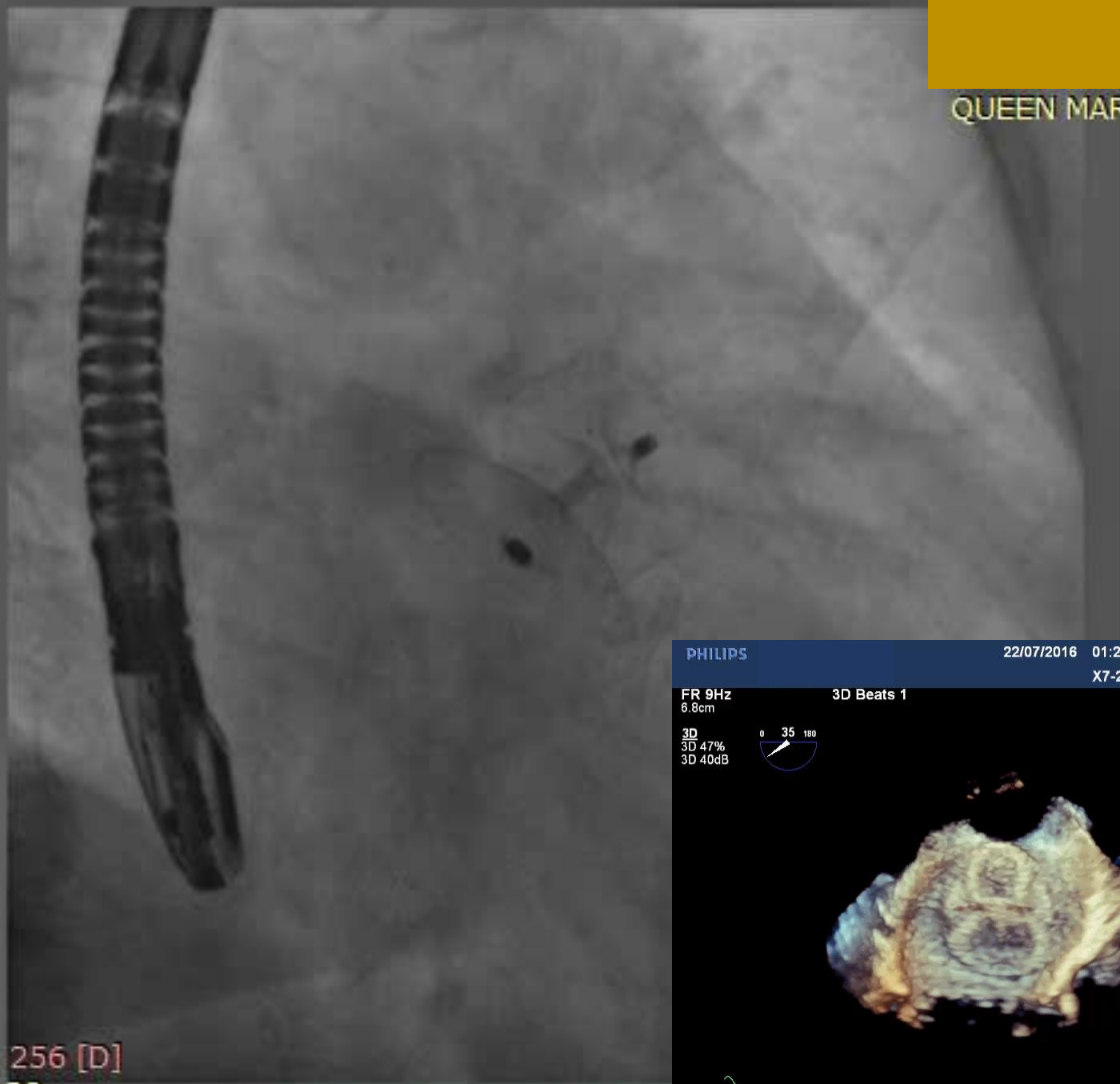
Detailed description: This block contains an echocardiogram image in the bottom right corner. The image shows a cross-section of the heart with a measurement line indicating a specific dimension. The image is overlaid with various technical parameters and a scale bar. The top of the block contains the Philips logo and patient information. The middle section contains technical details about the frame rate and depth. The bottom left of the echocardiogram shows a small diagram with 'P' and 'R' labels and numerical values. The bottom right corner shows the patient's temperature and heart rate.

WL: 128 WW: 256 [D]
RAO: 30 CAU: 19

Im: 1/17
Se: 29

QUEEN MARY HOSPITAL
CG160207

EP 15 fps



PHILIPS

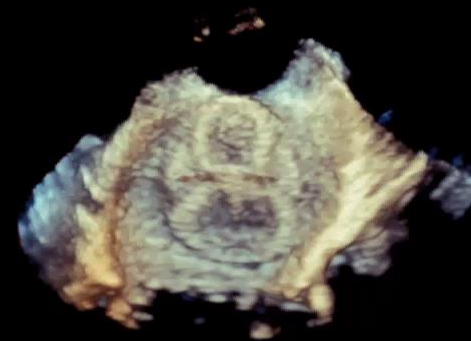
22/07/2016 01:22:22PM TIS0.4 MI 1.0
X7-2t/Adult

FR 9Hz
6.8cm

3D Beats 1

M4

3D
3D 47%
3D 40dB



WL: 128 WW: 256 [D]
RAO: 30 CAU: 20

PAT T: 37.0C
TEE T: 40.0C

JPEG

83 bpm

LAMBRE

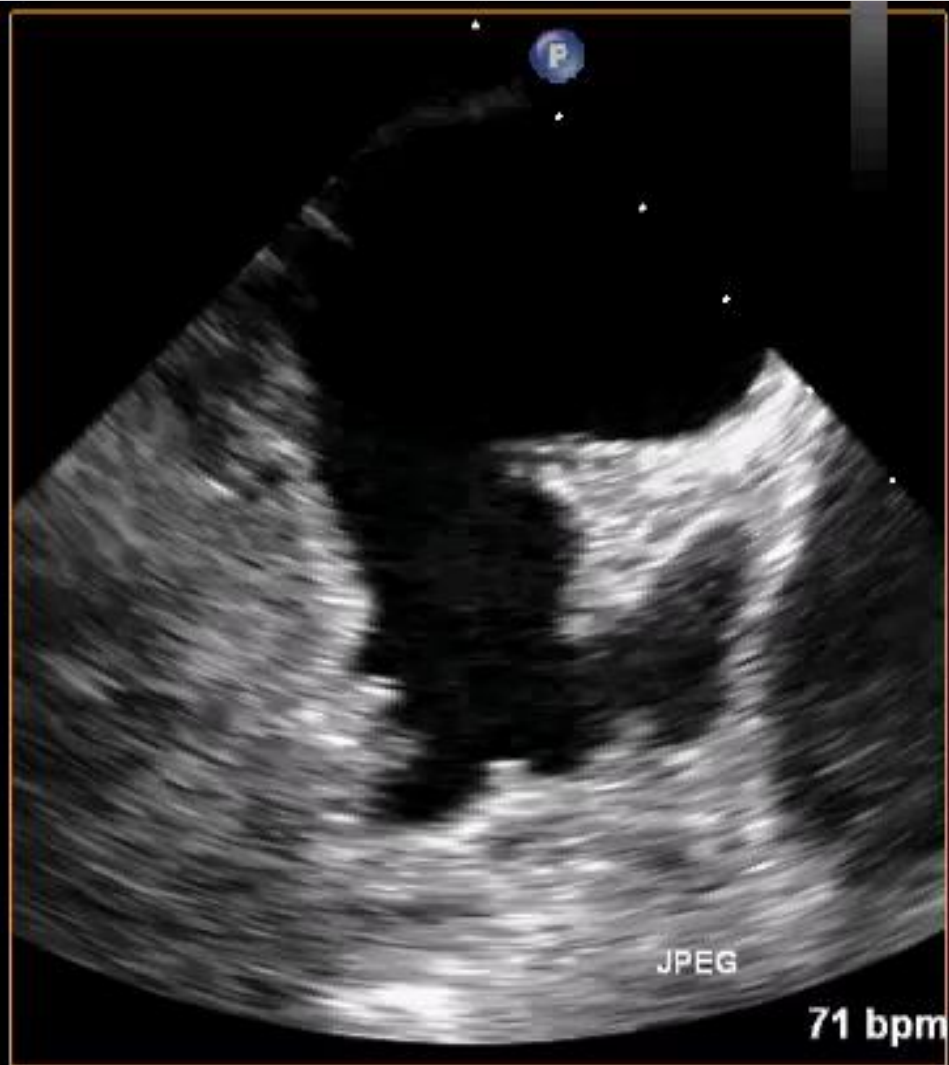


L1

- ACP/LAMBRE in poor defined landing zone/chicken wing anatomy with short neck – **Sandwich technique**
 - overcome challenging anatomies
 - extreme chicken wing type
 - secured position
 - forgiving extreme angles

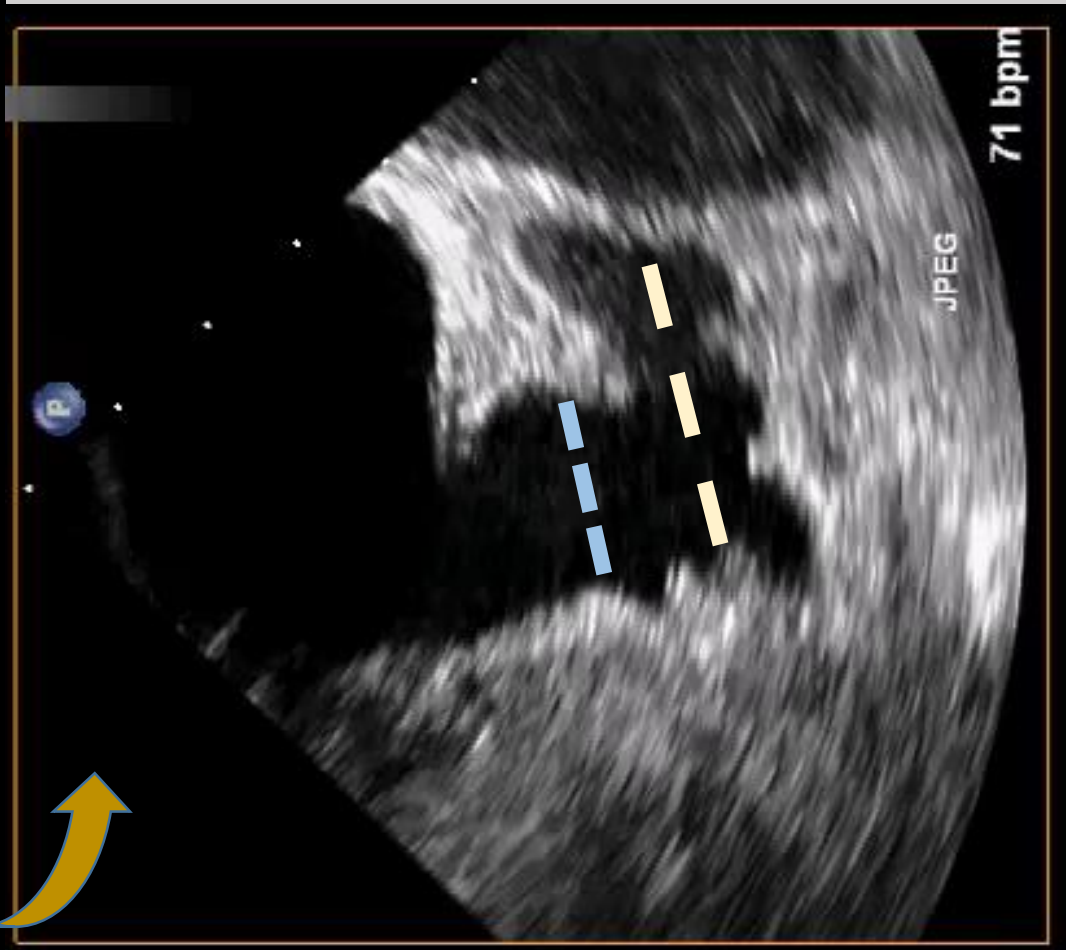


PAT T: 37.0C
TEE T: 39.0C



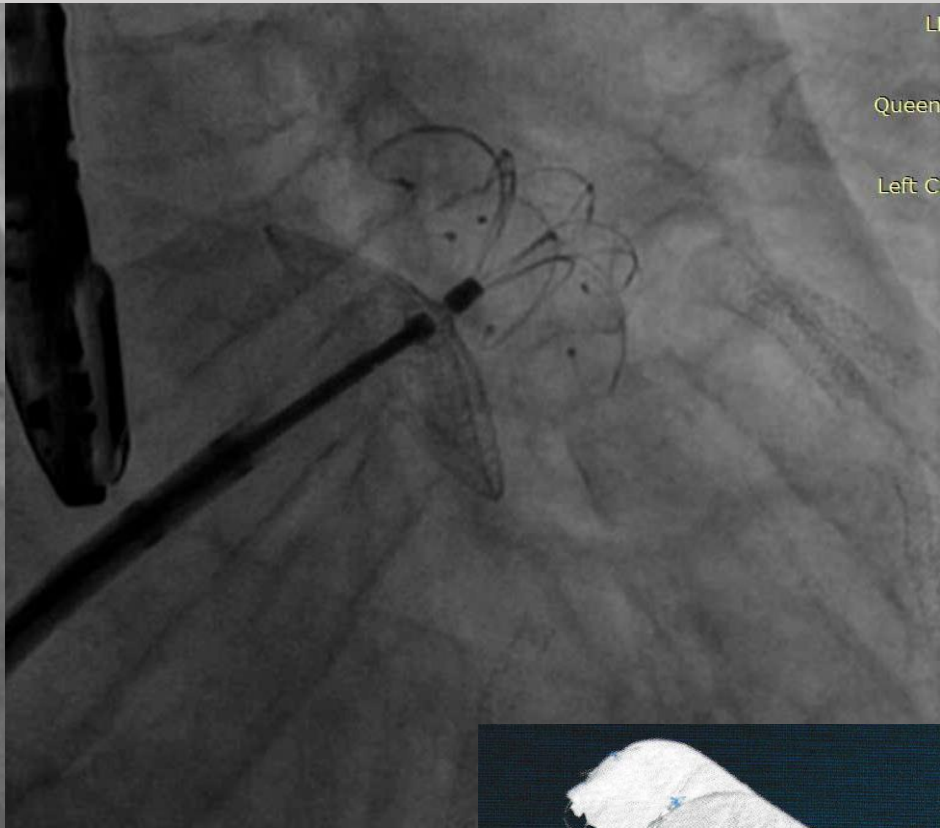
JPEG

71 bpm



TEE 135 correlates with RAO 30 CRAU 20



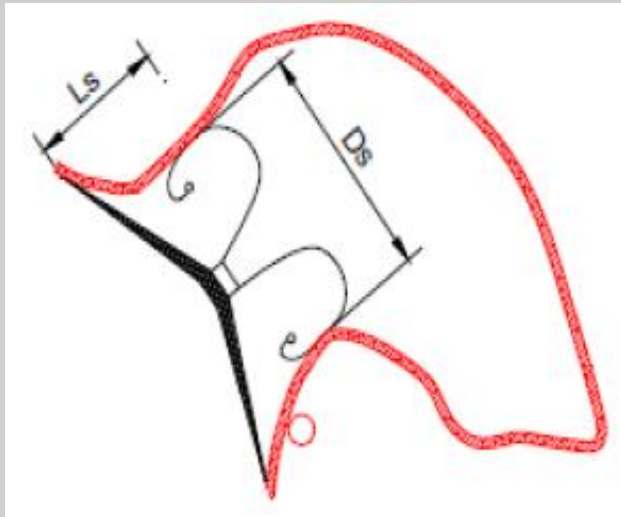


L
Queen
Left C

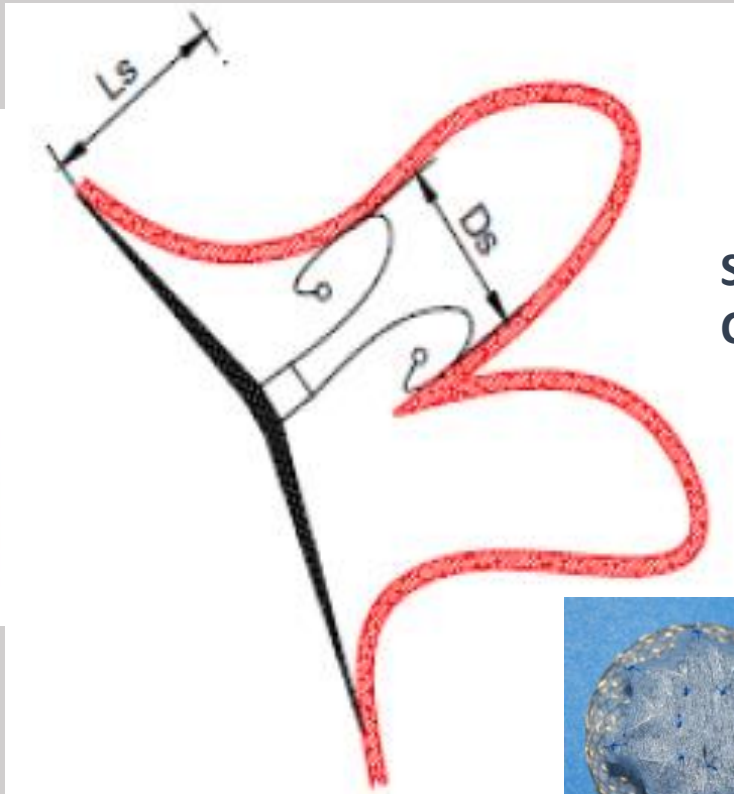
L2

Special LAA Morphology

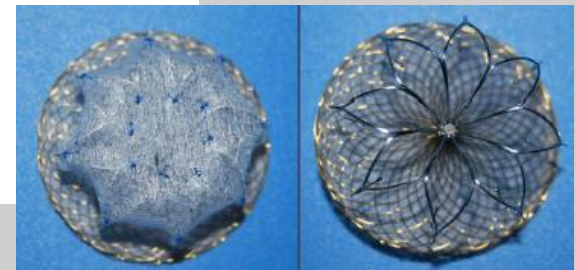
- Small LAA
- LAA with multiple lobes and restrictive septum
- Special design of **L**Ambre **D**evice



Size: 16-36mm
Cover 4-6mm larger

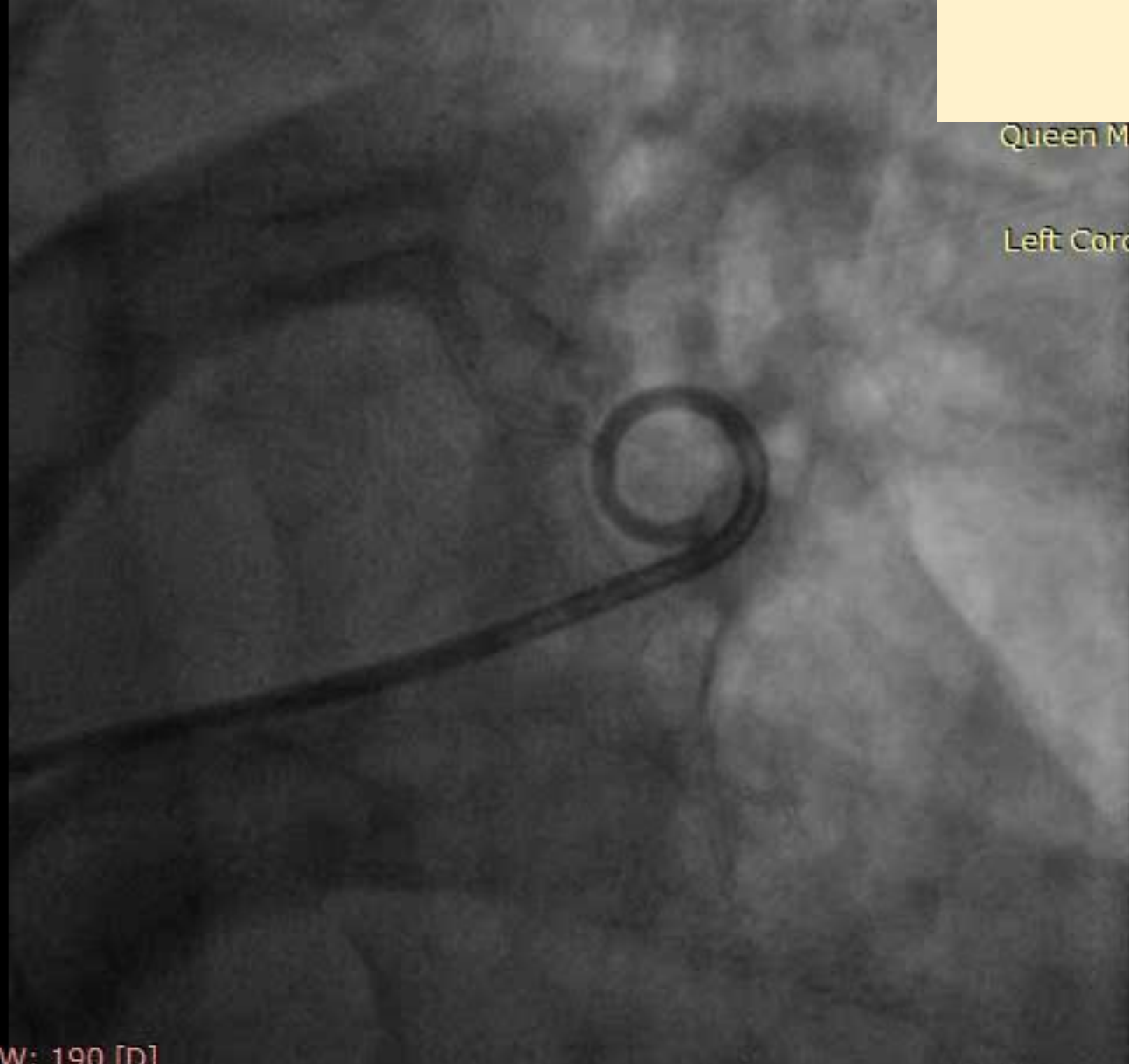


Size: 16-26mm
Cover 12mm larger



Im: 1/57
Se: 3

Queen Mary Hospital
1139-2018
XA
Left Coronary 15 fps

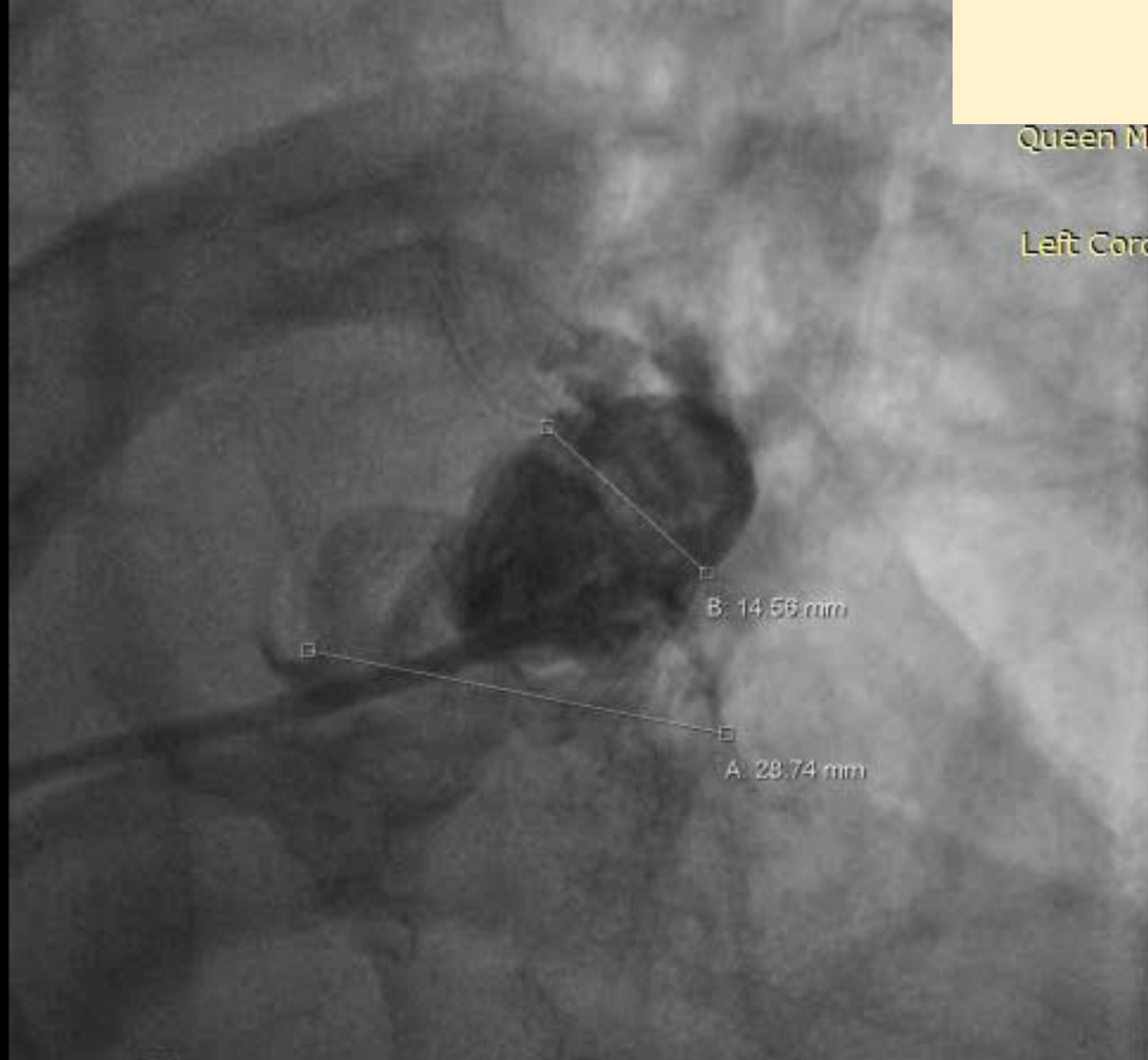


WL: 129 WW: 190 [D]
RAO: 30 CRA: 20

31/8/2018 12:28:26 PM

Im: 1/1
Se: 3

Queen Mary Hospital
1139-2018
XA
Left Coronary 15 fps



B: 14.56 mm

A: 28.74 mm

WL: 512 WW: 1024 [D]

CF: 0.1294 mm/pix

31/8/2018 12:28:26 PM

Im: 1/63

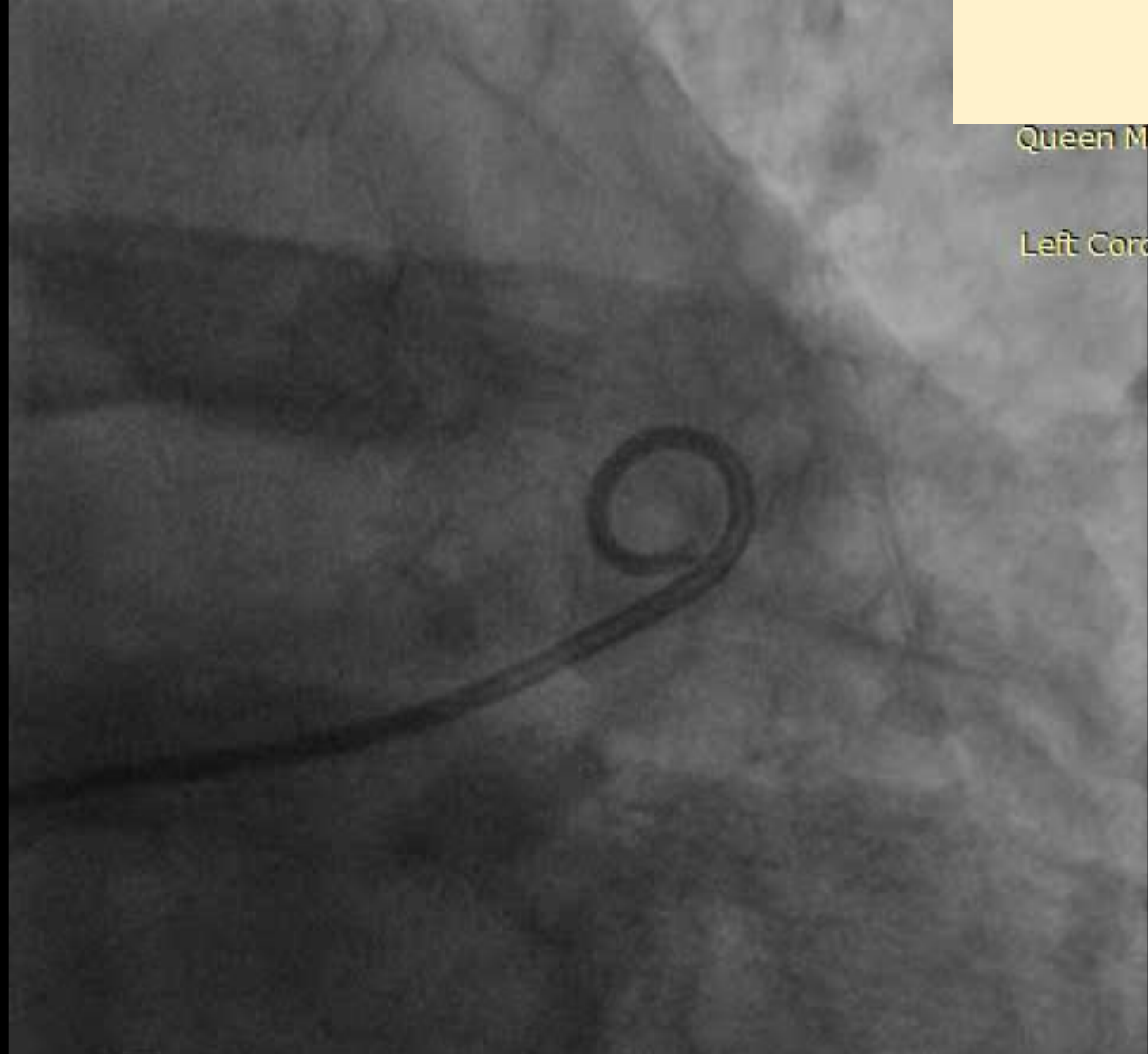
Se: 4

Queen Mary Hospital

1139-2018

XA

Left Coronary 15 fps



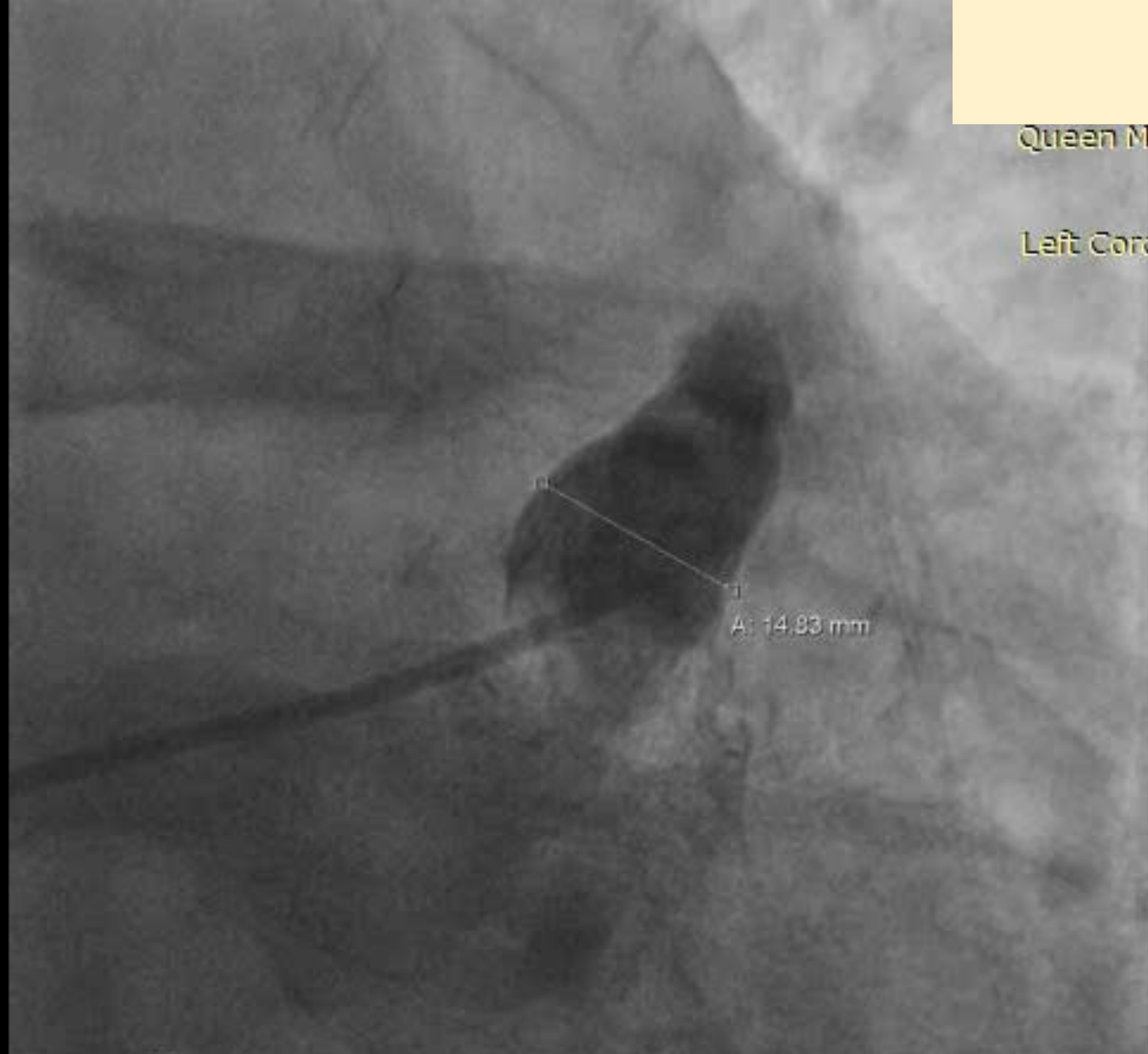
WL: 129 WW: 190 [D]

RAO: 30 CAU: 20

31/8/2018 12:29:32 PM

Im: 1/1
Se: 4

Queen Mary Hospital
1139-2018
XA
Left Coronary 15 fps

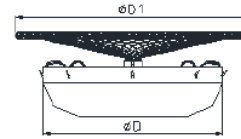
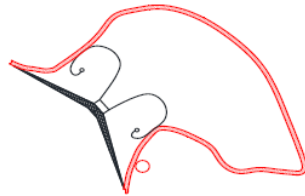
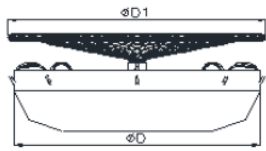


WL: 512 WW: 1024 [D]

CF 0.1304 mm/pix

31/8/2018 12:29:32 PM

Device Sizes and Corresponding Delivery Systems of L'Ambre

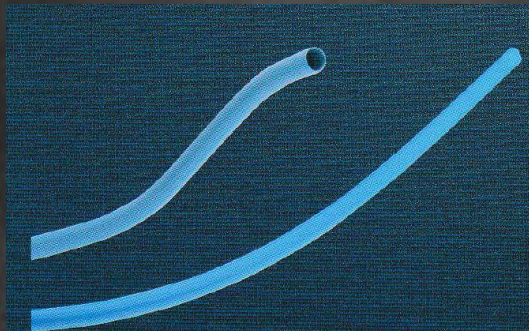
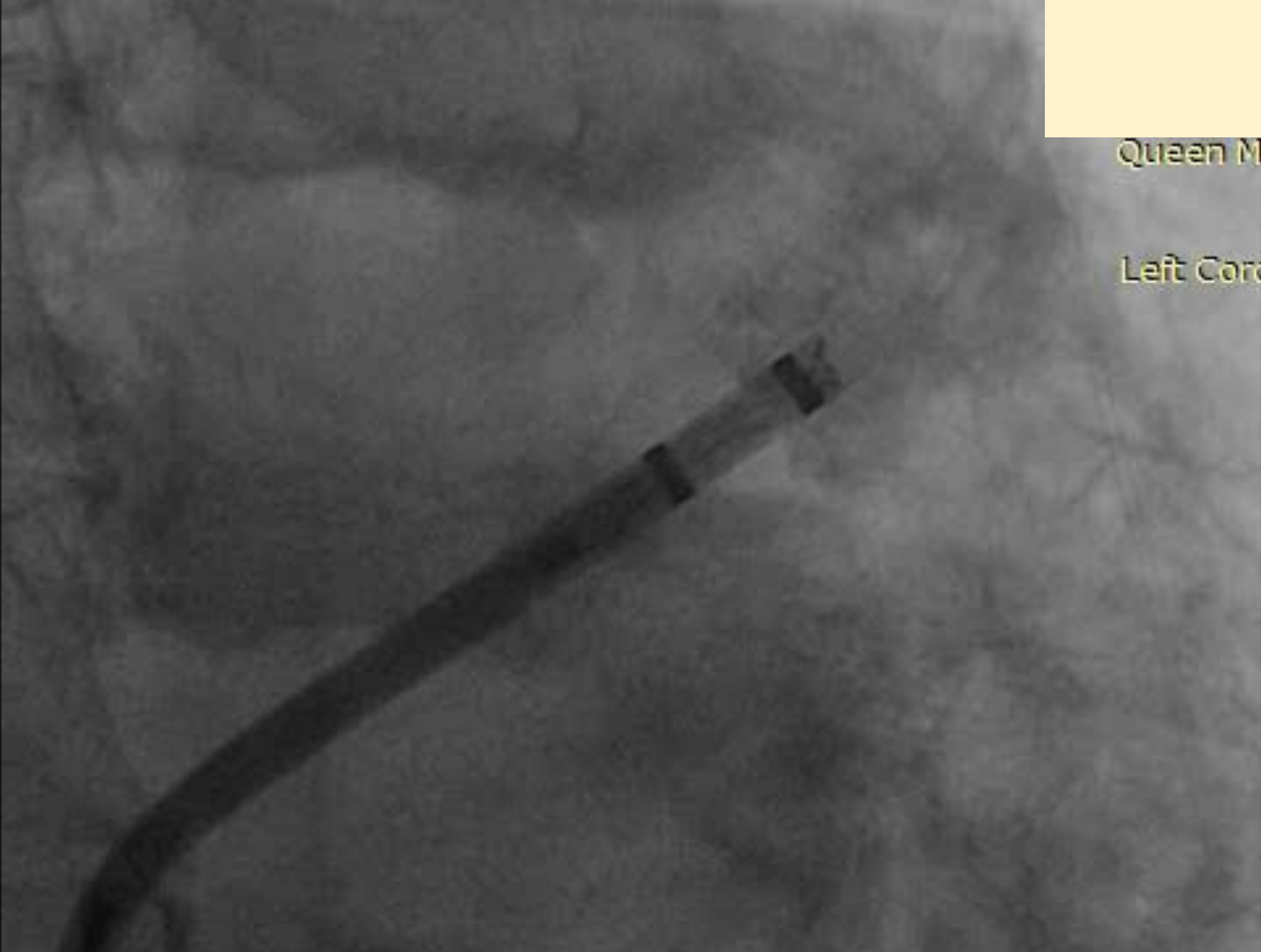


Cat.	Diameter of Umbrella(mm)	Diameter of Cover(mm)	Delivery system
LT-LAA-1622	16	22	8F-900 9F-900
LT-LAA-1824	18	24	10F-900
LT-LAA-2026	20	26	9F-900
LT-LAA-2228	22	28	10F-900
LT-LAA-2430	24	30	
LT-LAA-2632	26	32	
LT-LAA-2834	28	34	
LT-LAA-3036	30	36	
LT-LAA-3236	32	36	
LT-LAA-3438	34	38	
LT-LAA-3640	36	40	

Cat.	Diameter of Umbrella(mm)	Diameter of Cover(mm)	Delivery system
LT-LAA-1630	16	30	9F-900 10F-900
LT-LAA-1832	18	32	
LT-LAA-2032	20	32	
LT-LAA-2234	22	34	10F-900
LT-LAA-2436	24	36	
LT-LAA-2638	26	38	

Im: 1/25
Se: 26

Queen Mary Hospital
1139-2018
XA
Left Coronary 15 fps



The delivery system

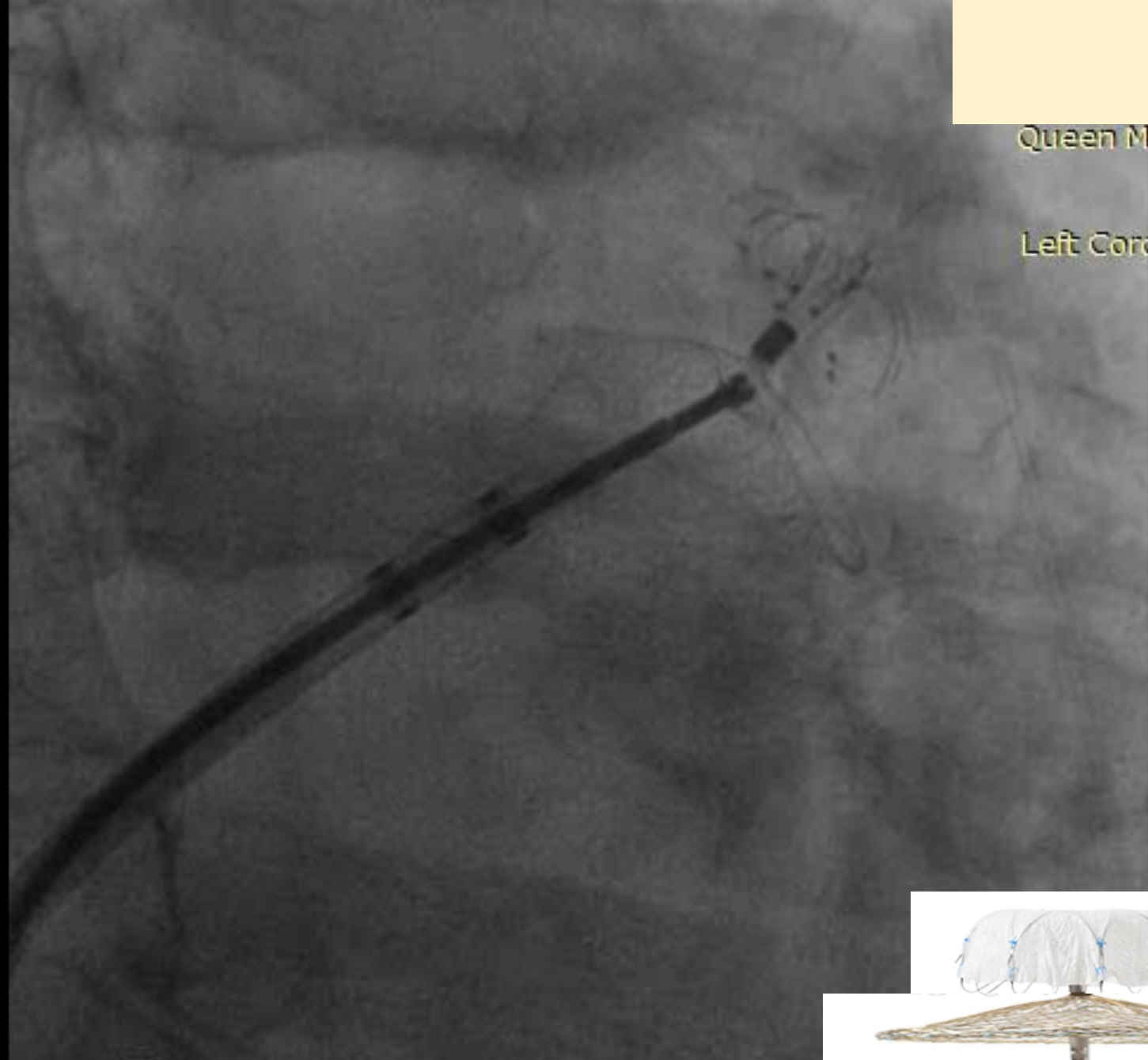
- double curves (45° X 30°) of distal tip
- single curve (45°) of distal tip

8-10 Fr. small delivery sheath

WL: 129 WW: 190 [D]
RAO: 30 CAU: 20

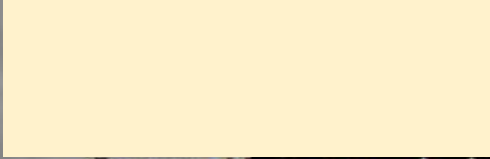
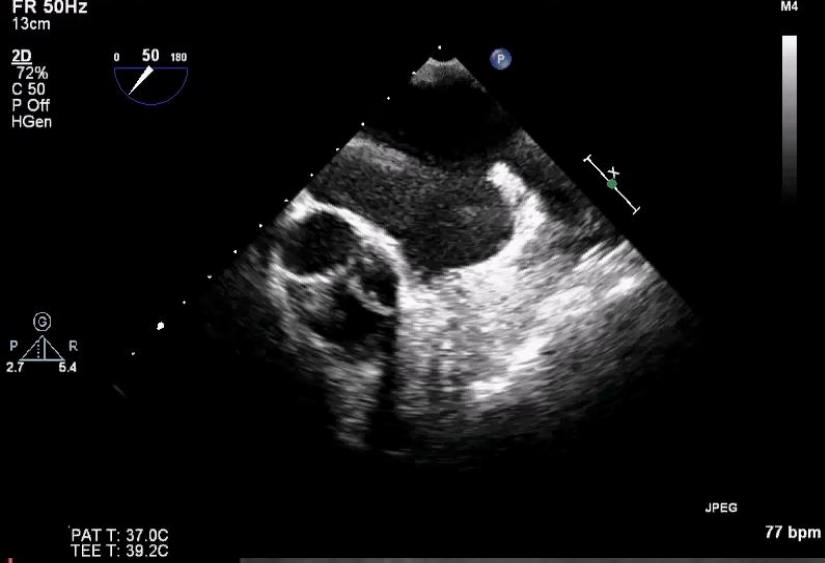
Im: 1/47
Se: 31

Queen Mary Hospital
1139-2018
XA
Left Coronary 15 fps

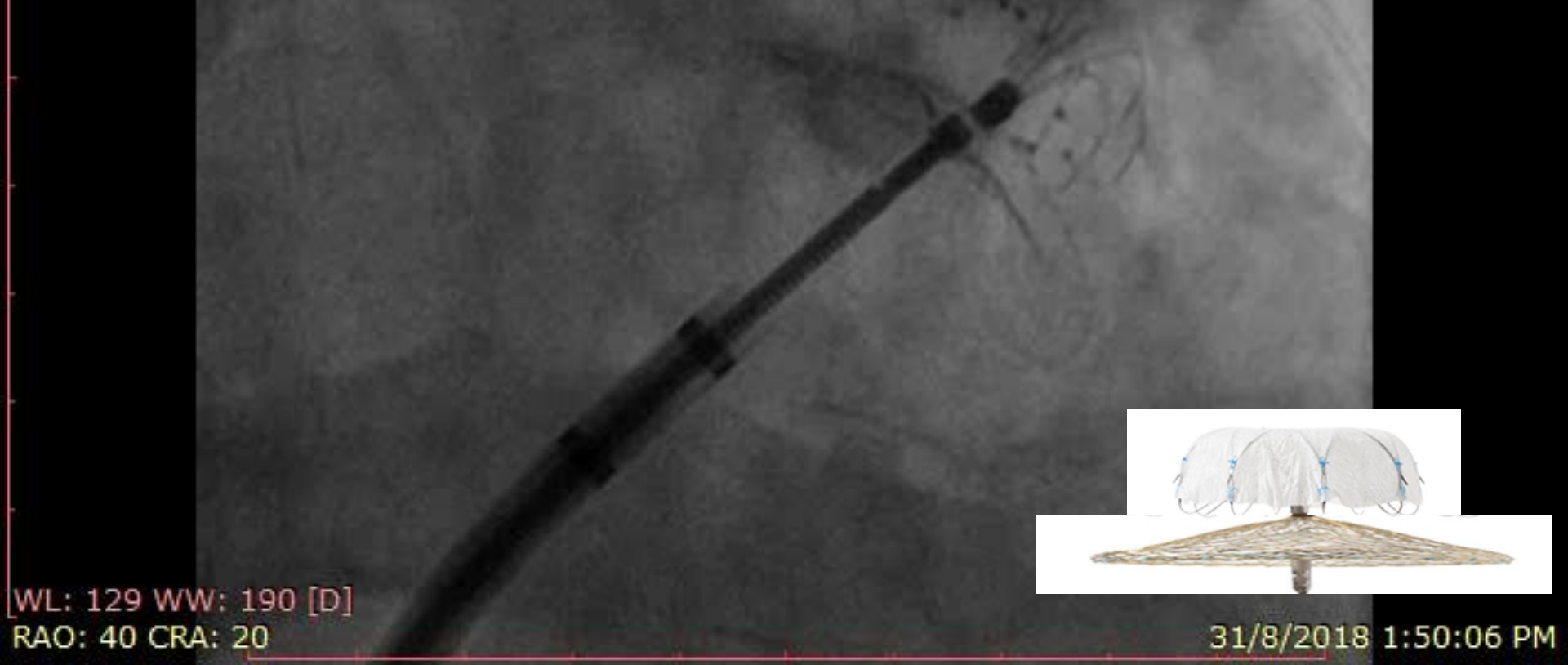


WL: 129 WW: 190 [D]
RAO: 30 CAU: 20

31/8/2018 1:47:24 PM



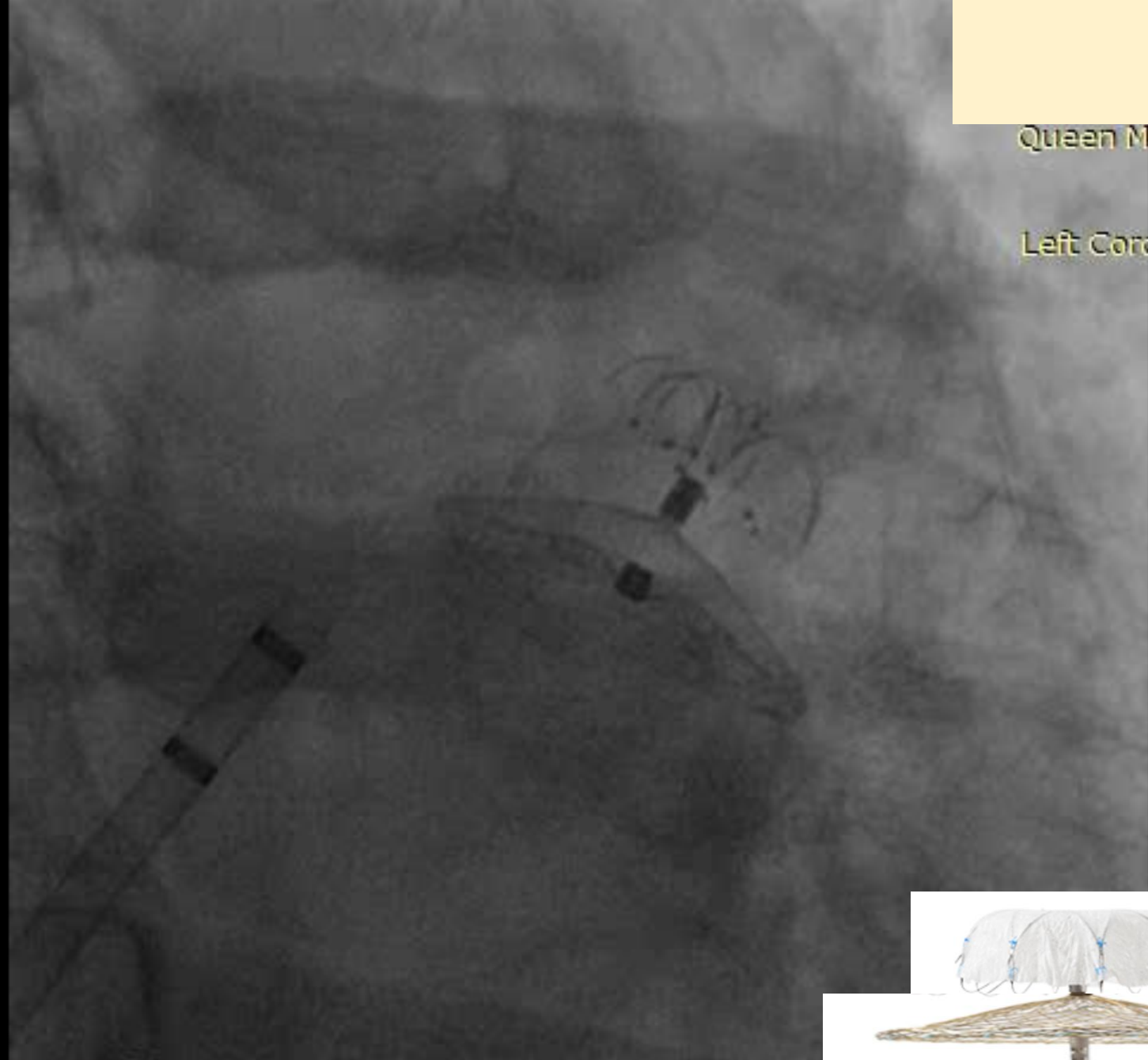
Queen Mary Hospital
1139-2018
XA
Left Coronary 15 fps



WL: 129 WW: 190 [D]
RAO: 40 CRA: 20

Im: 1/67
Se: 41

Queen Mary Hospital
1139-2018
XA
Left Coronary 15 fps



WL: 129 WW: 190 [D]
RAO: 30 CAU: 20

31/8/2018 1:53:58 PM

L3

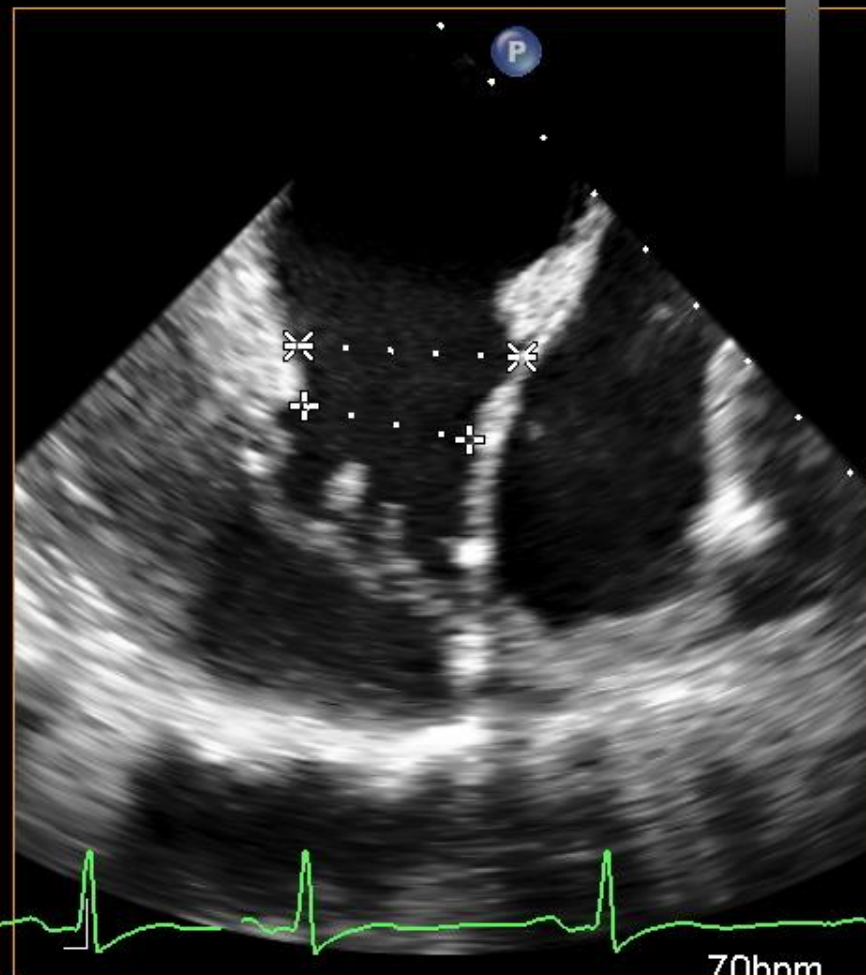
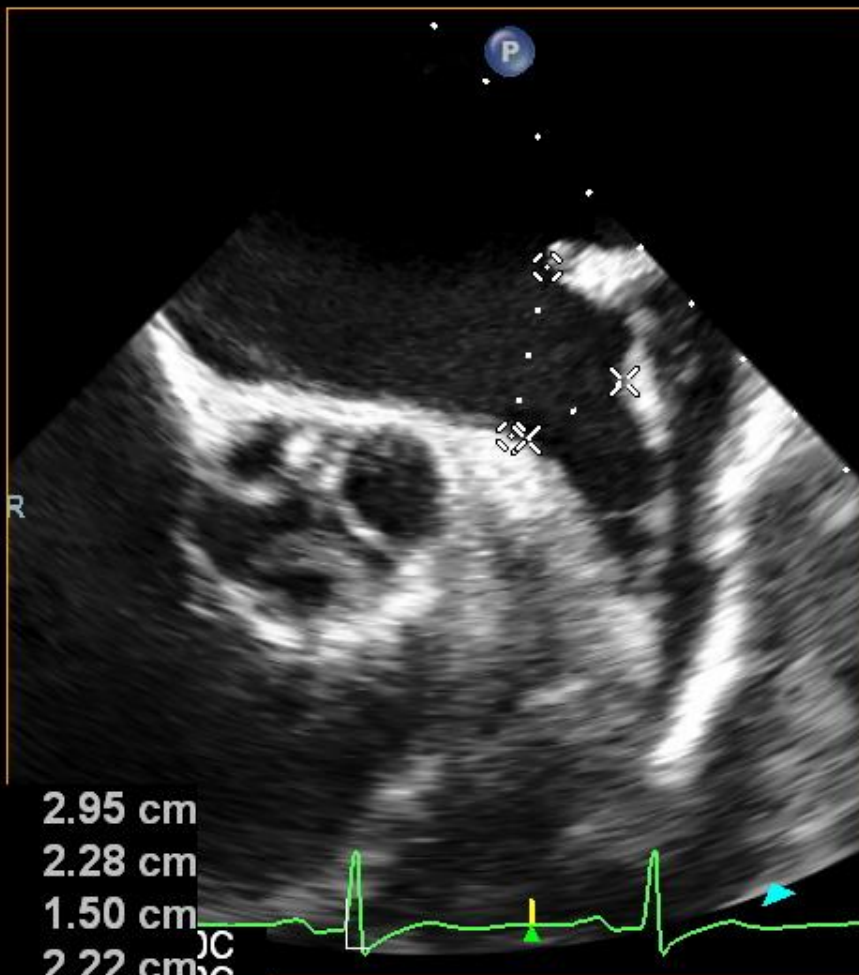
FR 29Hz
12cm

3D Zoom

0 45 180



66%
66%
50dB
P Off
Gen



- ⊗ Dist 2.95 cm
- ⊙ Dist 2.28 cm
- × Dist 1.50 cm
- + Dist 2.22 cm

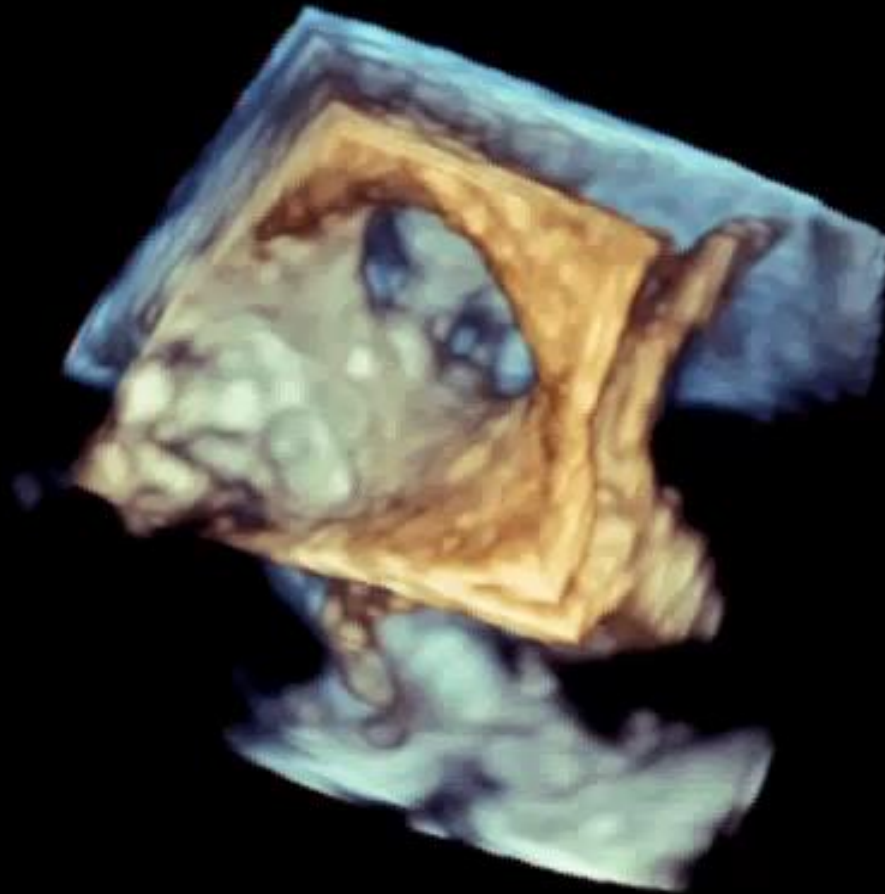
70bpm

FR 14Hz
7.9cm

3D Beats 1

M4

3D
3D 47%
3D 40dB



JPEG

PAT T: 37.0C
TEE T: 38.7C

70 bpm

Im: 1/51

Se: 7

Queen Mary Hospital

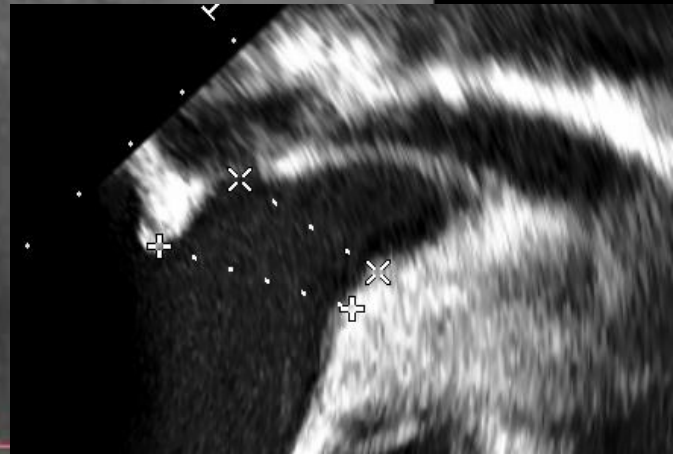
0536-2019

XA

Left Coronary 15 fps

WL: 129 WW: 190 [D]

RAO: 30 CRA: 20

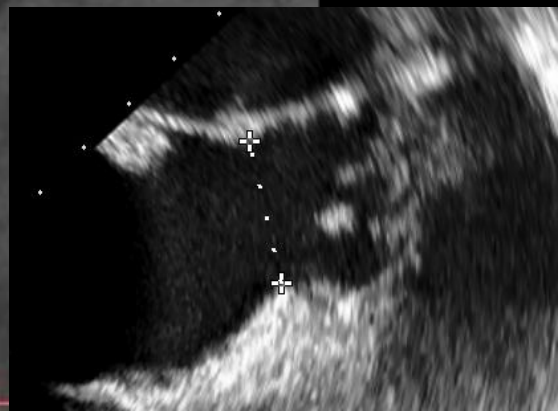


Im: 1/72
Se: 8

Queen Mary Hospital
0536-2019
XA
Left Coronary 15 fps

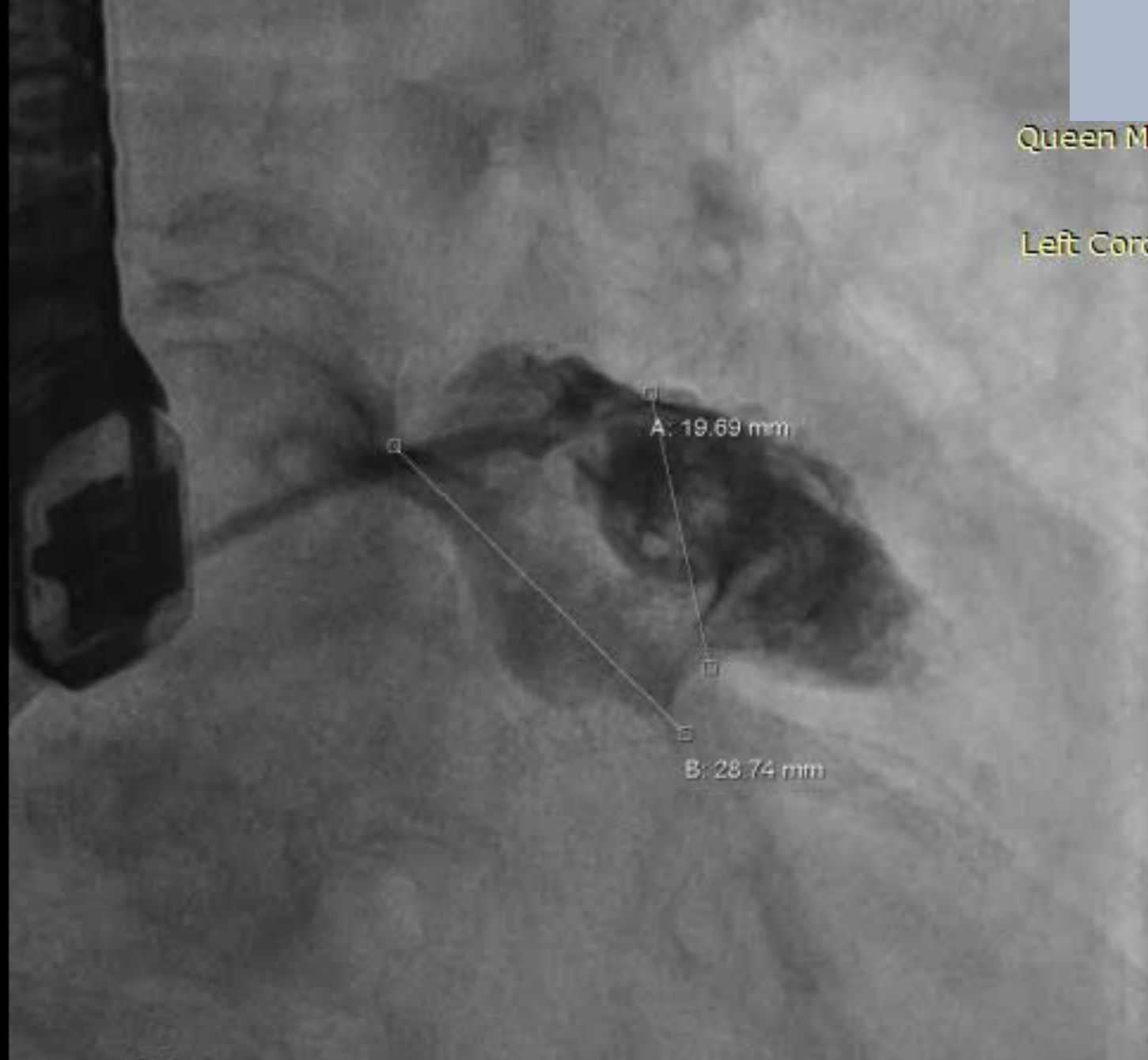


WL: 129 WW: 190 [D]
RAO: 30 CAU: 20



Im: 1/1
Se: 7

Queen Mary Hospital
0536-2019
XA
Left Coronary 15 fps



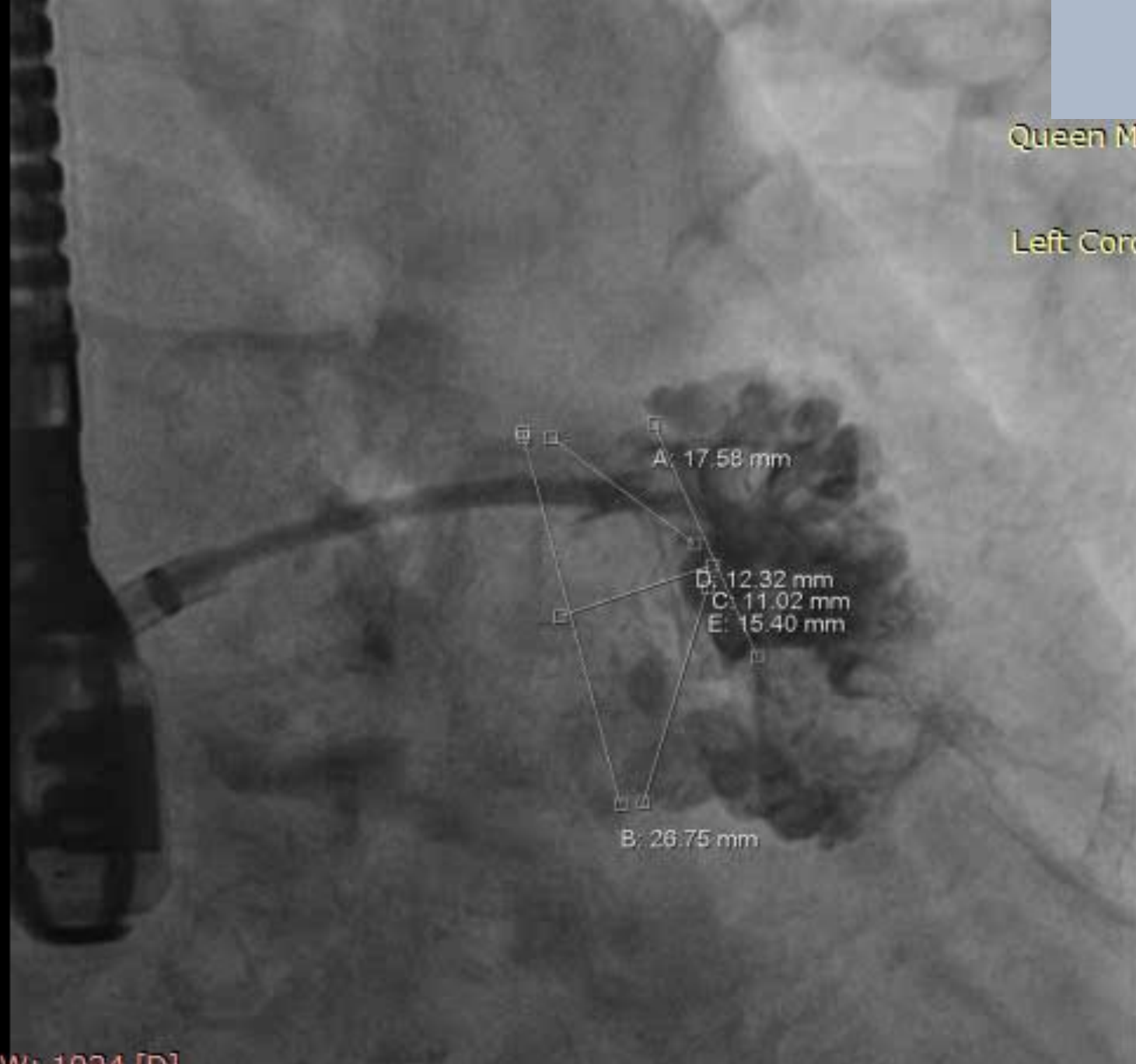
WL: 512 WW: 1024 [D]

CF 0.1346 mm/pix

12/4/2019 12:16:48 PM

Im: 1/1
Se: 8

Queen Mary Hospital
0536-2019
XA
Left Coronary 15 fps

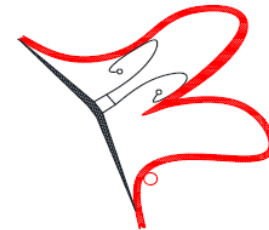
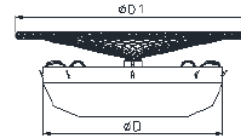
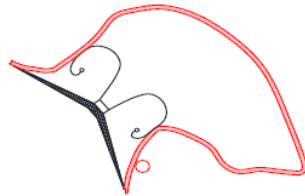
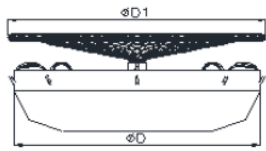


WL: 512 WW: 1024 [D]

CF 0.1305 mm/pix

12/4/2019 12:17:41 PM

Device Sizes and Corresponding Delivery Systems of L'Ambre



Cat.	Diameter of Umbrella(mm)	Diameter of Cover(mm)	Delivery system
LT-LAA-1622	16	22	8F-900 9F-900
LT-LAA-1824	18	24	10F-900
LT-LAA-2026	20	26	9F-900
LT-LAA-2228	22	28	10F-900
LT-LAA-2430	24	30	
LT-LAA-2632	26	32	
LT-LAA-2834	28	34	
LT-LAA-3036	30	36	
LT-LAA-3236	32	36	
LT-LAA-3438	34	38	
LT-LAA-3640	36	40	

Cat.	Diameter of Umbrella(mm)	Diameter of Cover(mm)	Delivery system
LT-LAA-1630	16	30	9F-900 10F-900
LT-LAA-1832	18	32	
LT-LAA-2032	20	32	
LT-LAA-2234	22	34	10F-900
LT-LAA-2436	24	36	
LT-LAA-2638	26	38	

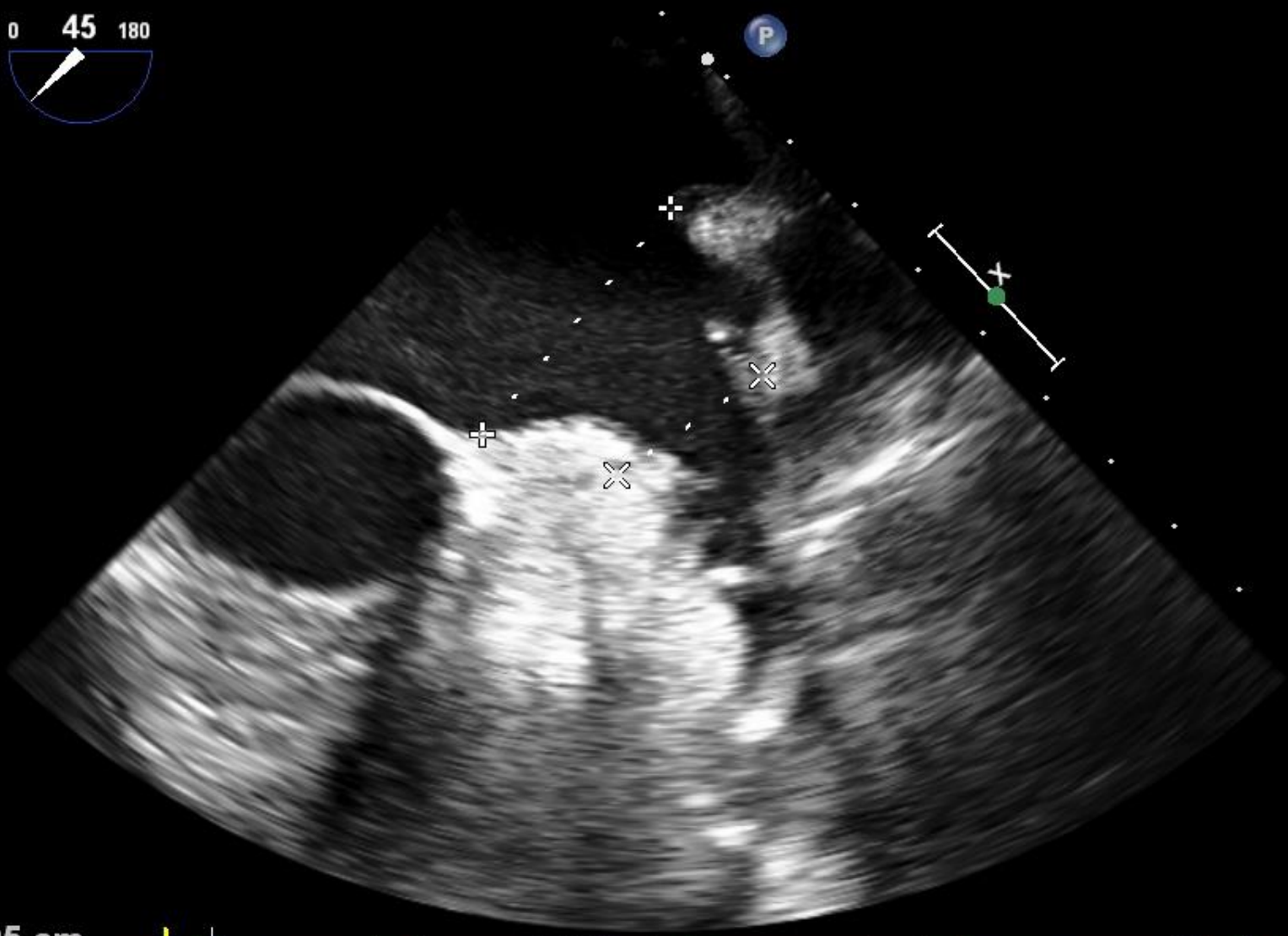
- Ostium max 28mm
- Anterior lobe 17mm
- Disc selection = $28 + 5$ (round up) to 33
- Lobe/umbrella selection = $33 - 6 = 27$ or $33 - 12 = 21$
- Selection **LAMBRE 22/34mm** or **LAMBRE 20/32**
(Special device)

FR 50Hz
10cm

2D
63%
C 50
P Off
Gen



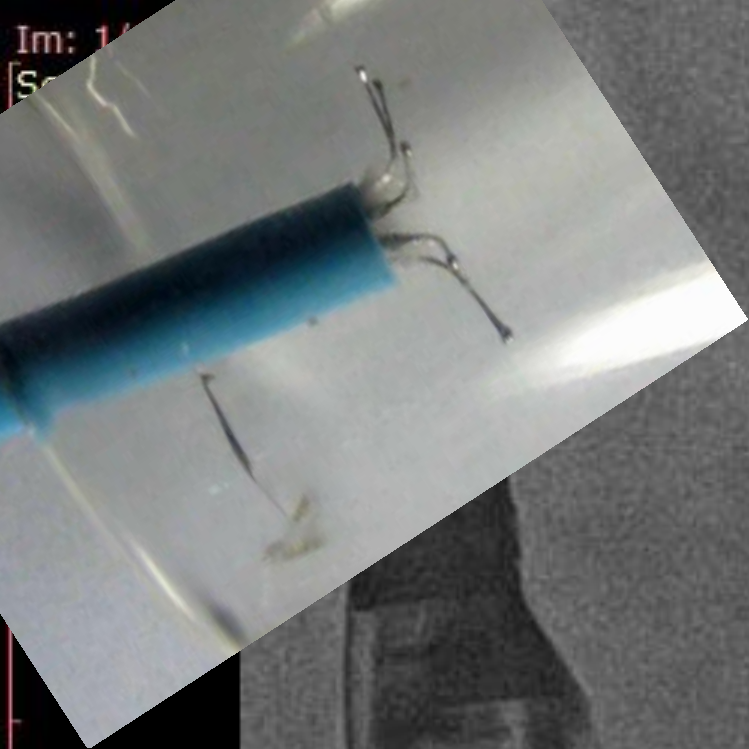
M4



× Dist 1.95 cm
+ Dist 3.25 cm



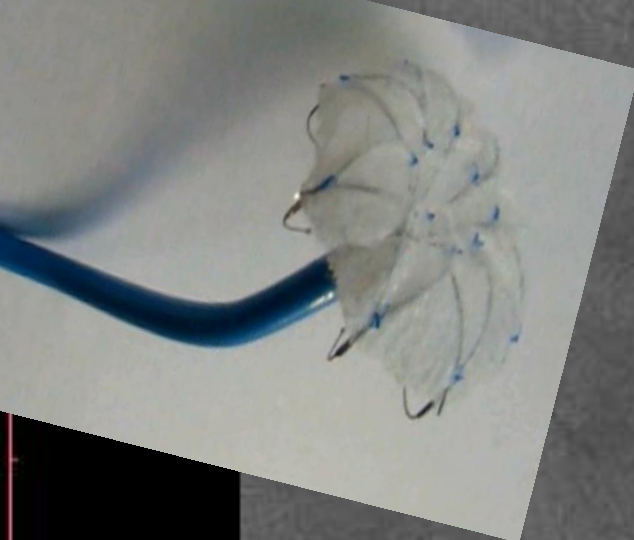
64bpm



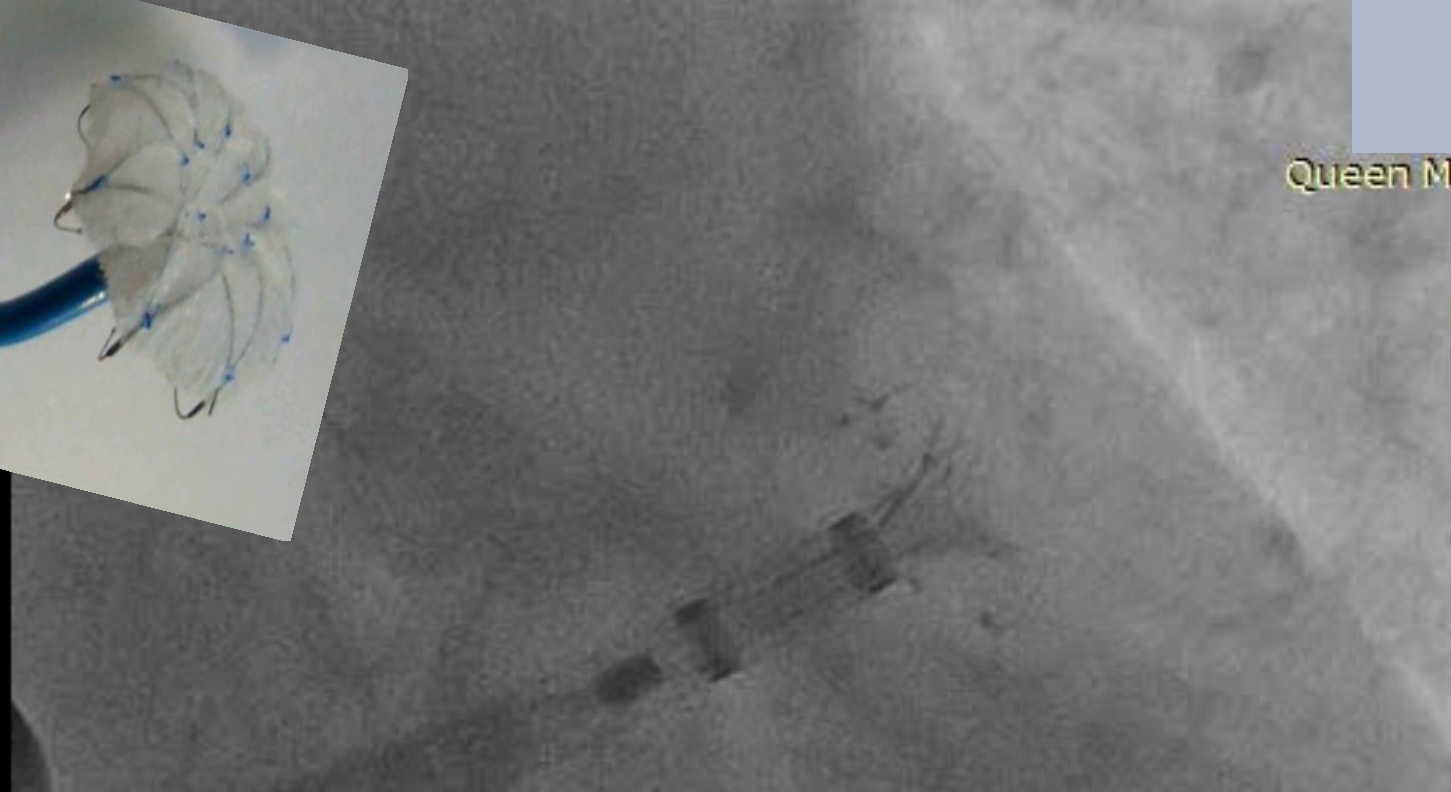
Queen Mary Hospital
0536-2019
XA
Fluoroscopy

WL: 115 WW: 213 [D]
RAO: 30 CAU: 20

12/4/2019 12:49:15 PM

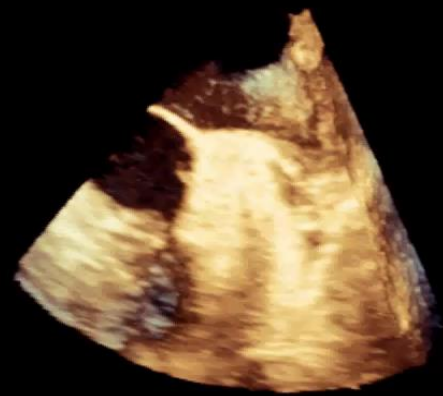


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XA
Fluoroscopy



PHILIPS 12/04/2019 12:54:22 TIS0.2 MI 0.5
X7-2t/Adult

FR 18Hz 10cm 3D Beats 1 M4
3D 47% 0 45 180

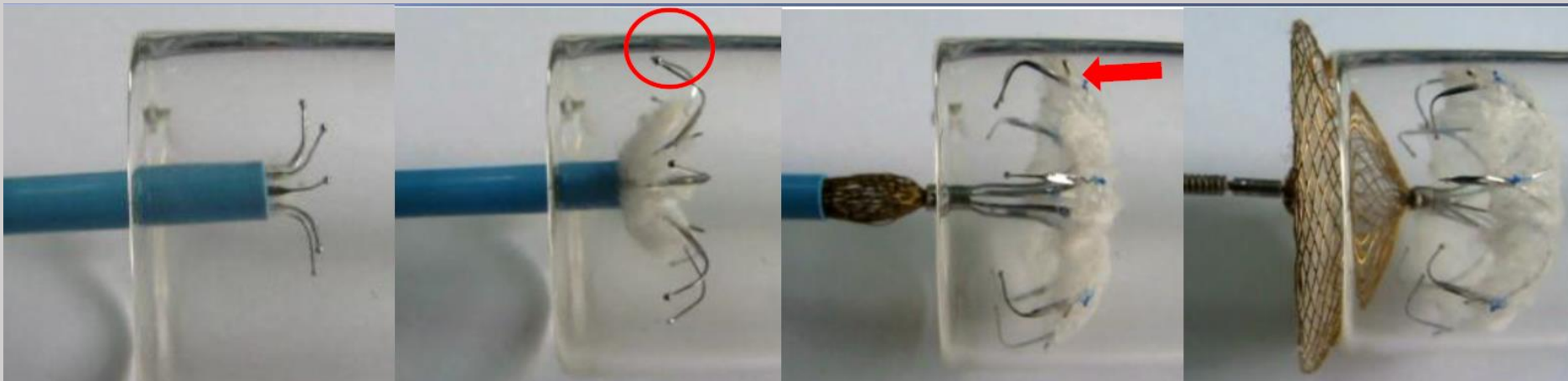
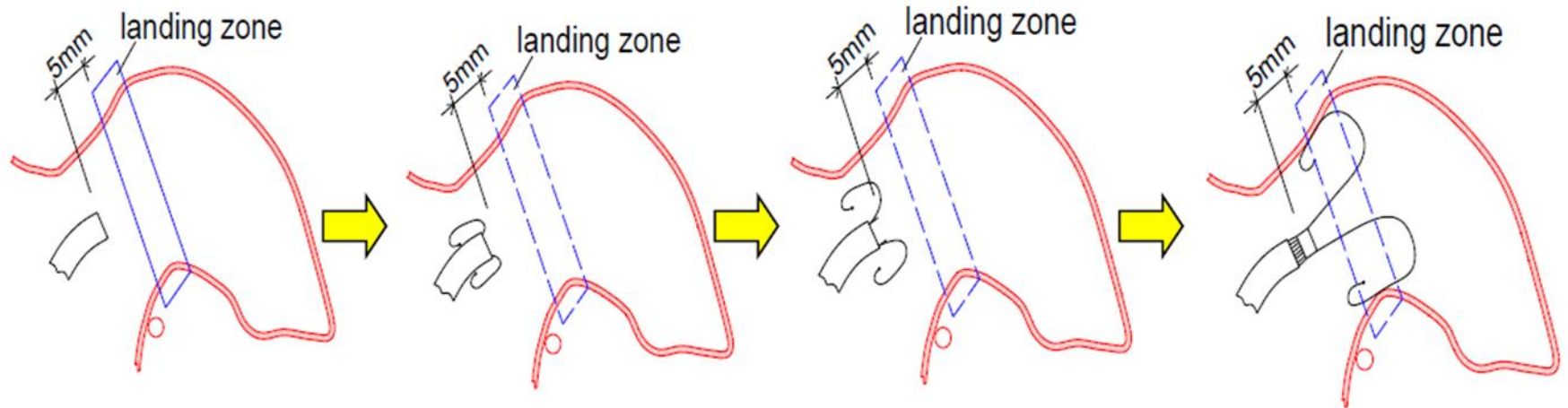


WL: 115 WW: 213 [D]
RAO: 32 CAU: 17

PAT T: 37.0C
TEE T: 39.5C

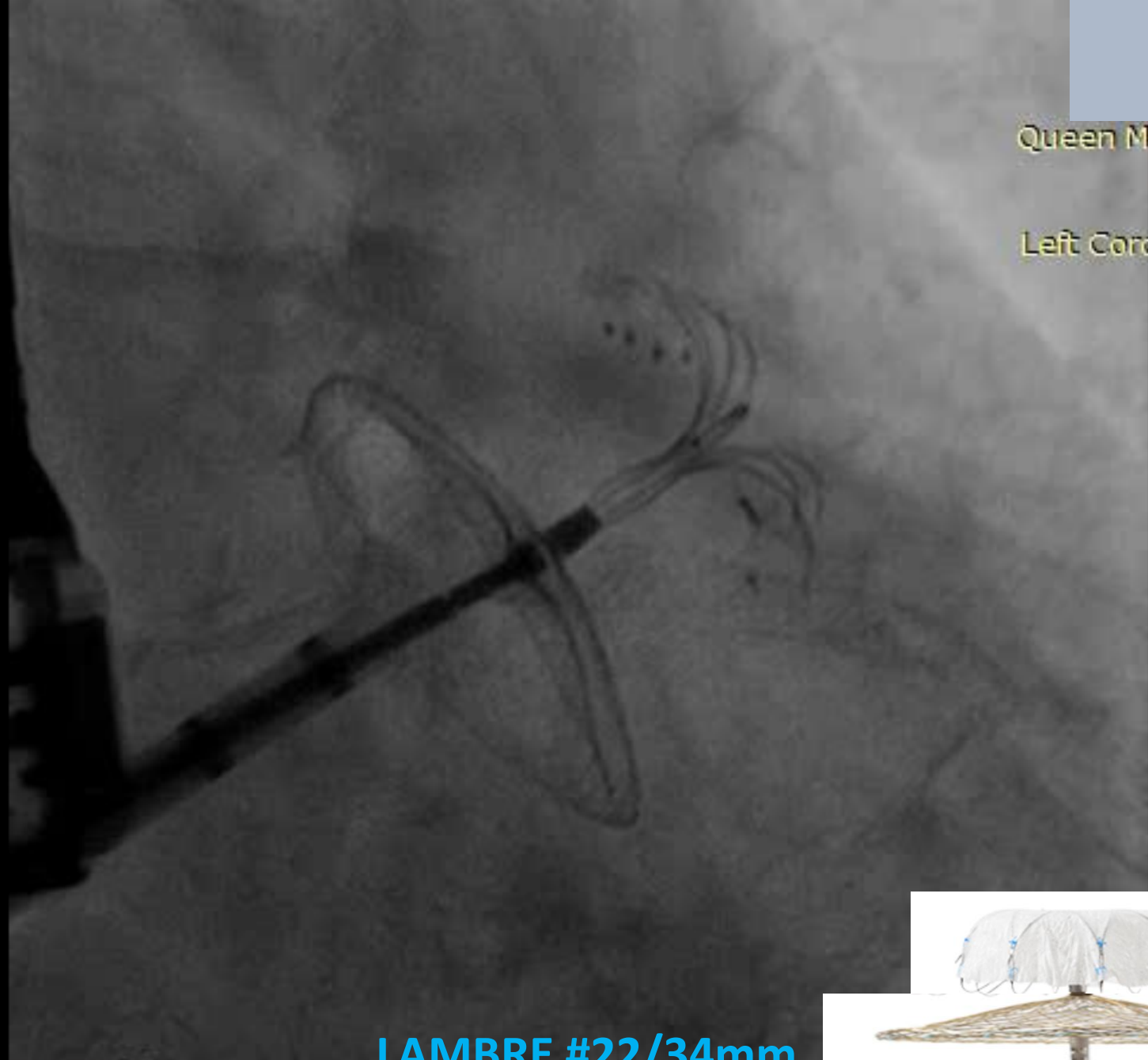
JPEG 58 bpm

Deployment of Umbrella/Lobe



Im: 1/17
Se: 19

Queen Mary Hospital
0536-2019
XA
Left Coronary 15 fps



LAMBRE #22/34mm



WL: 129 WW: 190 [D]
RAO: 30 CAU: 20

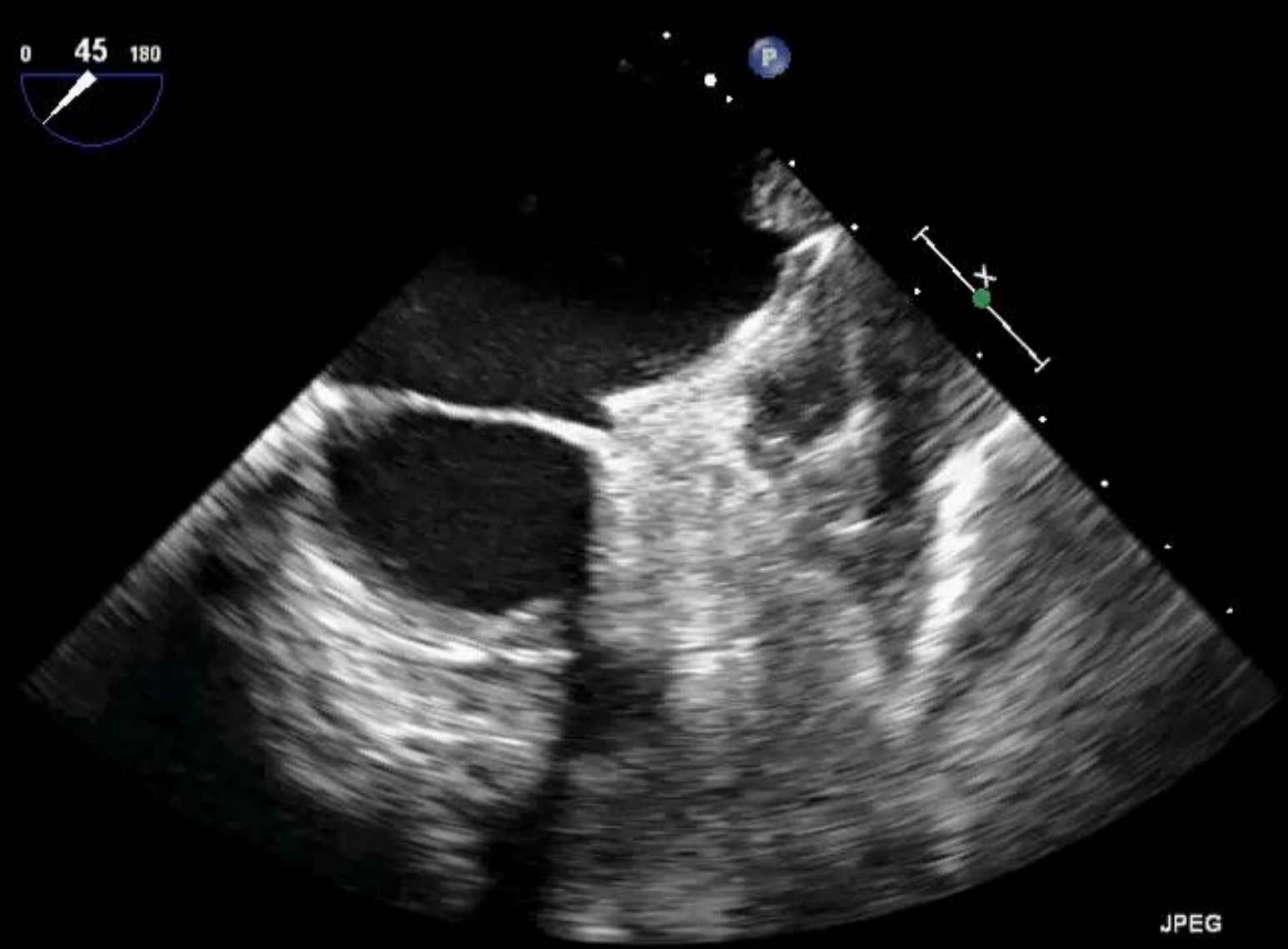
12/4/2019 12:55:24 PM

FR 50Hz
10cm

2D
63%
C 50
P Off
Gen



M4



JPEG

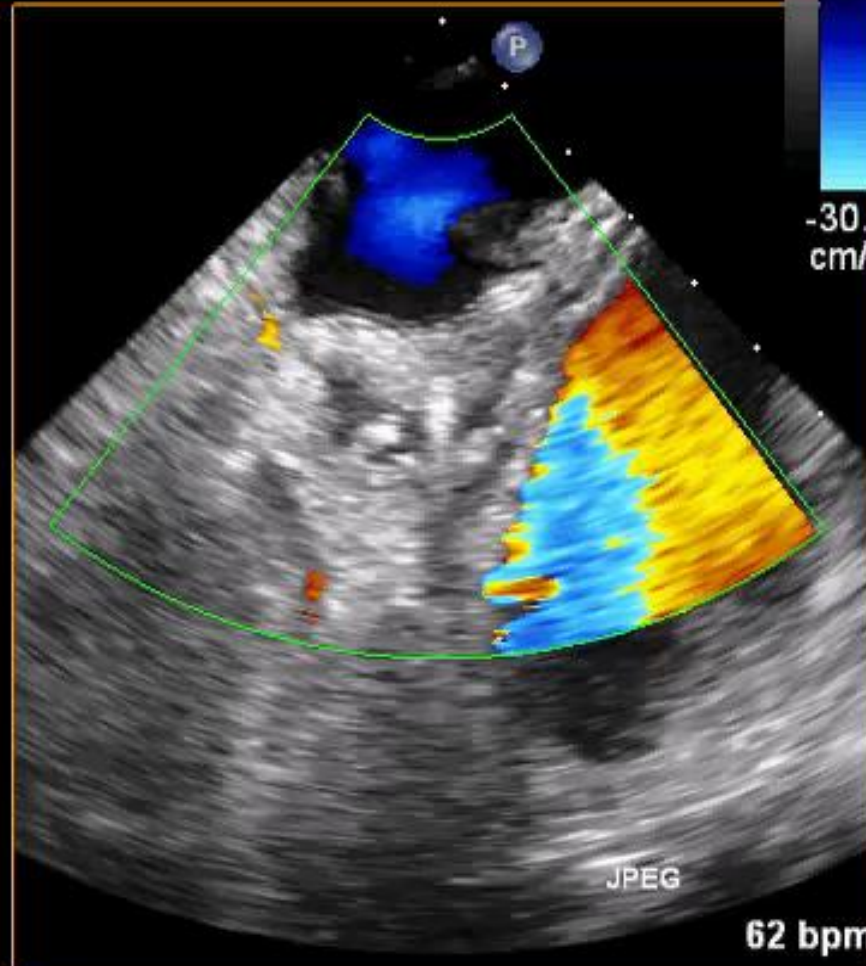
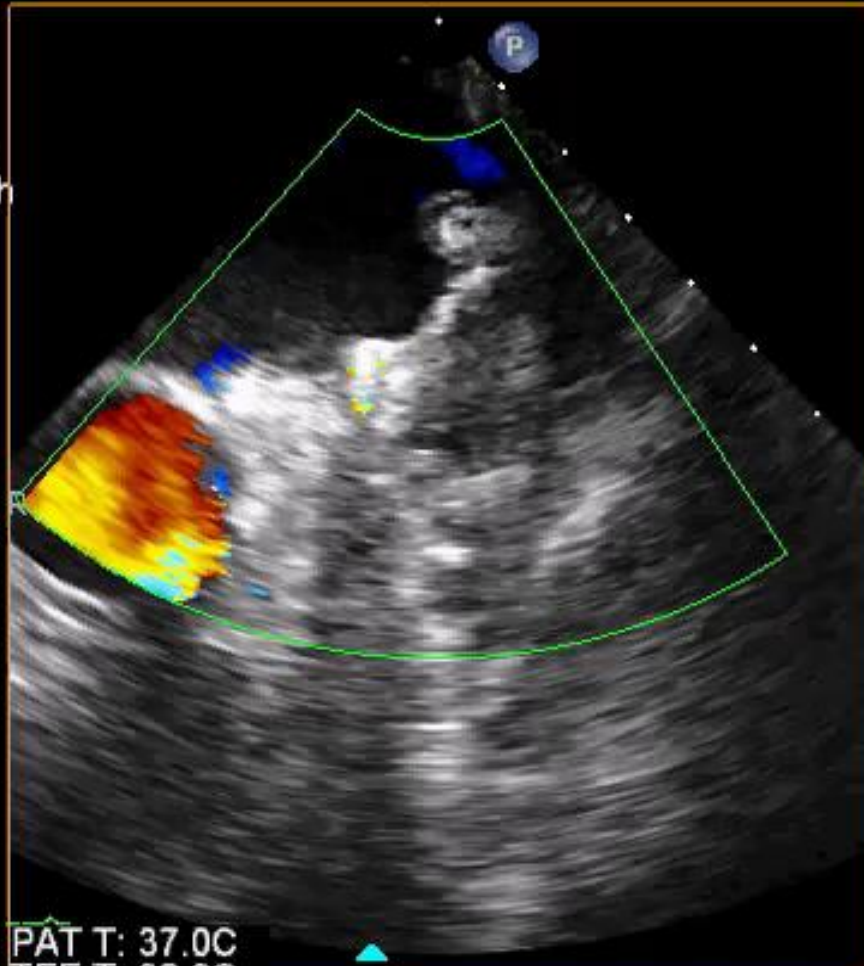
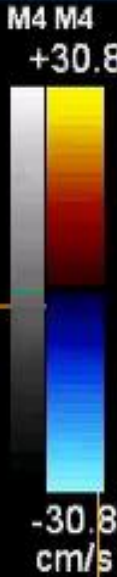
PAT T: 37.0C
TEE T: 38.9C

71 bpm

FR 7Hz
10cm

xPlane
66%
66%
50dB
P Off
Gen

CF
59%
4.4MHz
WF High
Med

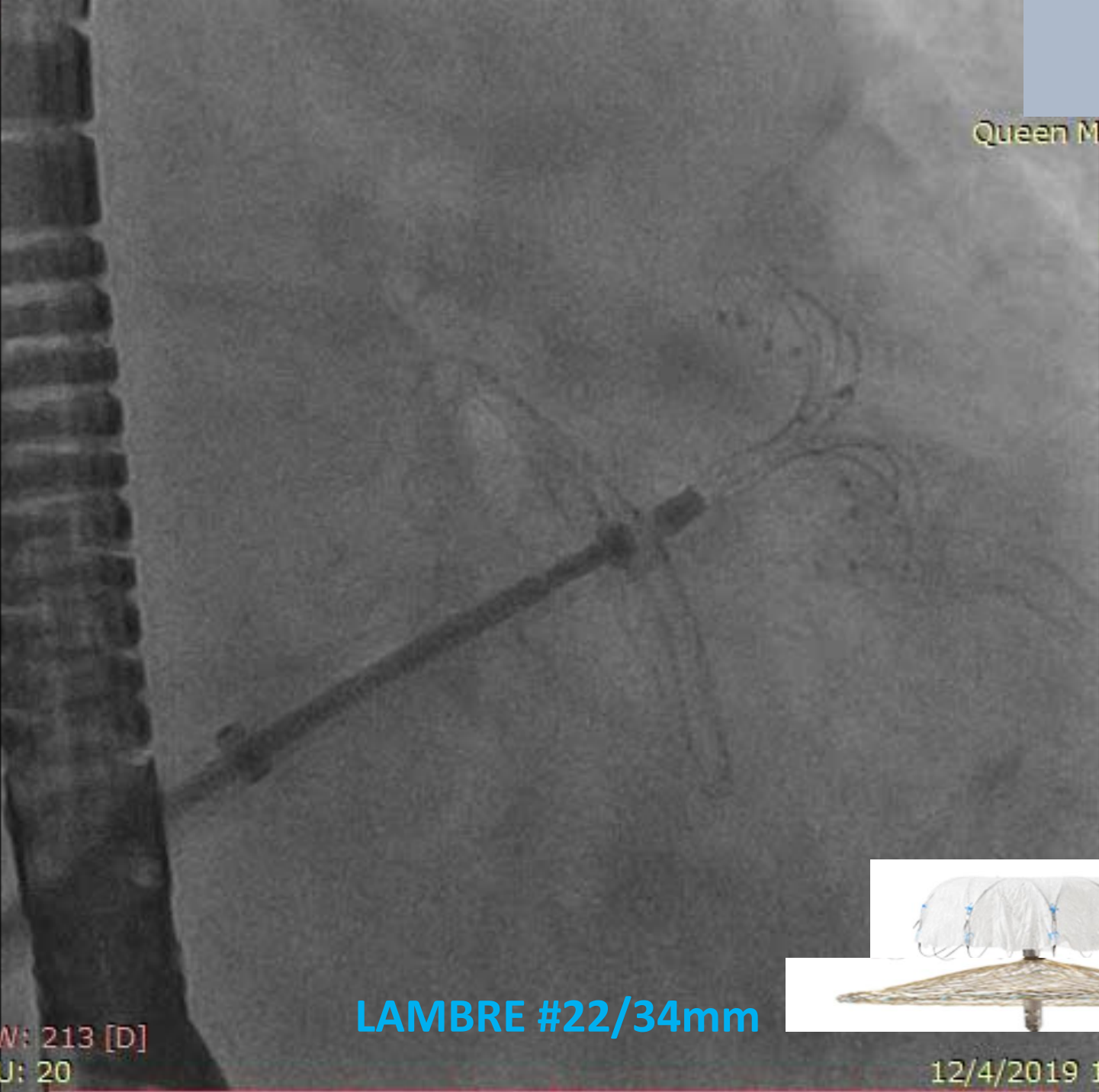


62 bpm

PAT T: 37.0C
TEE T: 38.9C

Im: 90/248
Se: 22

Queen Mary Hospital
0536-2019
XA
Fluoroscopy



LAMBRE #22/34mm

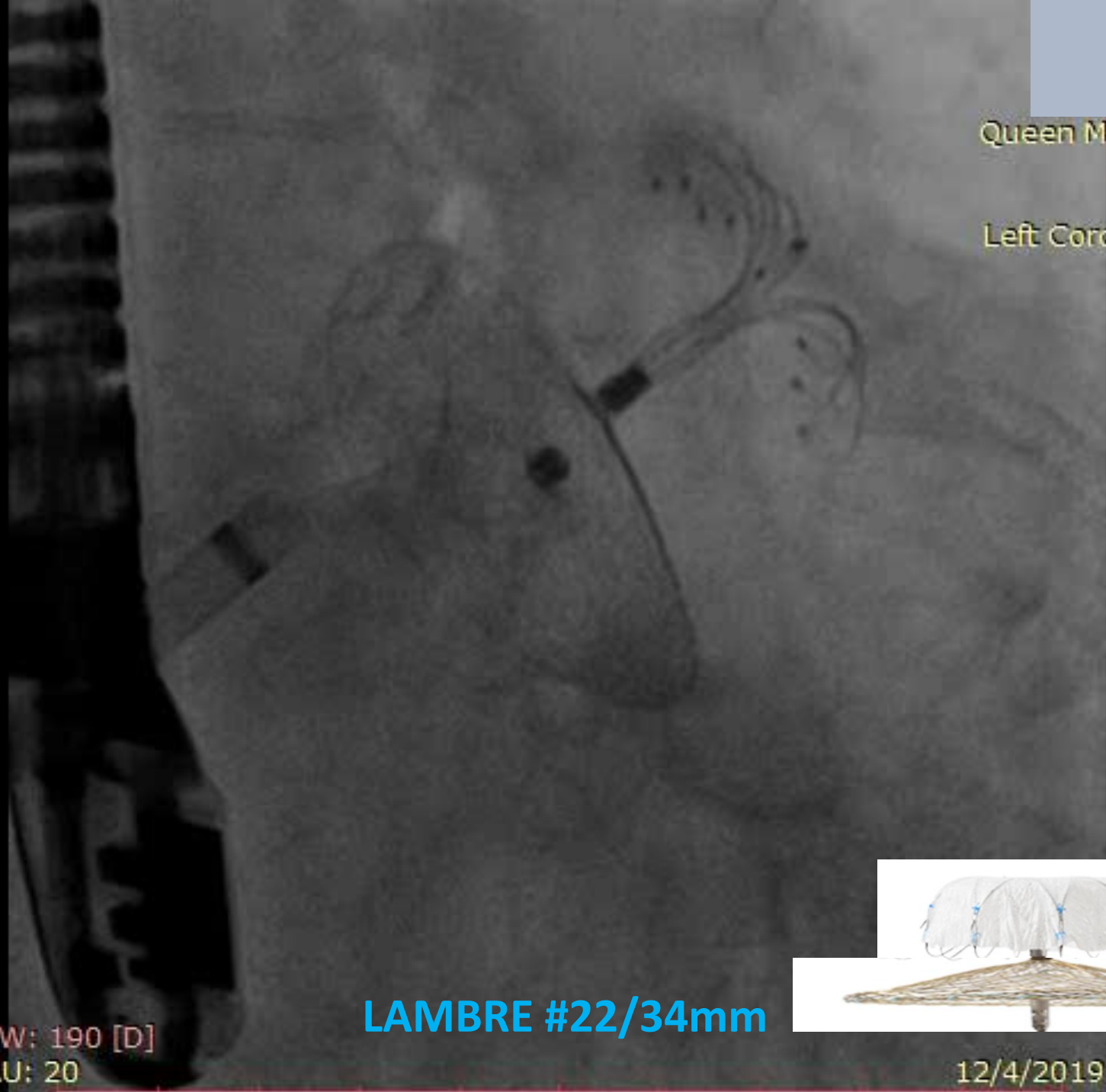


WL: 115 WW: 213 [D]
RAO: 30 CAU: 20

12/4/2019 12:56:51 PM

Im: 1/48
Se: 26

Queen Mary Hospital
0536-2019
XA
Left Coronary 15 fps

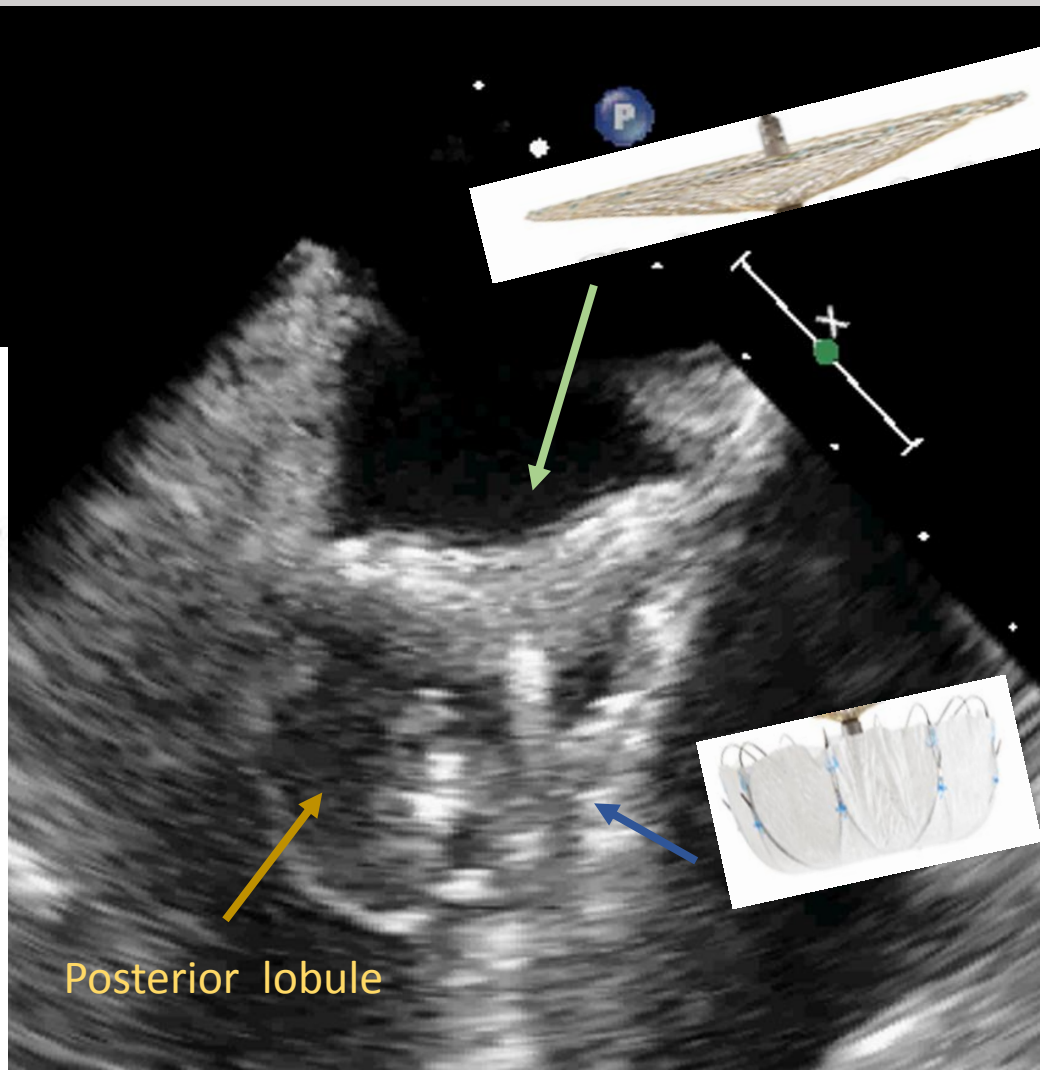
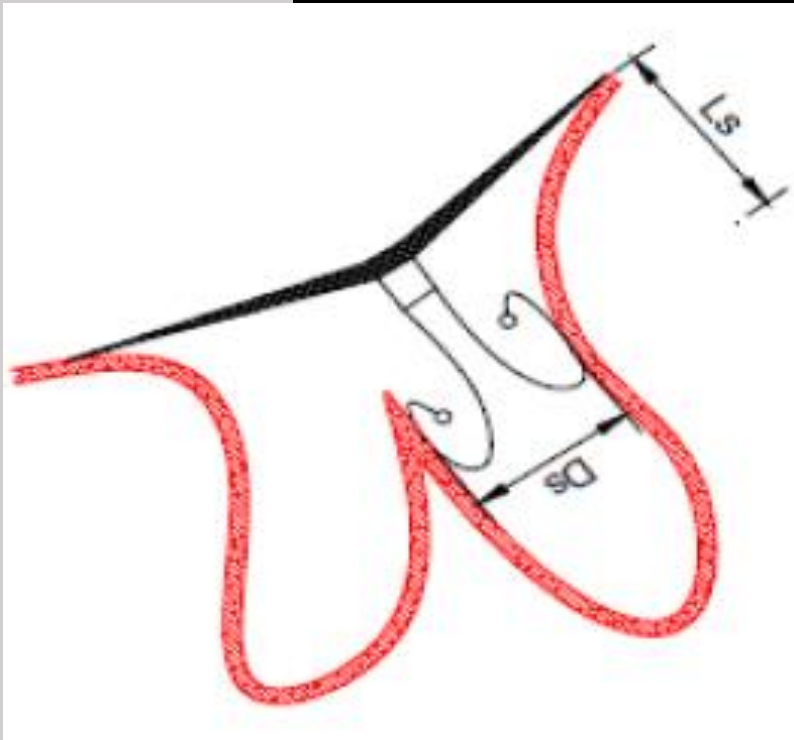


LAMBRE #22/34mm



WL: 129 WW: 190 [D]
RAO: 30 CAU: 20

12/4/2019 1:00:15 PM

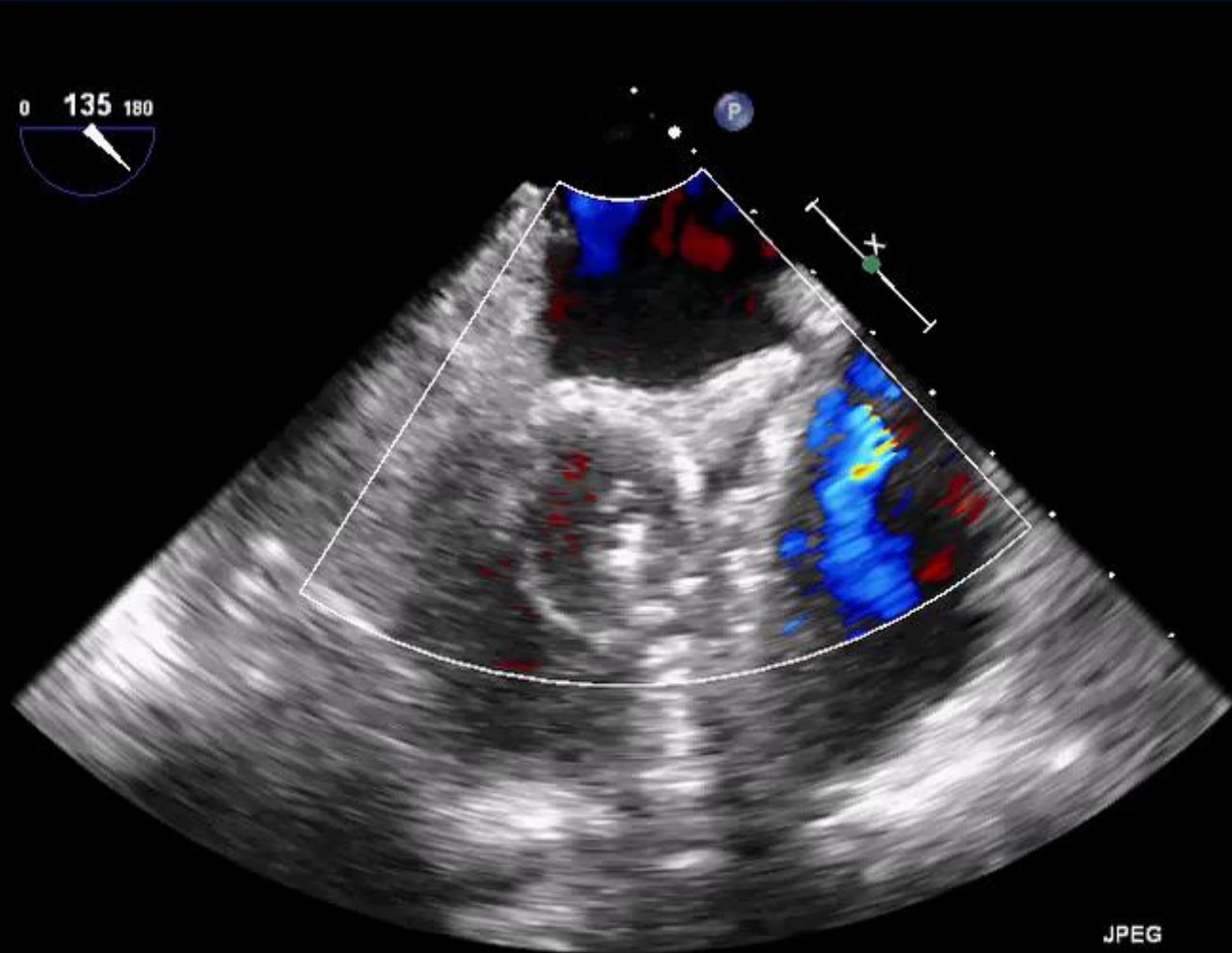


FR 14Hz
10cm

2D
66%
C 50
P Off
Gen



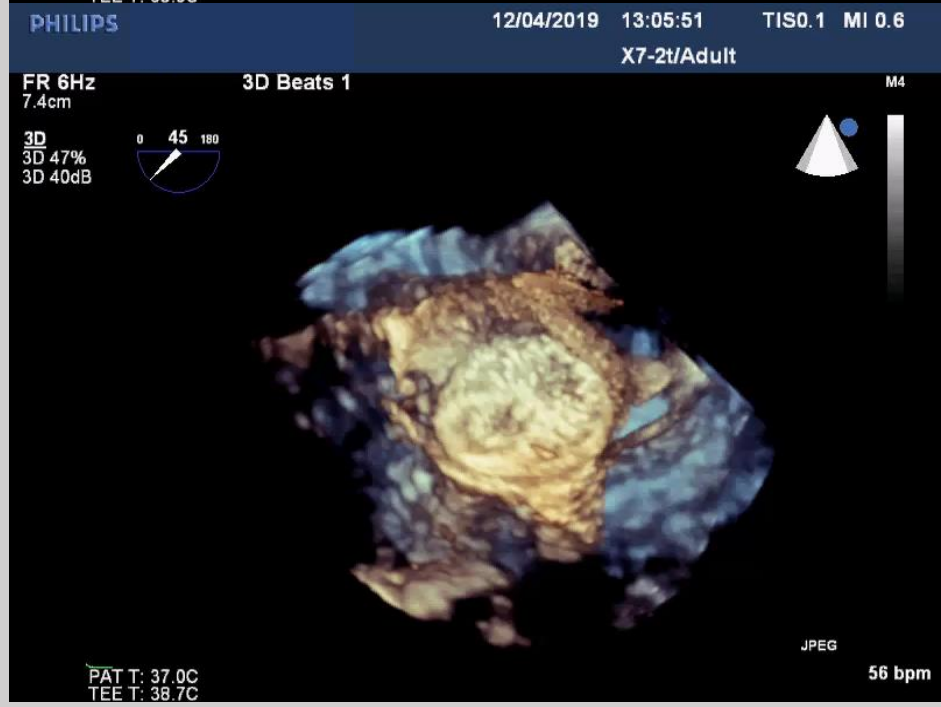
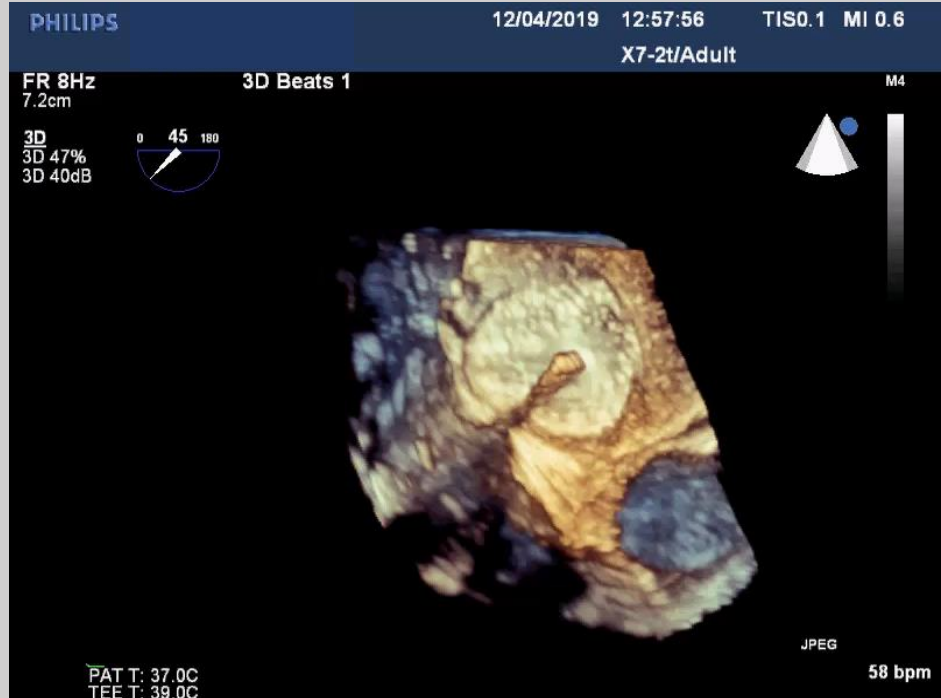
CF
59%
4.4MHz
WF High
Med



JPEG

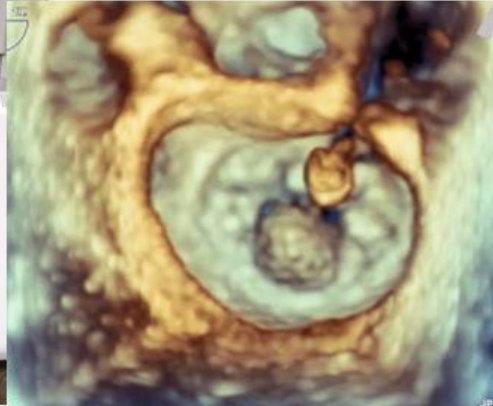
PAT T: 37.0C
TEE T: 38.3C

156 bpm



Conclusion

- **AMULET** and **LAMBRE** share some common features as a 2-component device and basic concepts of 2-step deployment
- to allow flexibility for challenging anatomy
- differences in sealing concept and anchoring mechanisms
- familiarity with the specific device design/feature and sizing options is essential for LAA closure outcome optimization



HONG KONG VALVE
HEART TEAM CONFERENCE



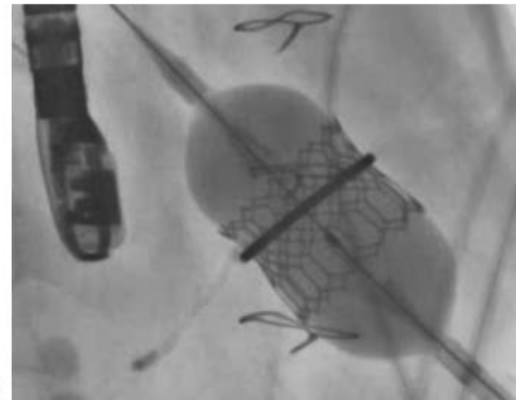
First Announcement

HONG KONG VALVE 2019

7-8th September 2019 (Sat & Sun)

**Cheung Kung Hai Lecture Theatre,
Faculty of Medicine Building,
Sassoon Road, Hong Kong**

- Live case demonstrations from Queen Mary Hospital
- Plenary lectures by overseas & local experts
- Hands-on, didactic workshops
 - Cardiac catheterization skills for cardiothoracic surgeons
 - Cardiac surgical basics for interventional cardiologists
 - Cardiothoracic anaesthesiology and TEE essentials for Hybrid Heart Valve Interventions
 - Transcatheter heart valve crimping and loading for nurses



Conference Secretariat
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<http://hkvalve.org>





HONG KONG VALVE 2018
 15-16TH SEPTEMBER 2018

Thank you!

