4D CT – One system. Many possibilities.

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- ULS São João
- Radiographer since 2005
- Radiology Department
- Interventional Radiology 2020

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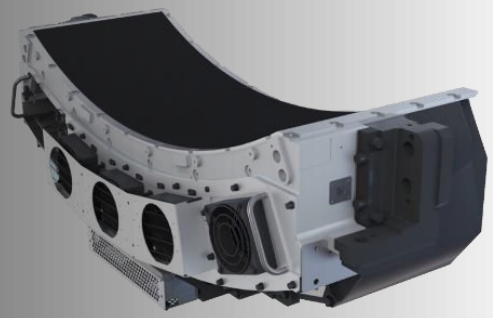
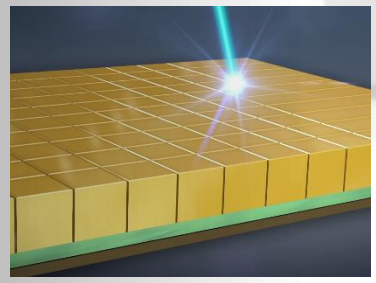
Alphenix 4DCT - Aquilion Prime SP

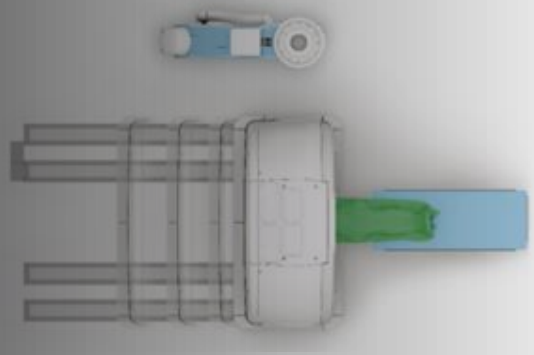


- *Gantry* on Rails
- 72kW generator
- 160 silces
- 0,5mm x 80 PUREVISION
- Z-axis - 40mm
- Rotation time: 0,35s
- SEMAR
- AIDR 3D Enhanced iterative reconstruction
- *Deep Learning* – AiCE®
- Tilt de +30 a -30º

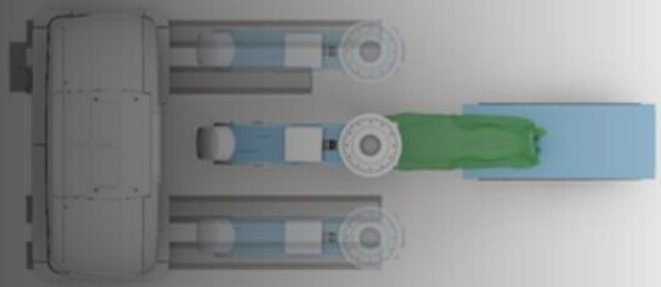


Alphenix Sky

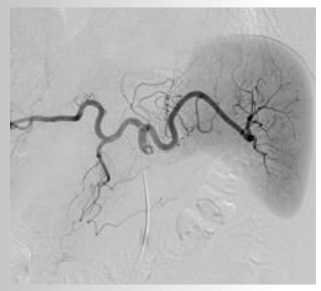
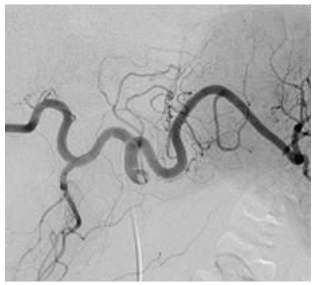
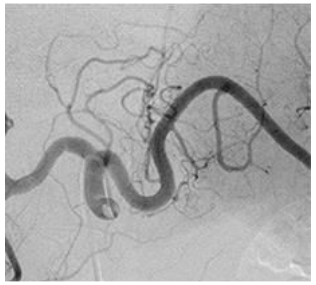
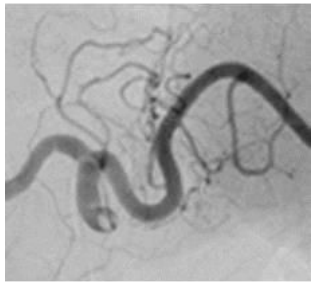
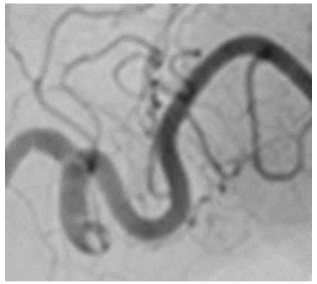
- Flat Panel Detector 30x40cm
- Parking Position

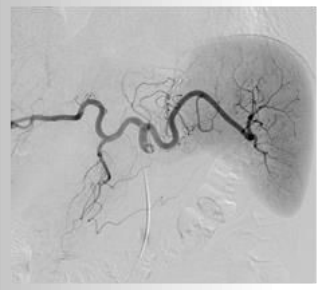
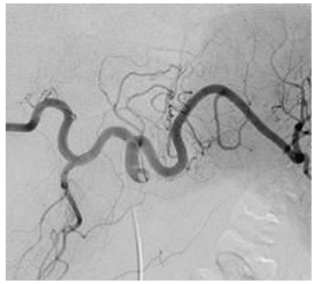
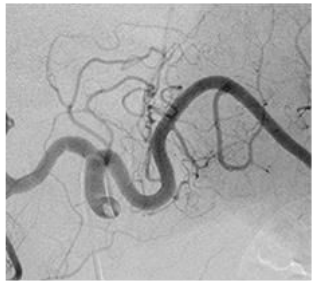
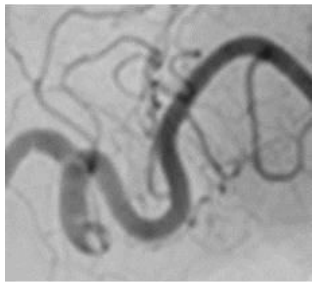


- Anatomical coverage 201cm

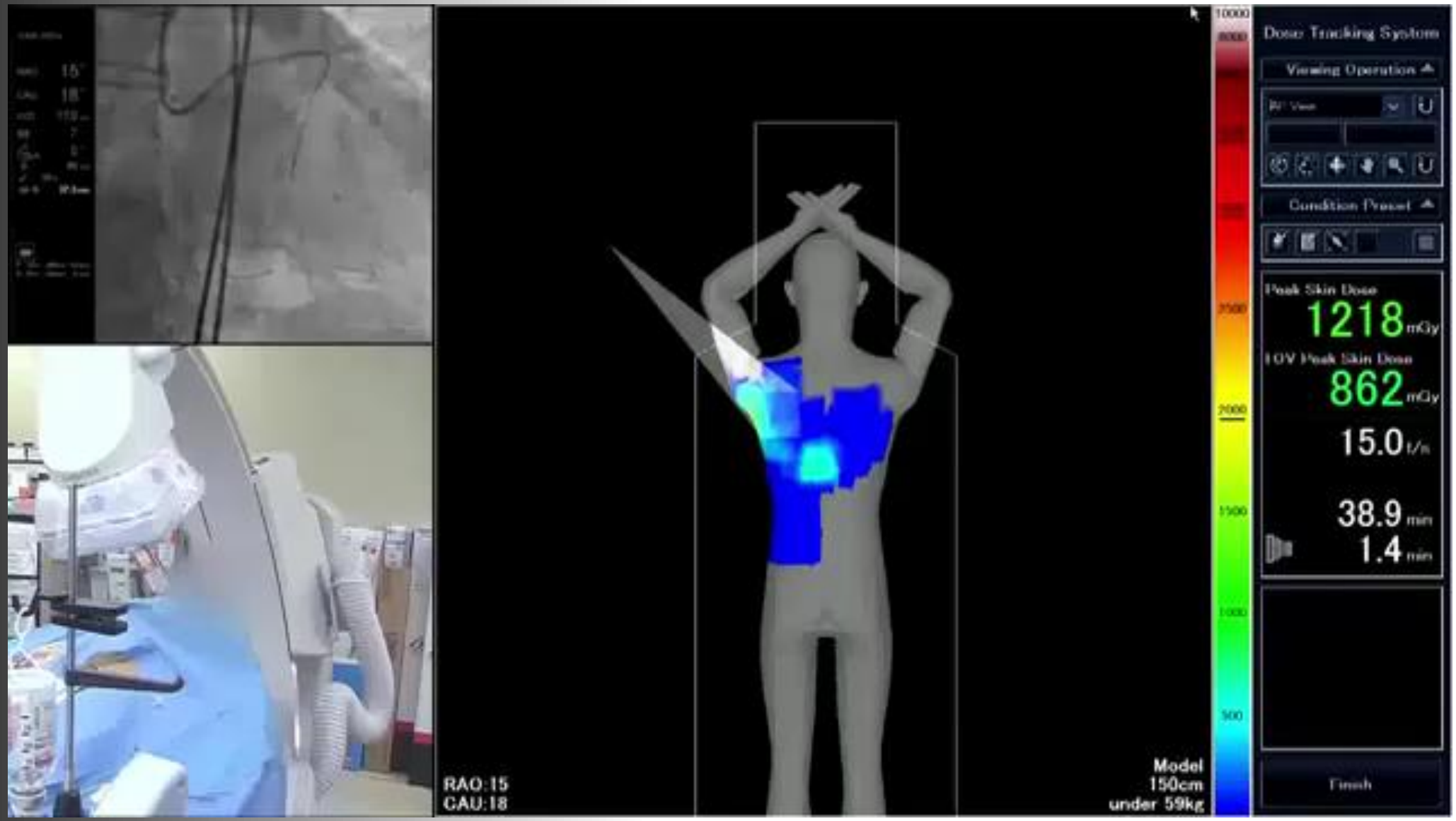


Live Zoom

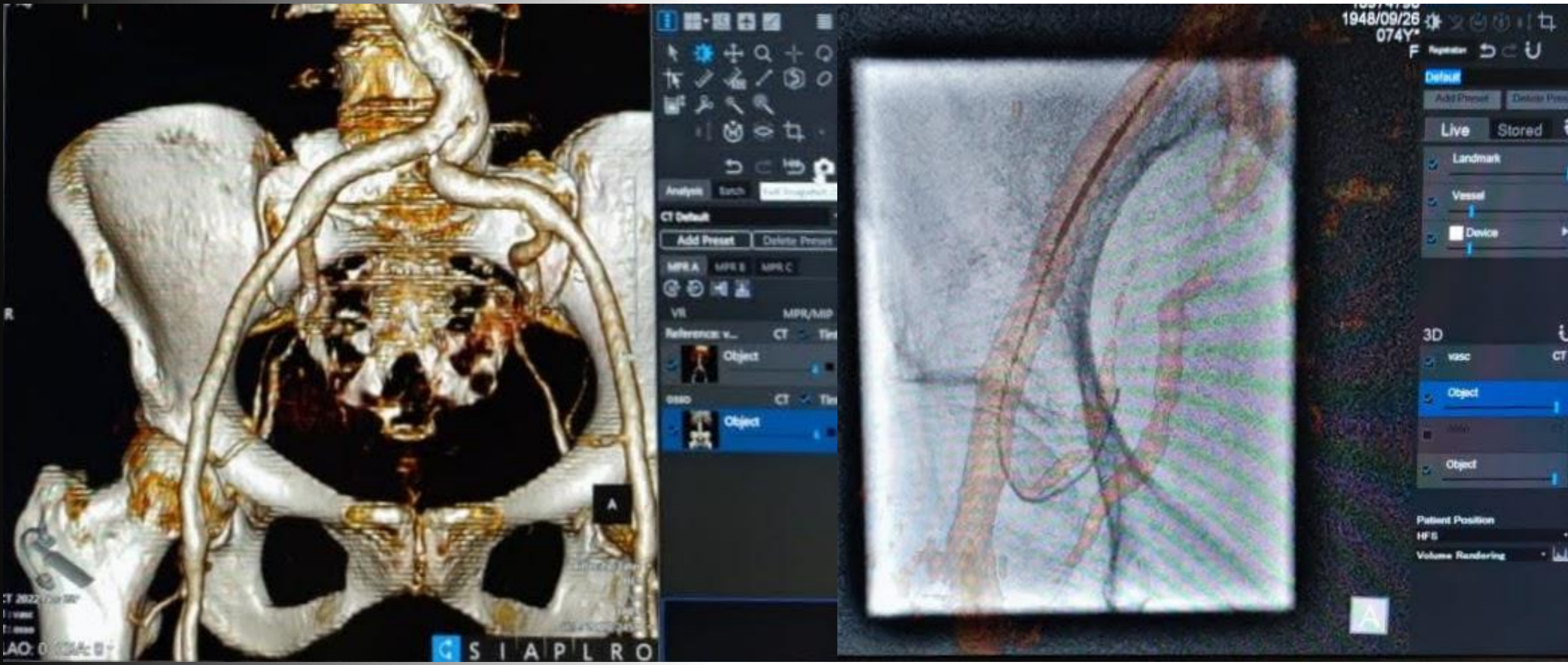
	FOV 40=Mag 0	FOV 30=Mag 1	FOV 20=Mag 2	FOV 15=Mag 3	FOV 11=Mag 4	FOV 8=Mag 5
Magnificação Convencional						
	Dose=**100%**	Dose=**125%**	Dose=**145%**	Dose=**175%**	Dose=**175%**	Dose=**175%**

	FOV 40=L-Zoom 1.0	Mag 1=L-Zoom 1.2	Mag 1=L-Zoom 1.4	Mag 1=L-Zoom 1.8 ---------->	> Up to 2.4
Live Zoom					
	Dose=**100%**	Dose=**100%**	Dose=**100%**	Dose=**100%**	Dose=**100%**

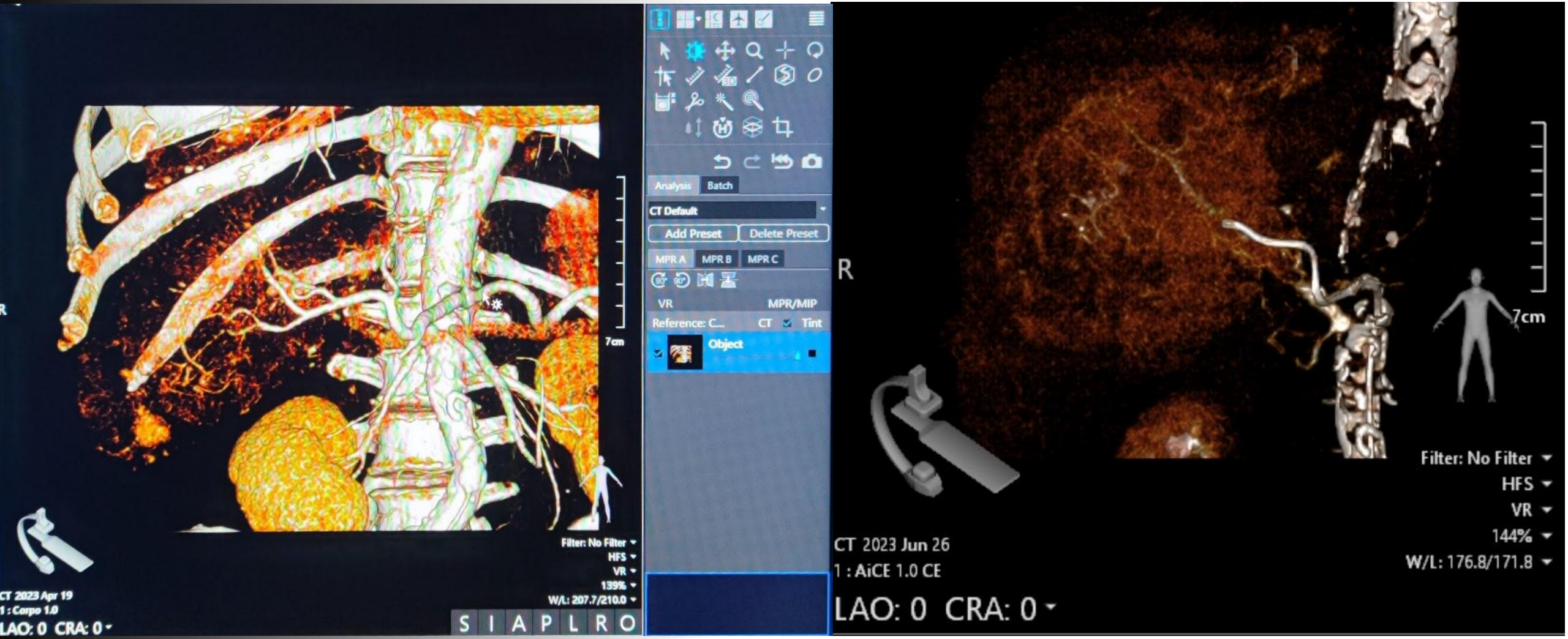
Dose Tracking System



AWS

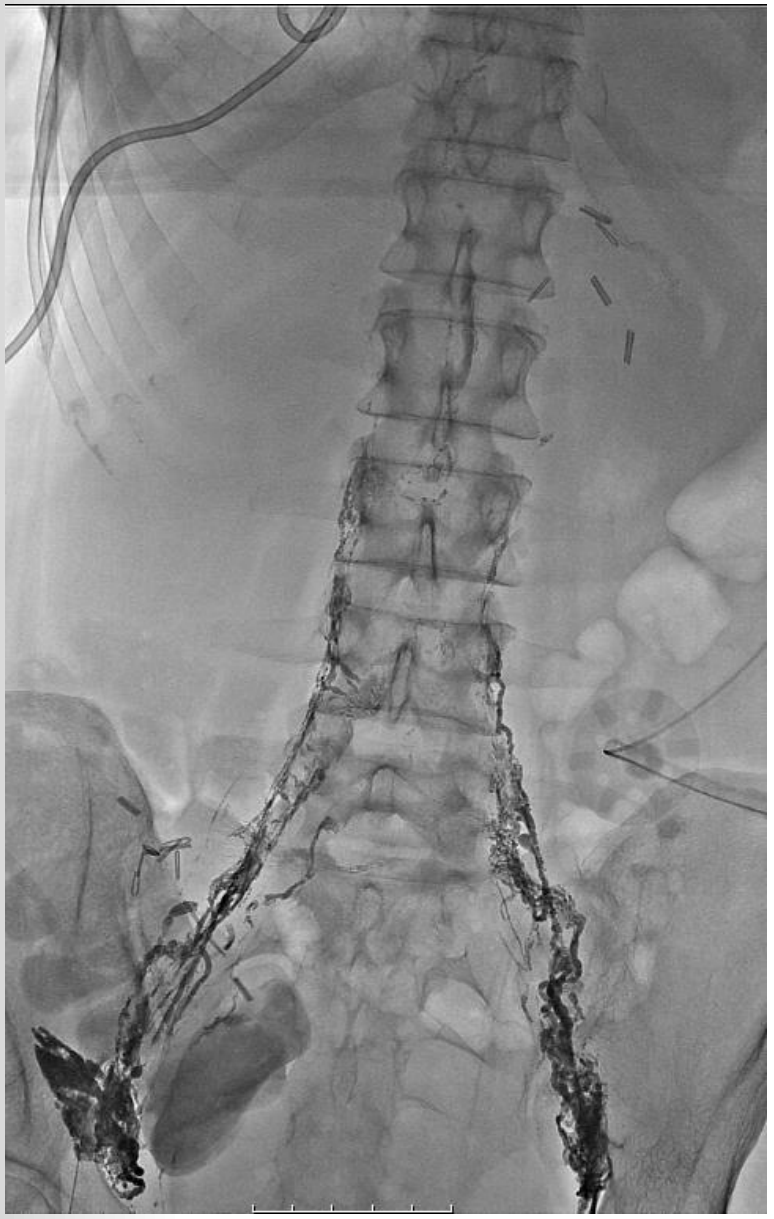

R
A
S I A P L R O
Analysis
Batch
CT Default
Add Preset
Delete Preset
MPR A
MPR B
MPR C
VR
MPR/MIP
Reference: v...
CT
Object
OSSO
CT
Object
1948/09/26
074Y*
F
Default
Add Preset
Live
Stored
Landmark
Vessel
Device
3D
vasc
CT
Object
Object
Patient Position
HFS
Volume Rendering
A

AWS

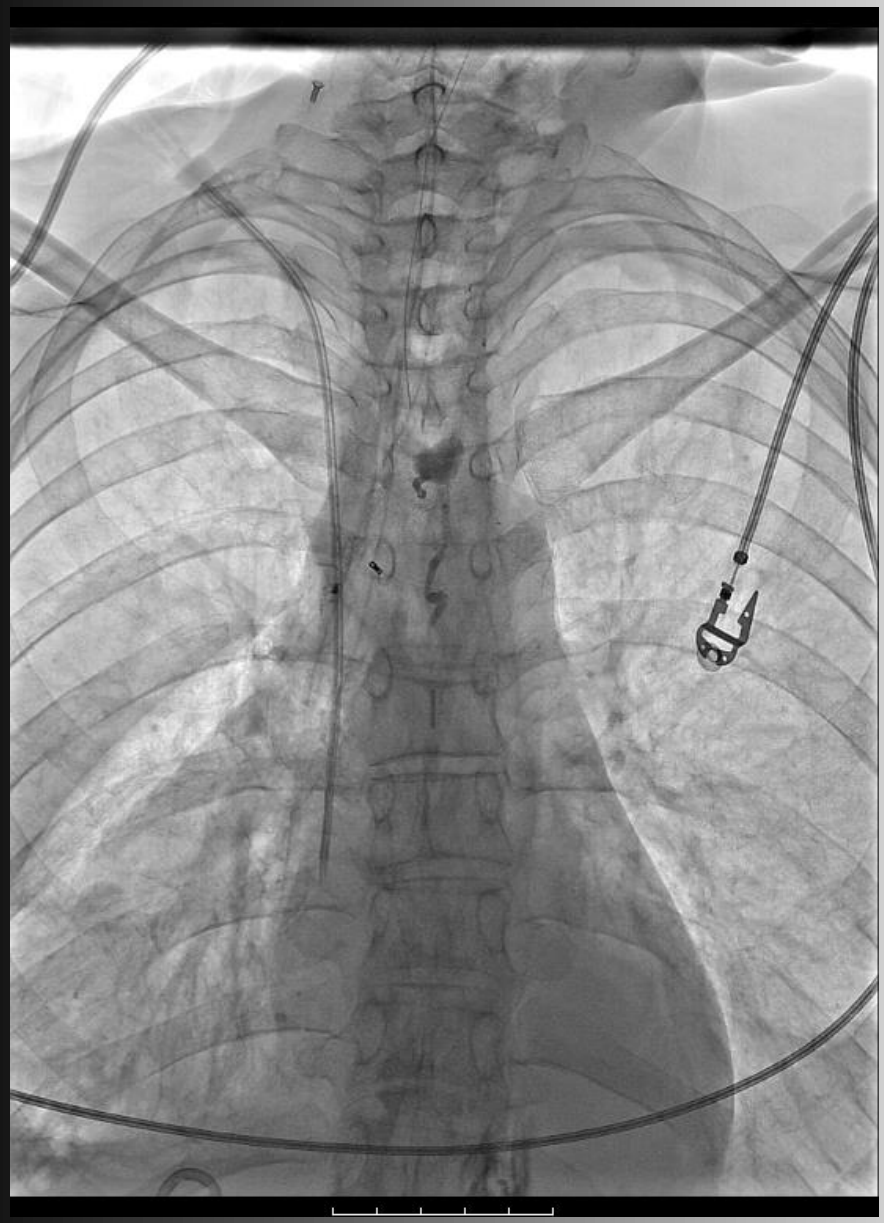

R
7cm
Filter: No Filter
HFS
VR
139%
W/L: 207.7/210.0
CT 2023 Apr 19
1 : Corpo 1.0
LAO: 0 CRA: 0
S I A P L R O
Analysis
Batch
CT Default
Add Preset
Delete Preset
MPR A
MPR B
MPR C
VR
MPR/MIP
Reference: C...
CT
Tint
Object
R
7cm
Filter: No Filter
HFS
VR
144%
W/L: 176.8/171.8
CT 2023 Jun 26
1 : AiCE 1.0 CE
LAO: 0 CRA: 0

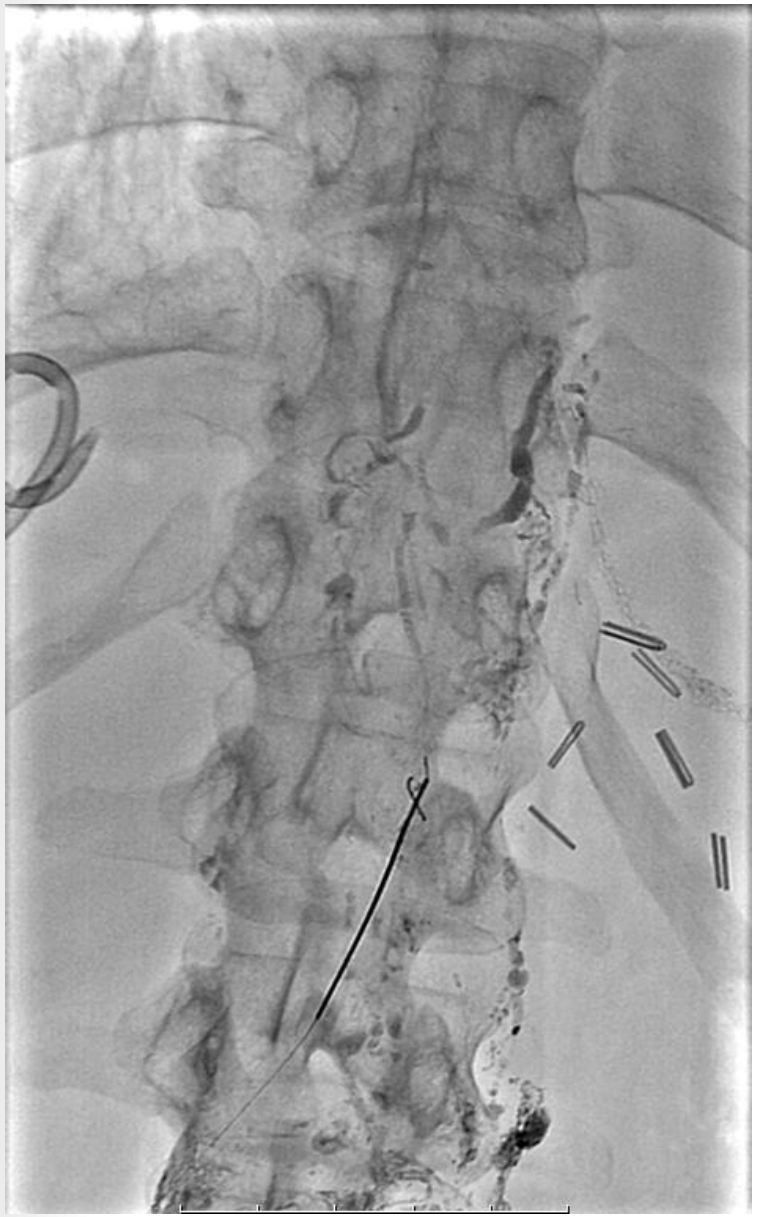
Case 1

- Female
- 43 years
- Post-op esophagectomy
- Chilothorax
- Lymphangiography
- Thoracic duct embolization

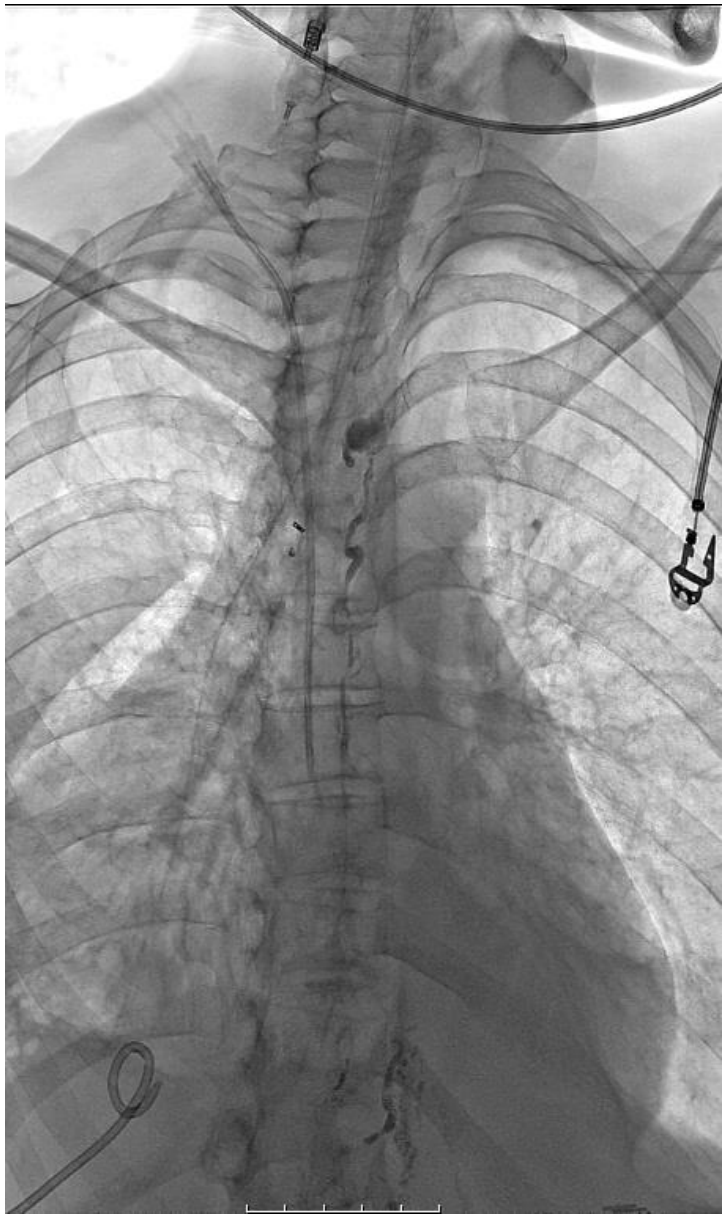


Case 1

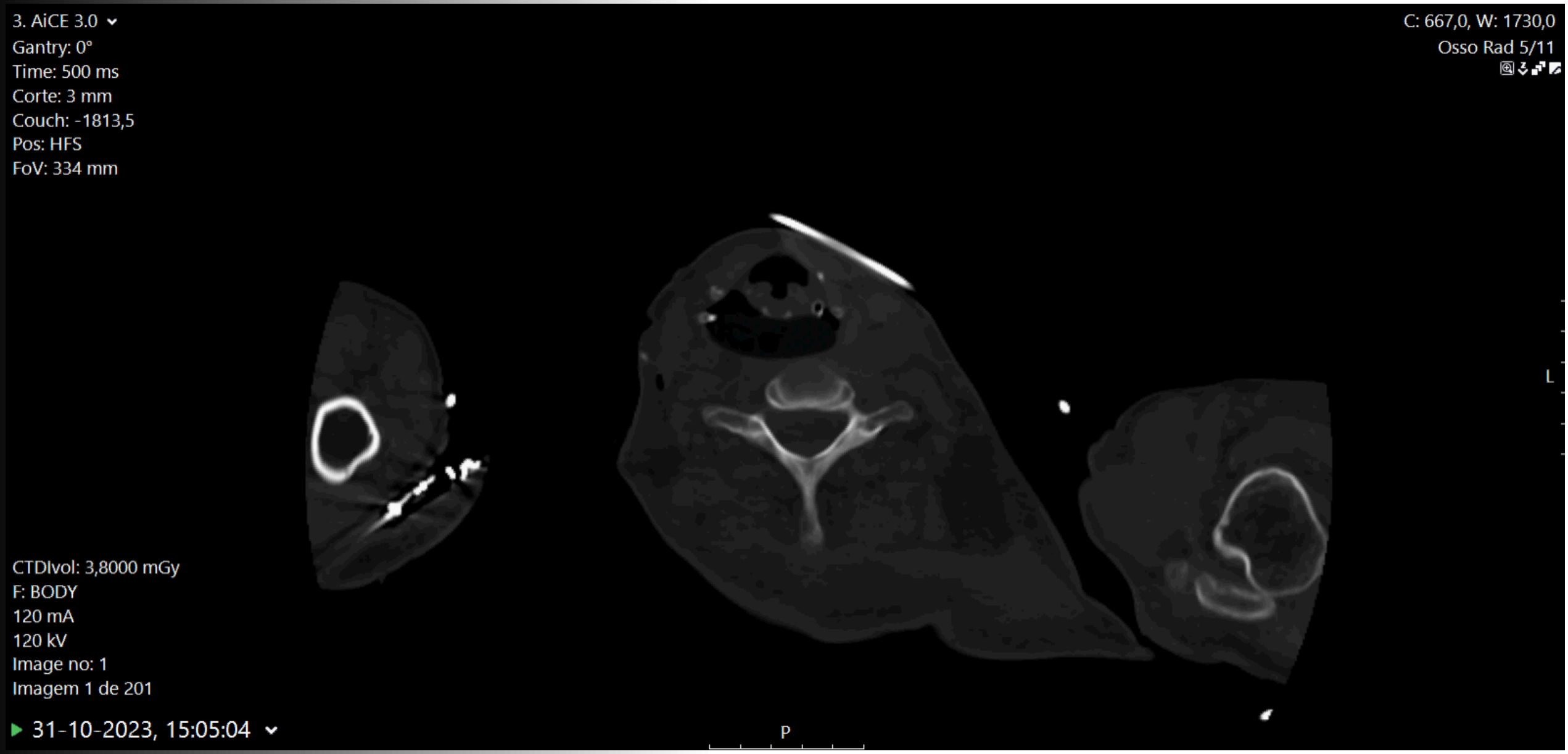




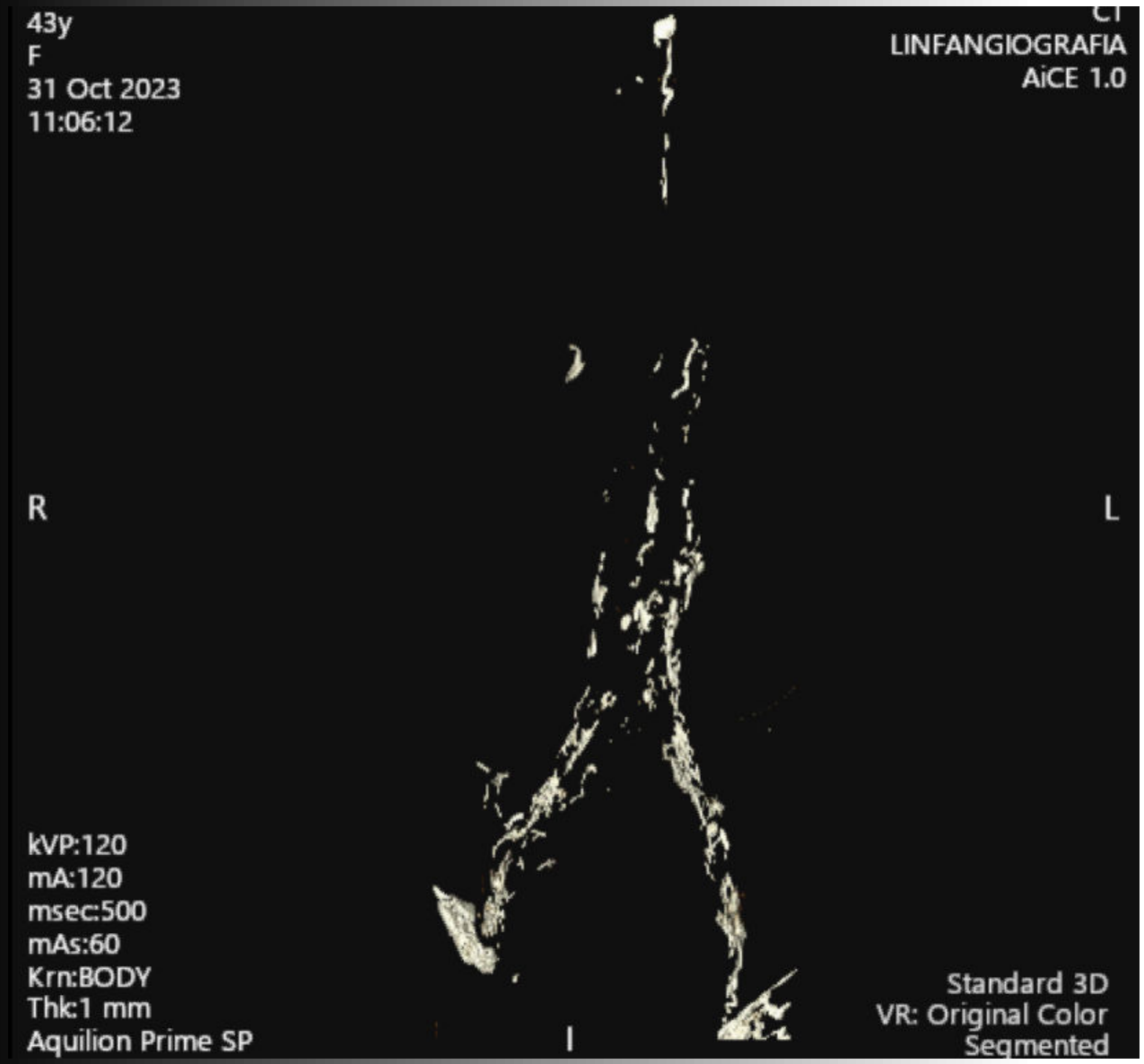
Case 1

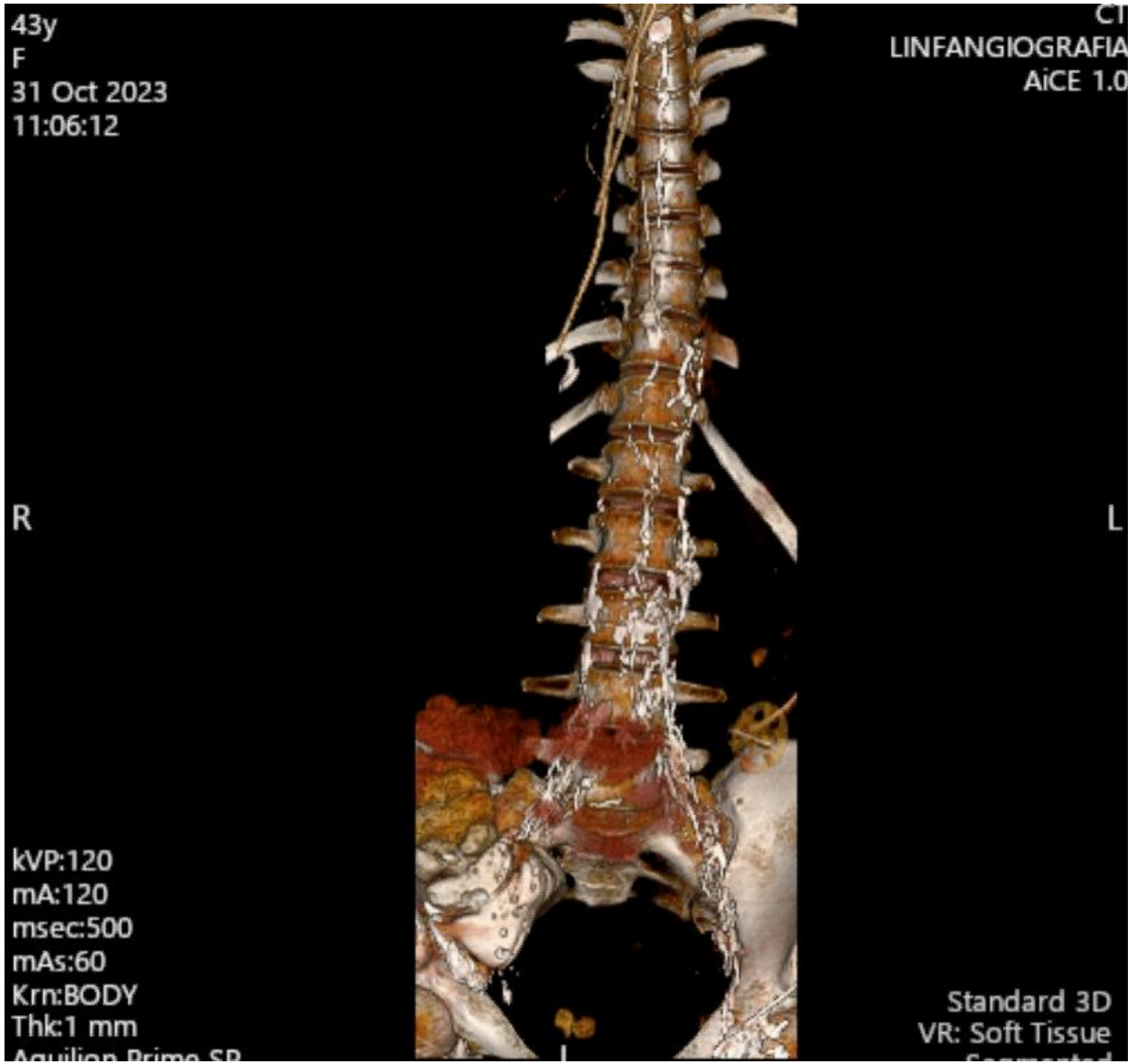


Case 1


3. AiCE 3.0
Gantry: 0°
Time: 500 ms
Corte: 3 mm
Couch: -1813,5
Pos: HFS
FoV: 334 mm
C: 667,0, W: 1730,0
Osso Rad 5/11
L
CTDIvol: 3,8000 mGy
F: BODY
120 mA
120 kV
Image no: 1
Imagem 1 de 201
31-10-2023, 15:05:04
P

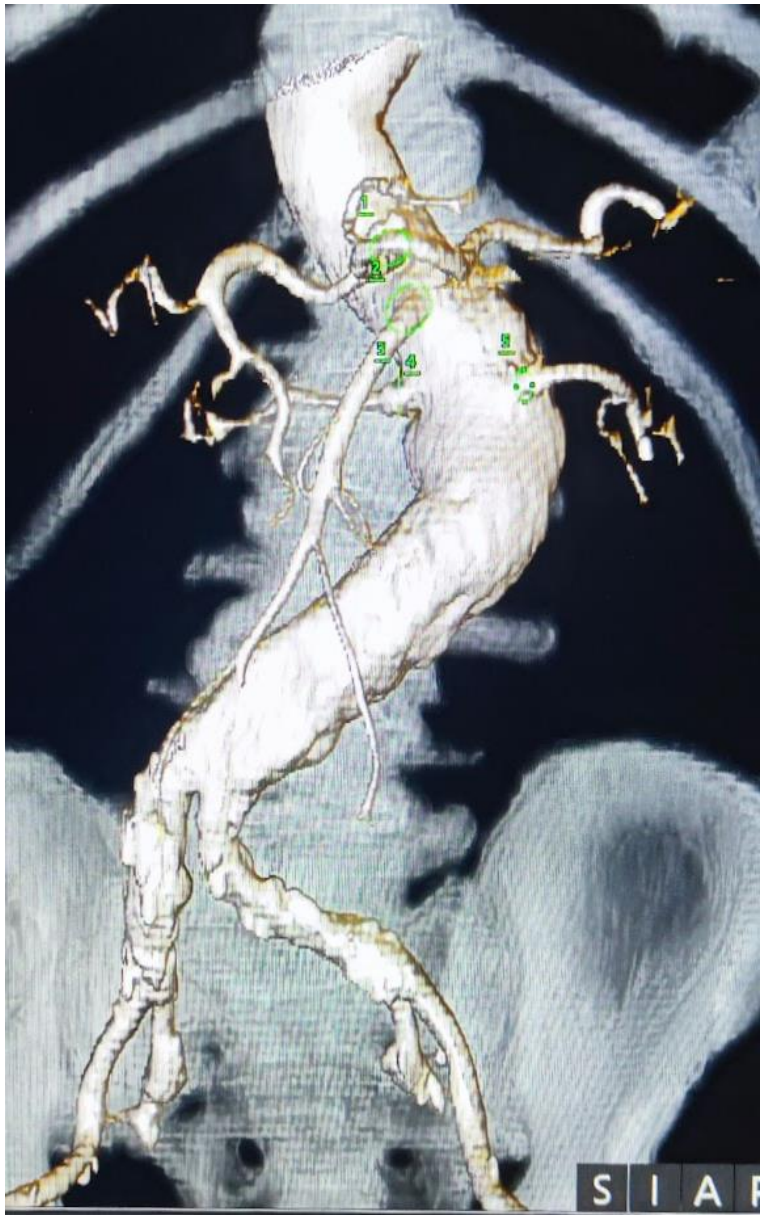
Case 1


43y
F
31 Oct 2023
11:06:12
CT
LINFANGIOGRAFIA
AiCE 1.0
R
L
kVP:120
mA:120
msec:500
mAs:60
Krn:BODY
Thk:1 mm
Aquilion Prime SP
I
Standard 3D
VR: Original Color
Segmented


43y
F
31 Oct 2023
11:06:12
CT
LINFANGIOGRAFIA
AiCE 1.0
R
L
kVP:120
mA:120
msec:500
mAs:60
Krn:BODY
Thk:1 mm
I
Standard 3D
VR: Soft Tissue

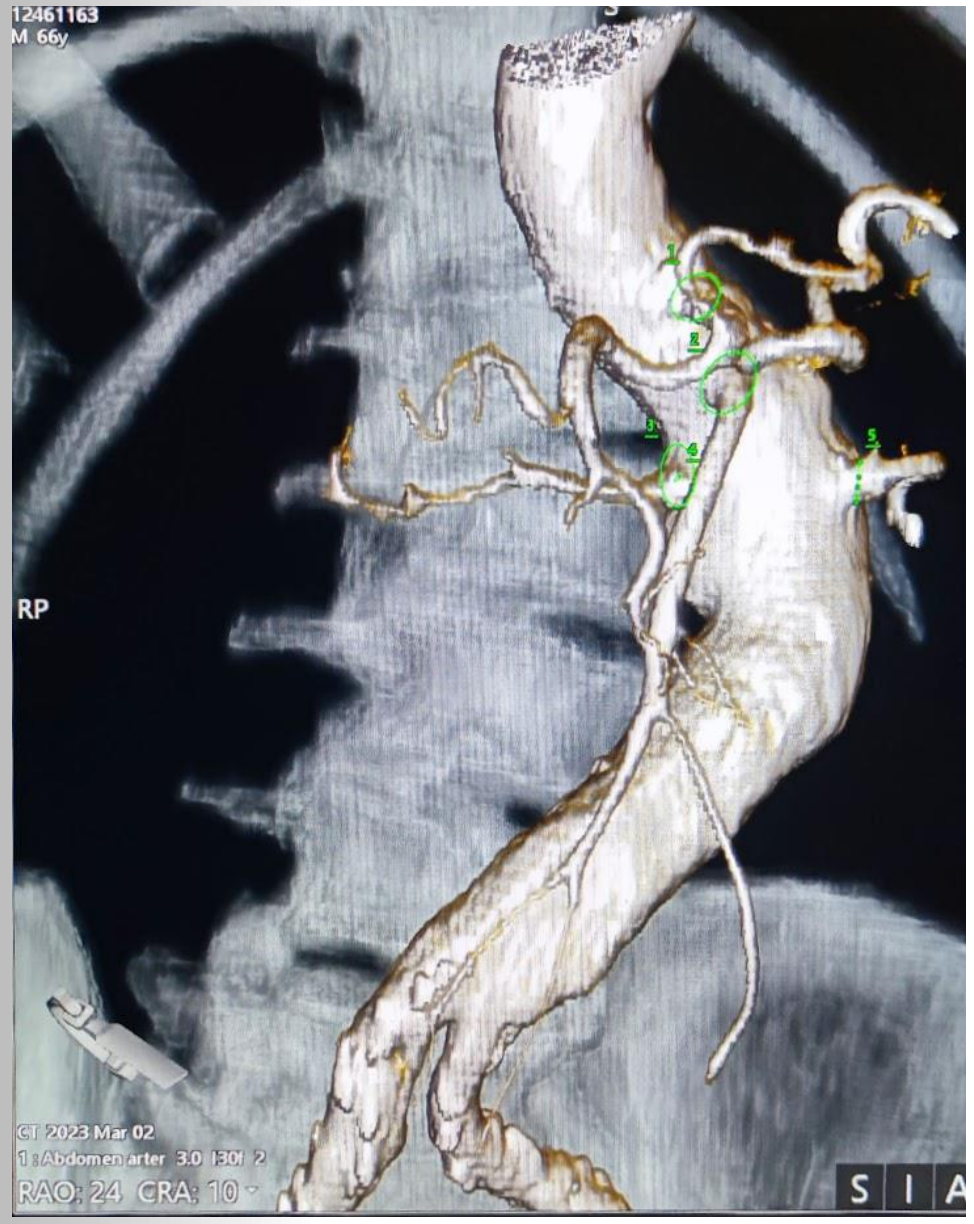
Case 2

- Male
- 66 years
- Supra-renal aneurysm
- FEVAR



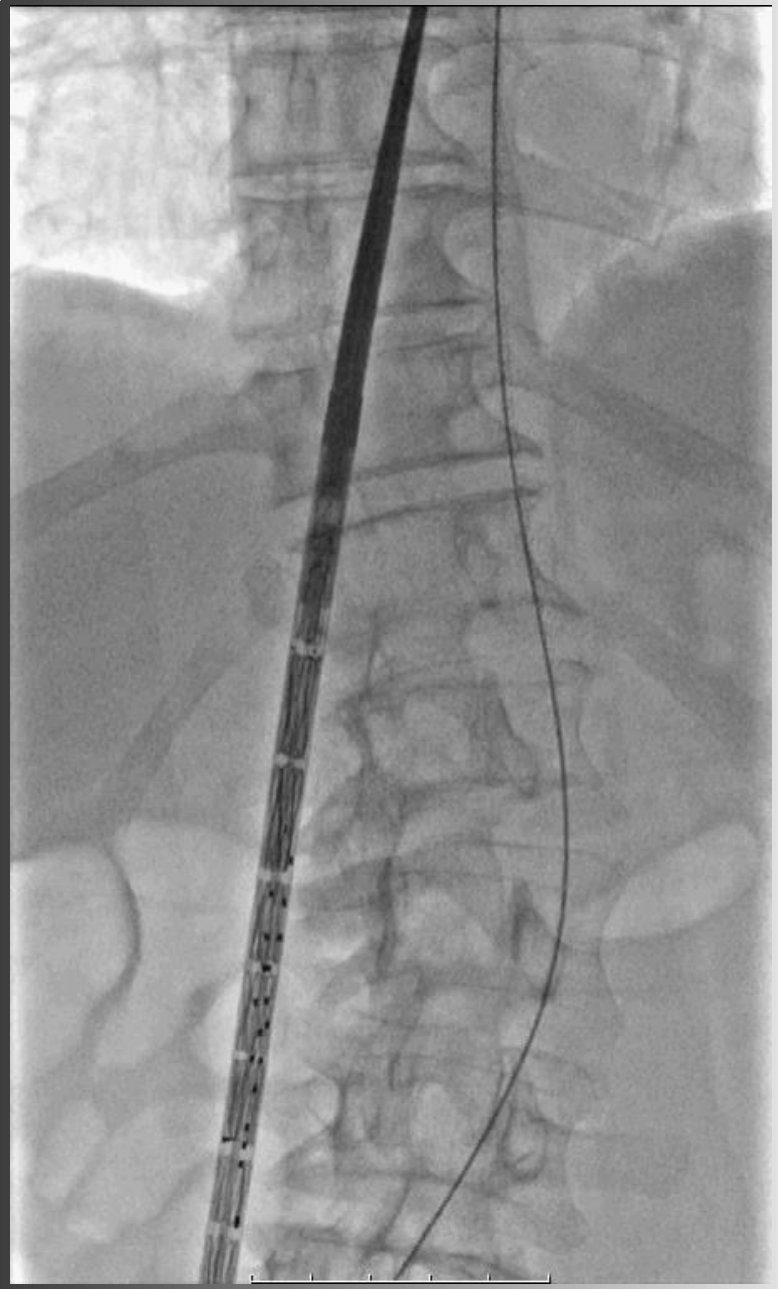
Case 2

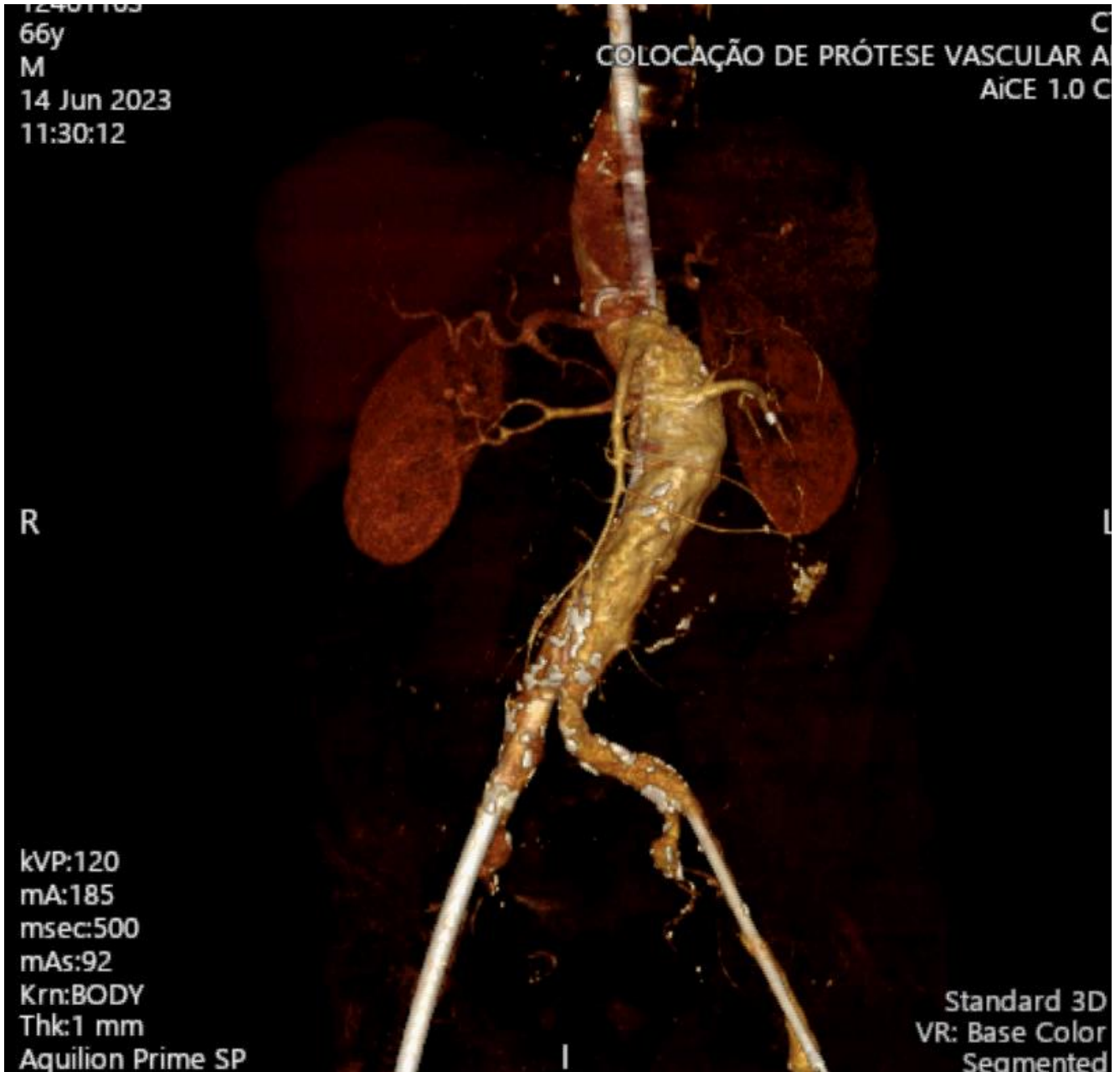
66y
A
CT 2023 Mar 02
1 : Abdomen arter 3.0 I30f 2
LAO: 90 CRA: 0


12461163
M 66y
RP
CT 2023 Mar 02
1 : Abdomen arter 3.0 I30f 2
RAO: 24 CRA: 10
S I A

I30f 2
S I

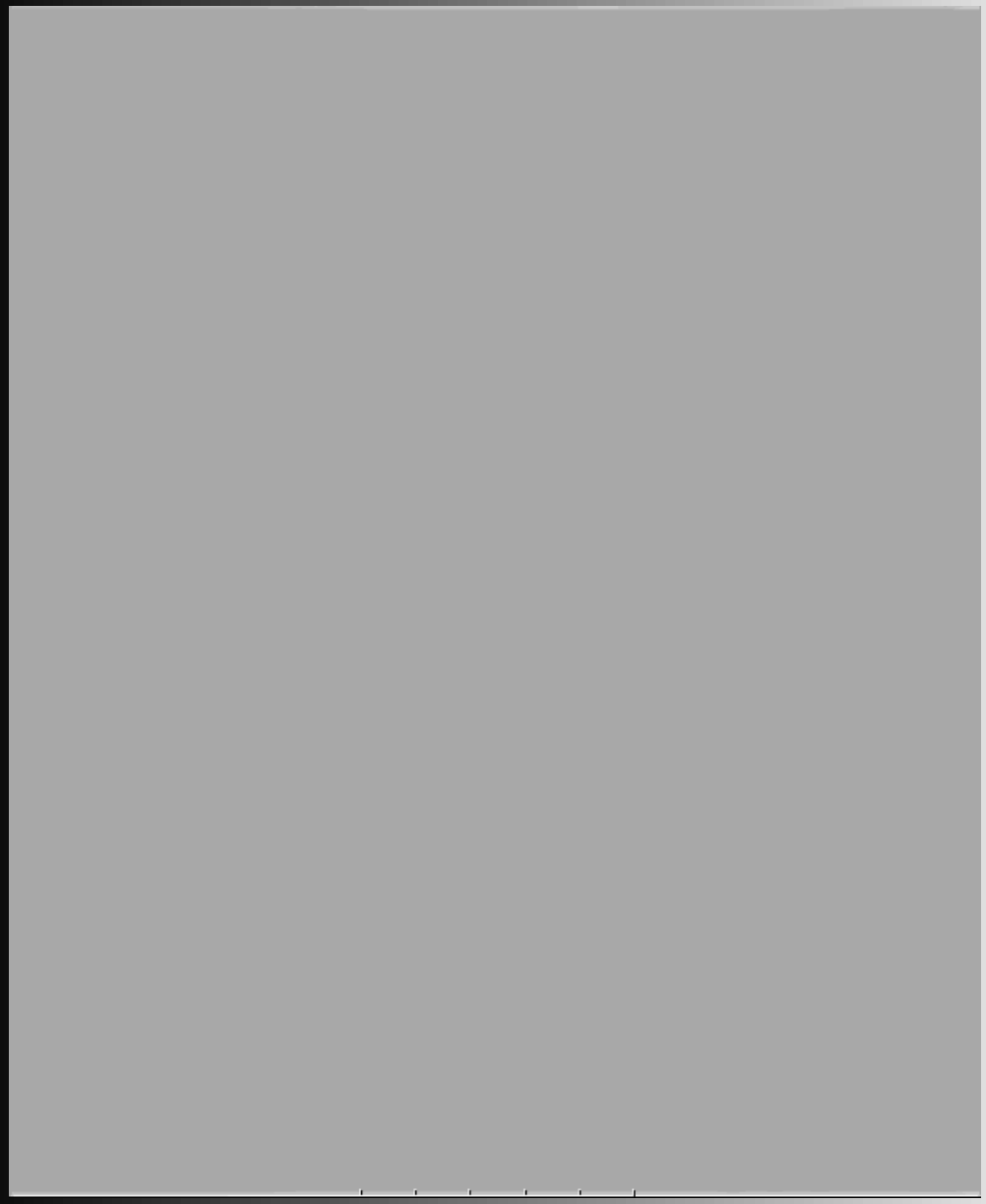
Case 2



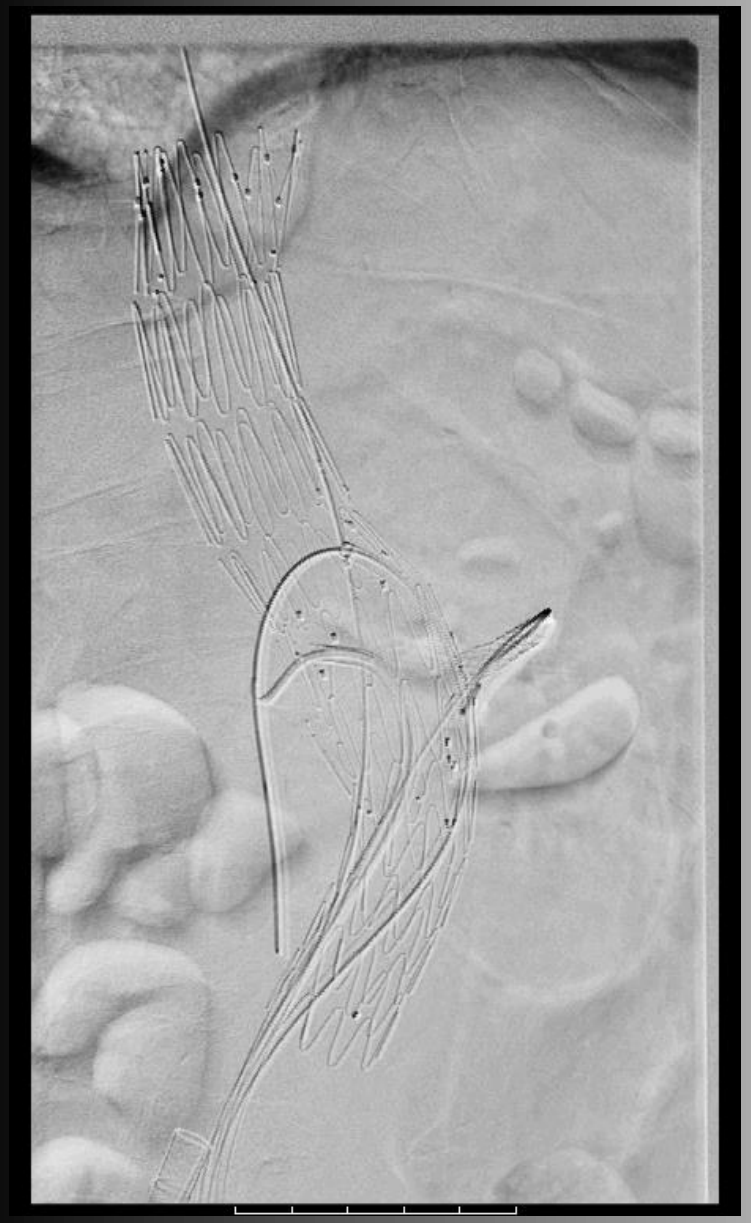

66y
M
14 Jun 2023
11:30:12
COLOCAÇÃO DE PRÓTESE VASCULAR A
AiCE 1.0 C
R
kVP:120
mA:185
msec:500
mAs:92
Krn:BODY
Thk:1 mm
Aquilion Prime SP
Standard 3D
VR: Base Color
Segmented

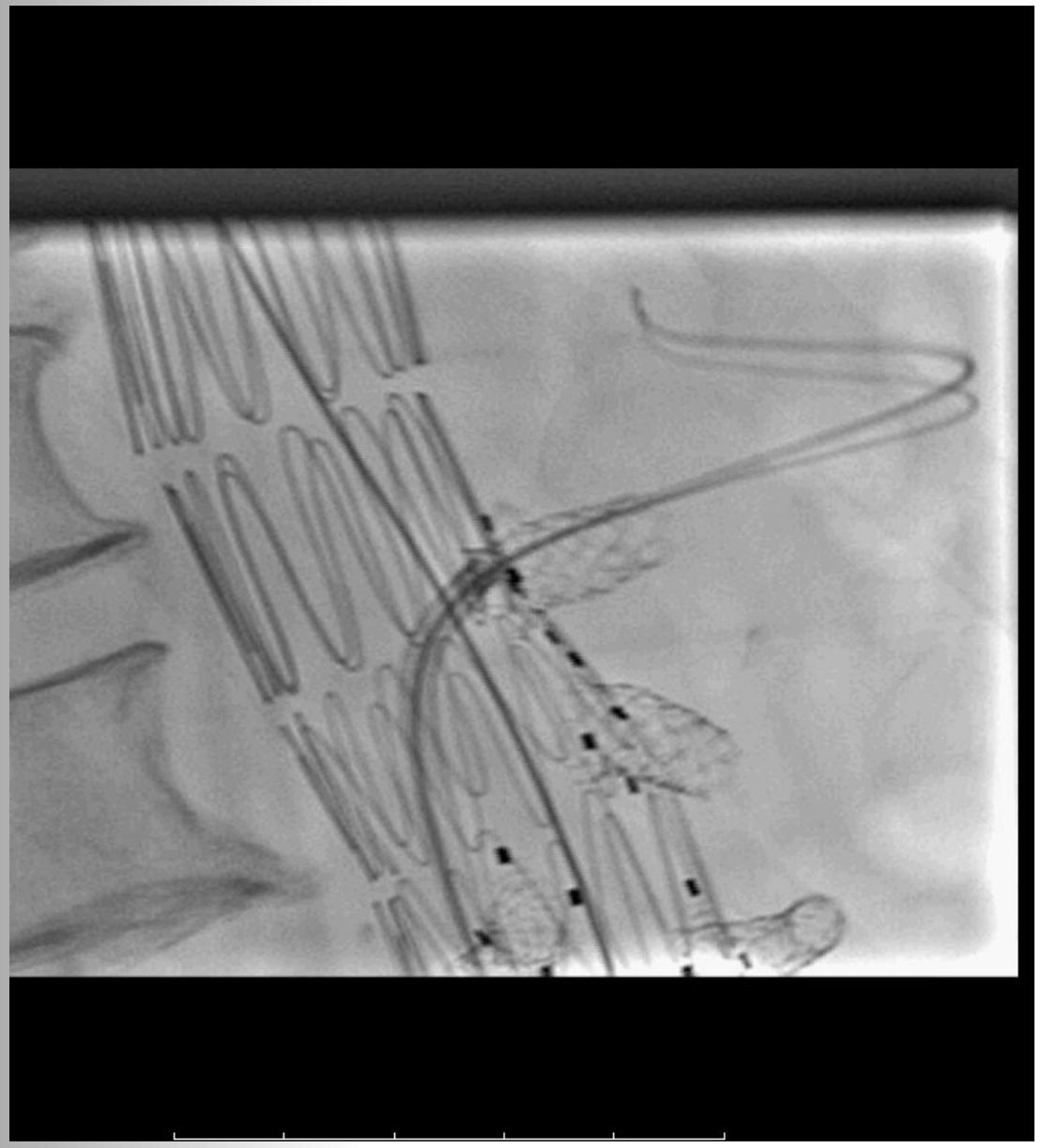
Case 2

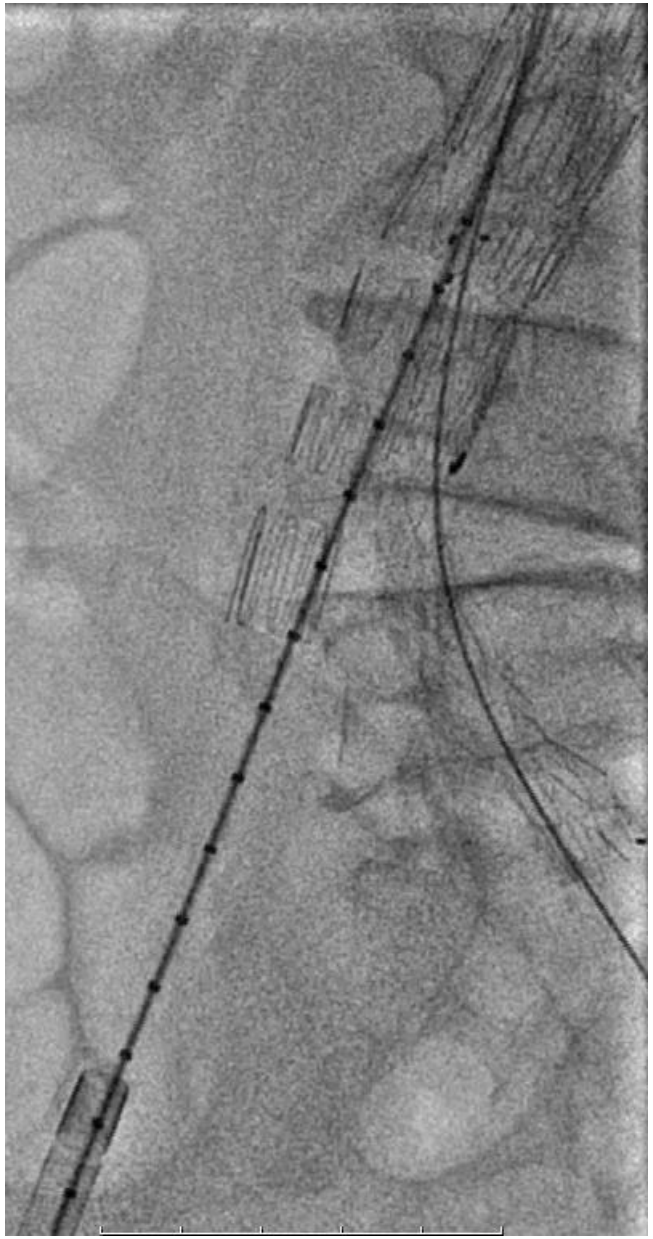
Case 2



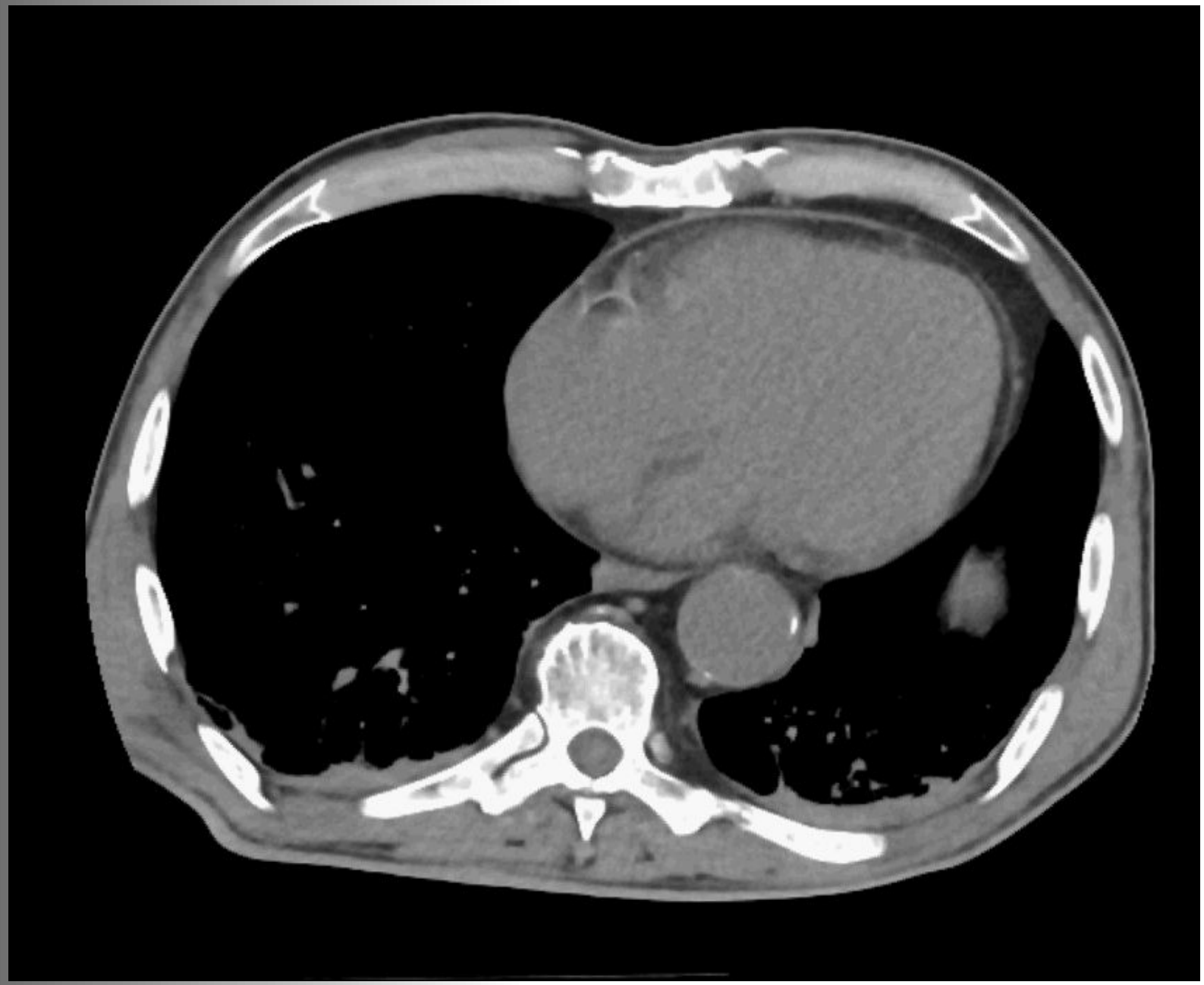
Case 2



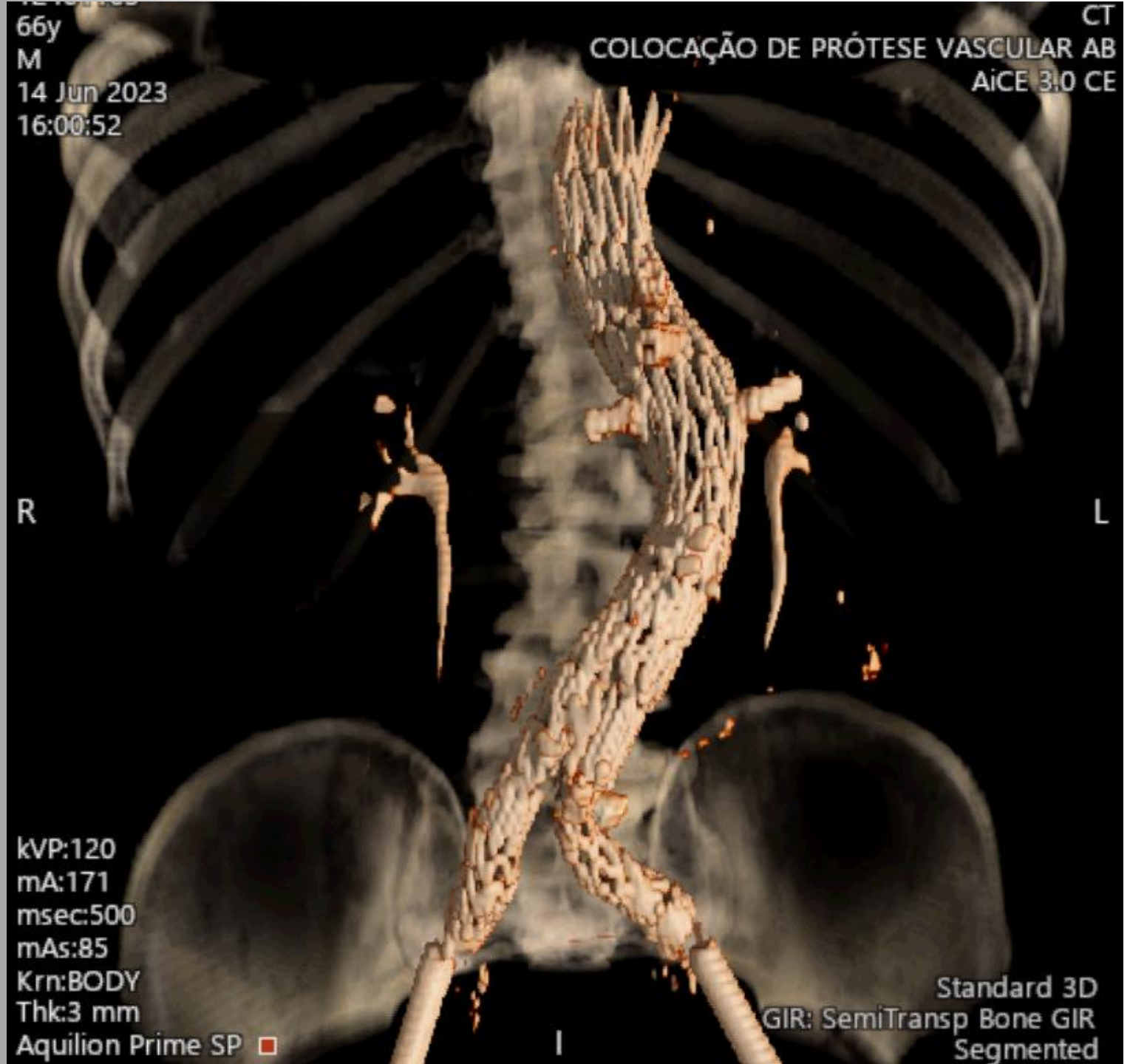




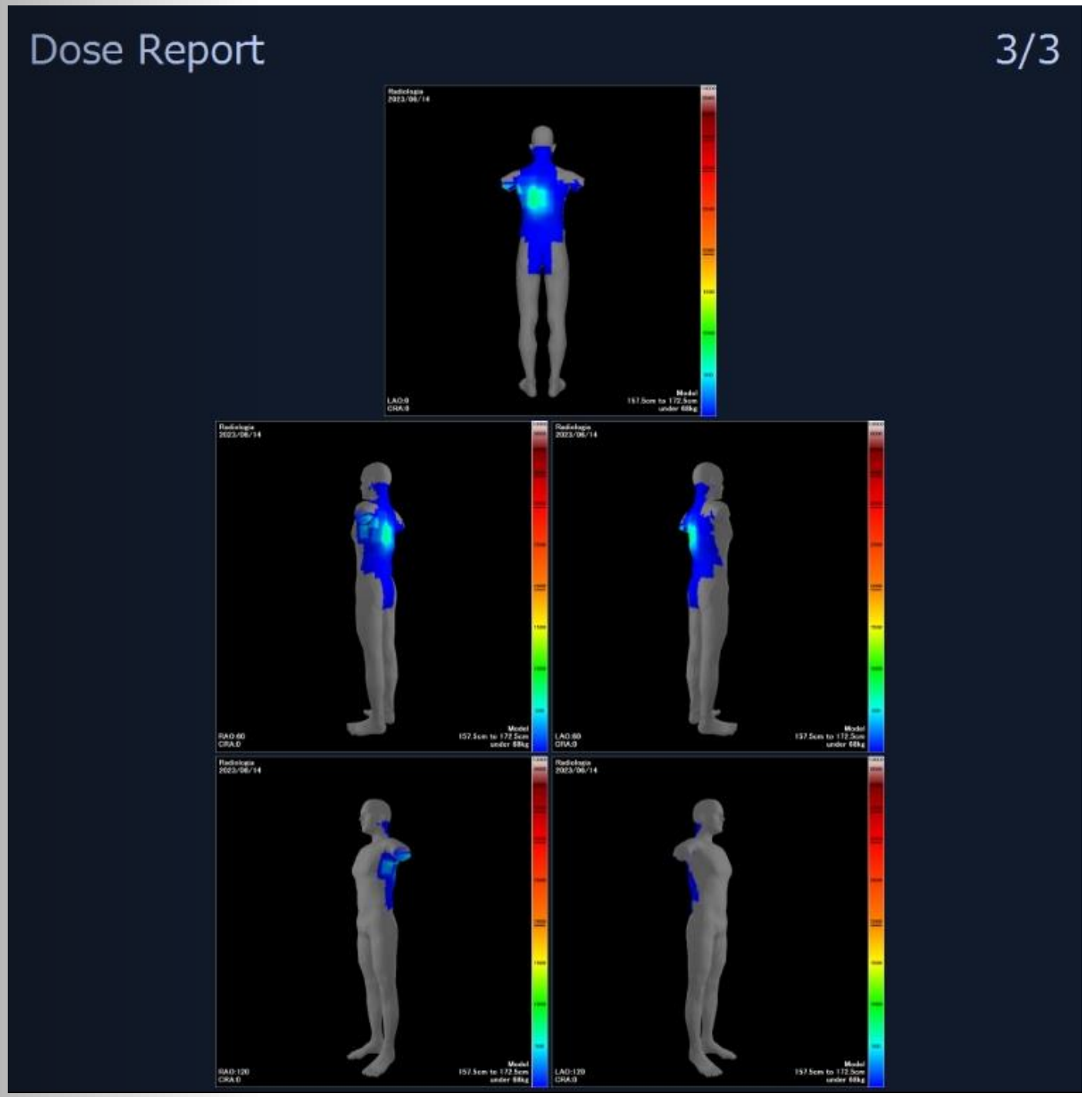
Caso Clínico 2



Caso Clínico 2



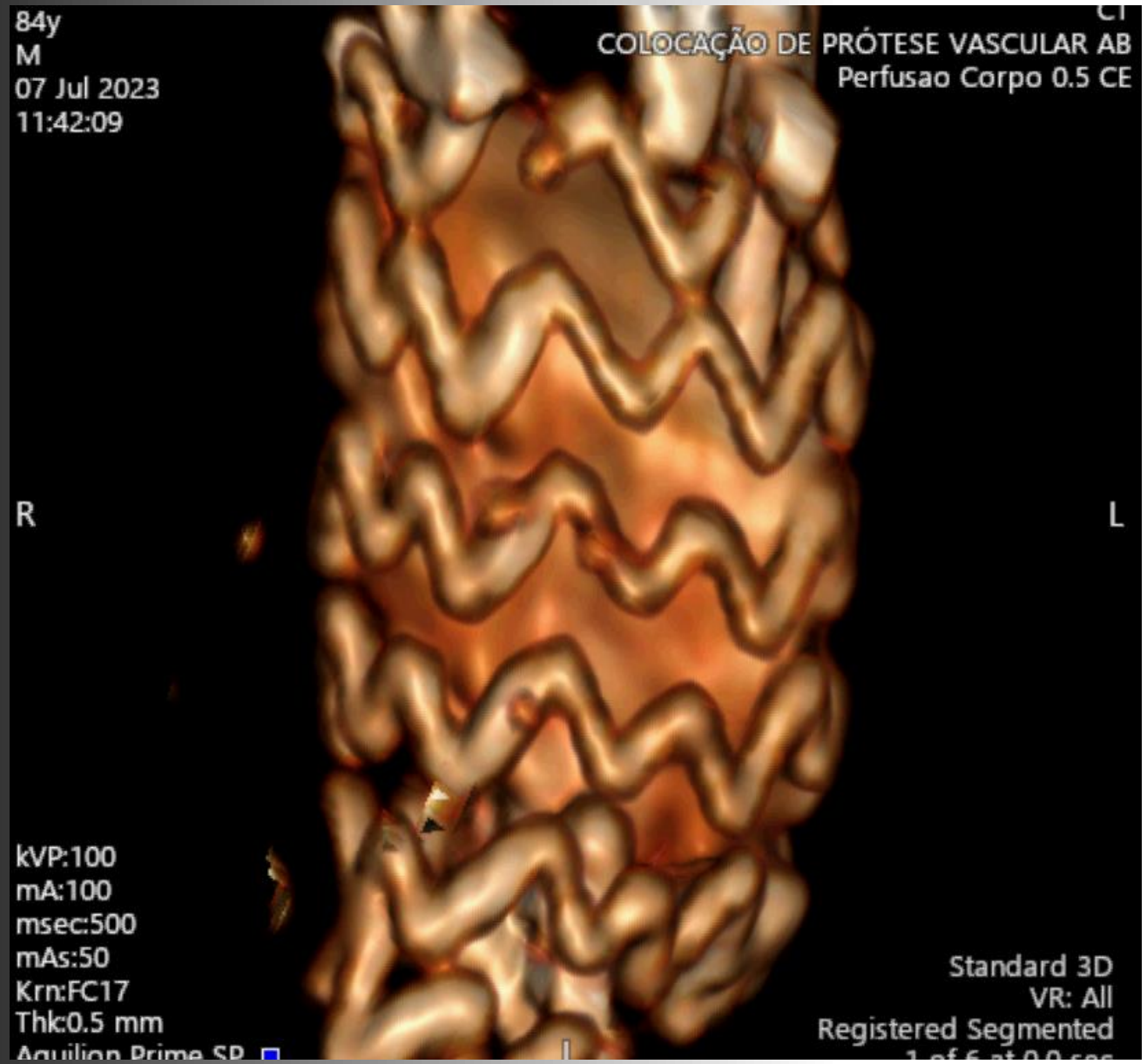
Caso Clínico 2



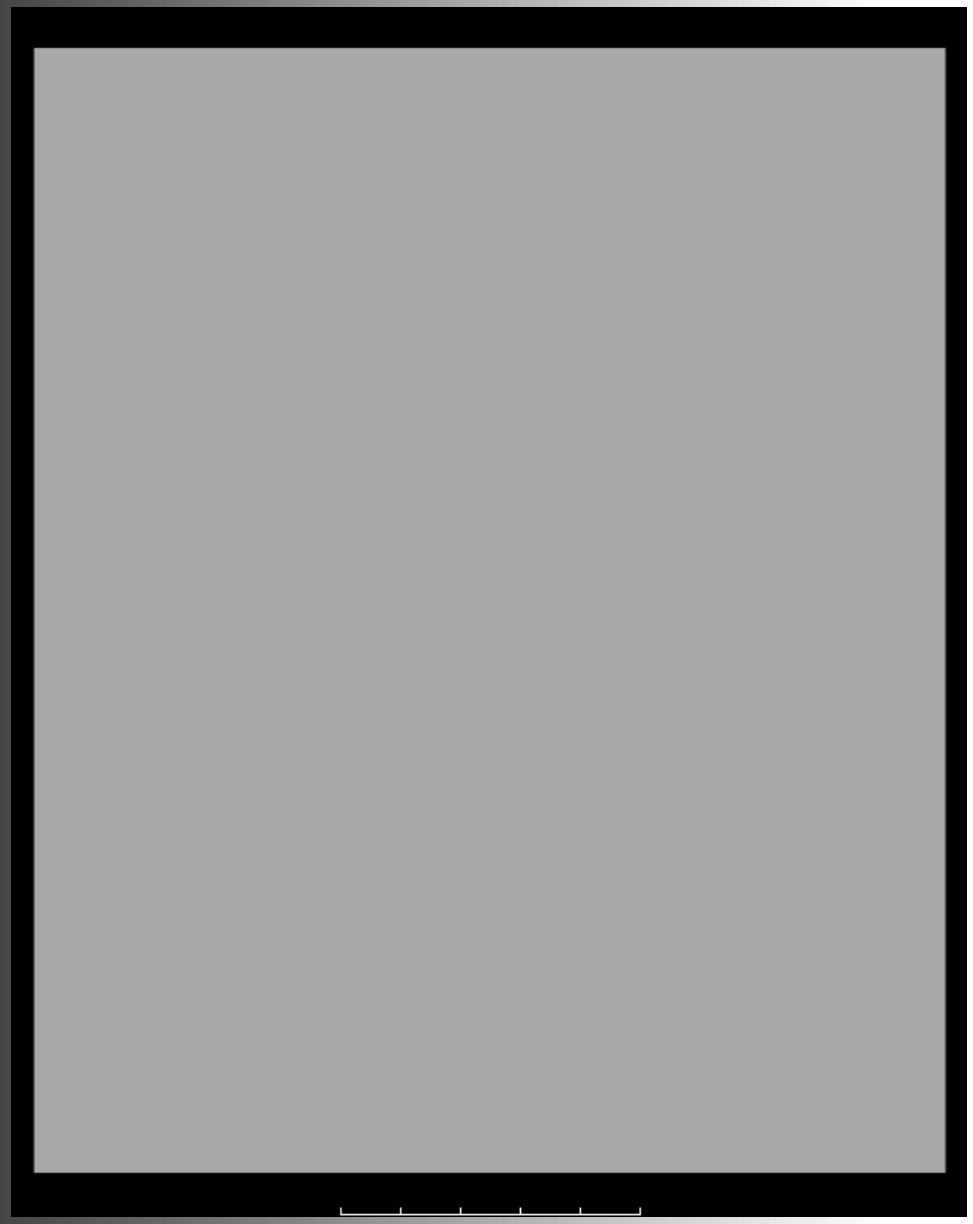
Case 3

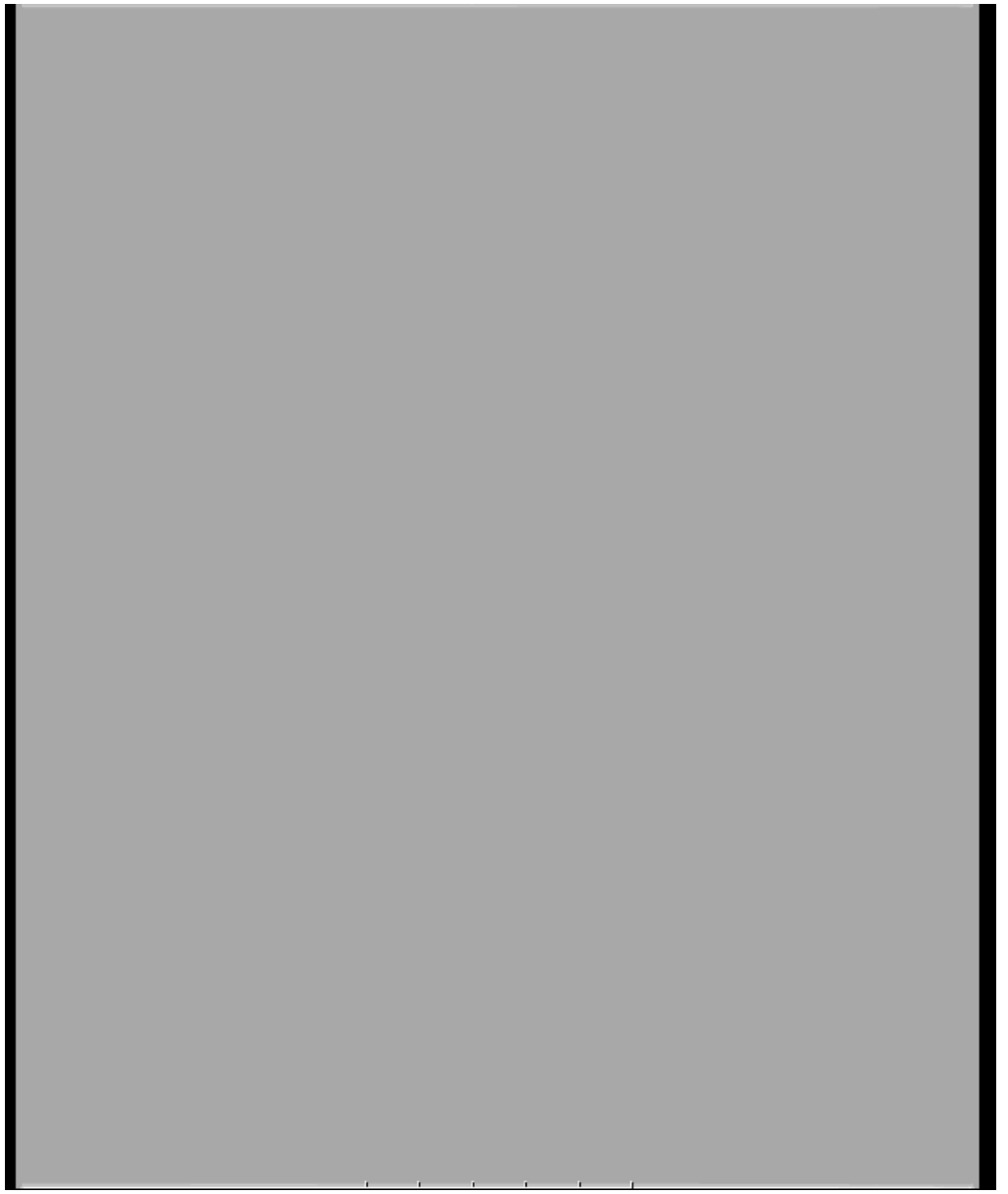
- Male
- 84 years
- Previus EVAR
- Endoleak 1a

Case 3


84y
M
07 Jul 2023
11:42:09
COLOCAÇÃO DE PRÓTESE VASCULAR AB
Perfusao Corpo 0.5 CE
R
L
kVP:100
mA:100
msec:500
mAs:50
Krn:FC17
Thk:0.5 mm
Standard 3D
VR: All
Registered Segmented

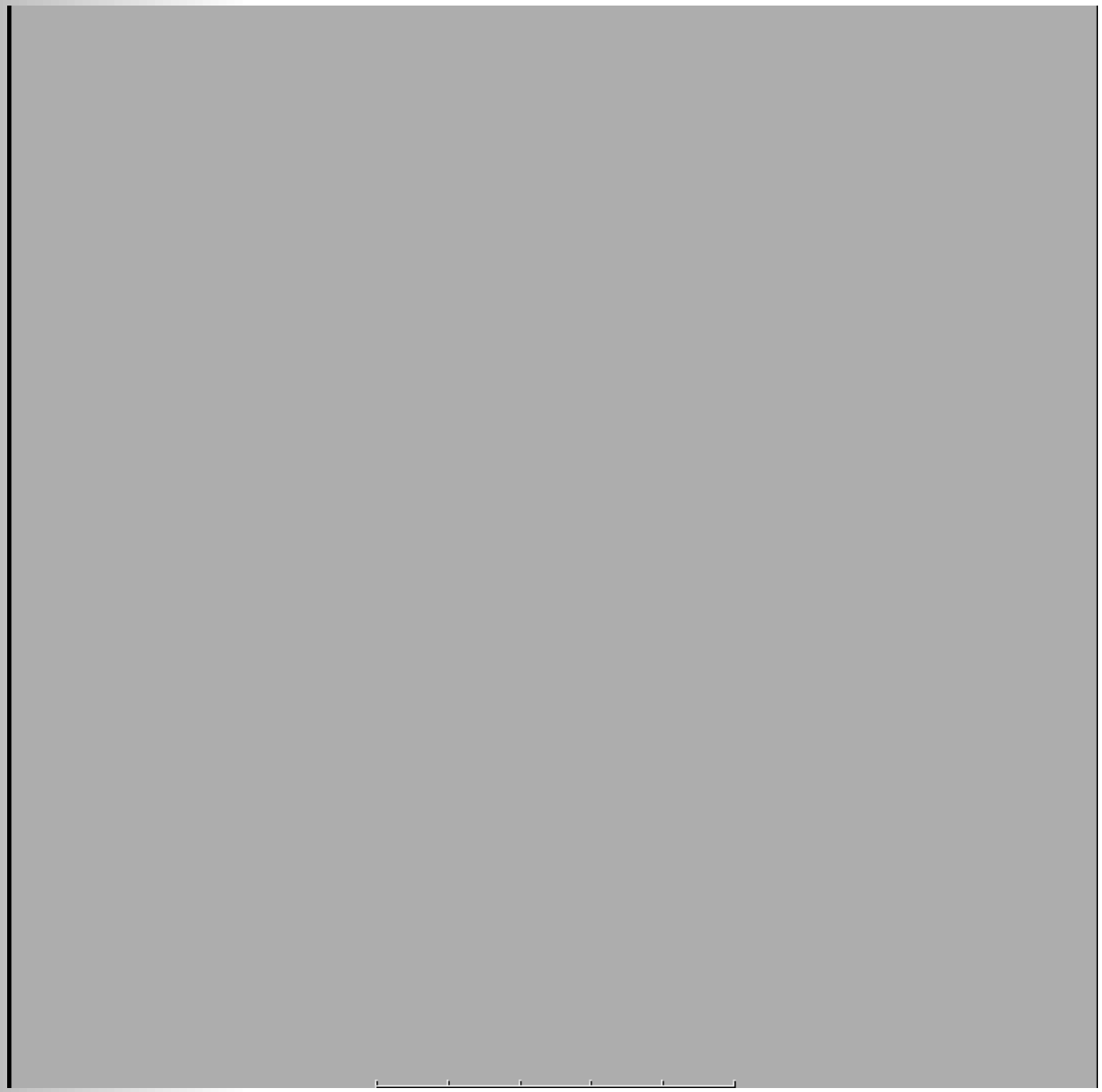
Case 3





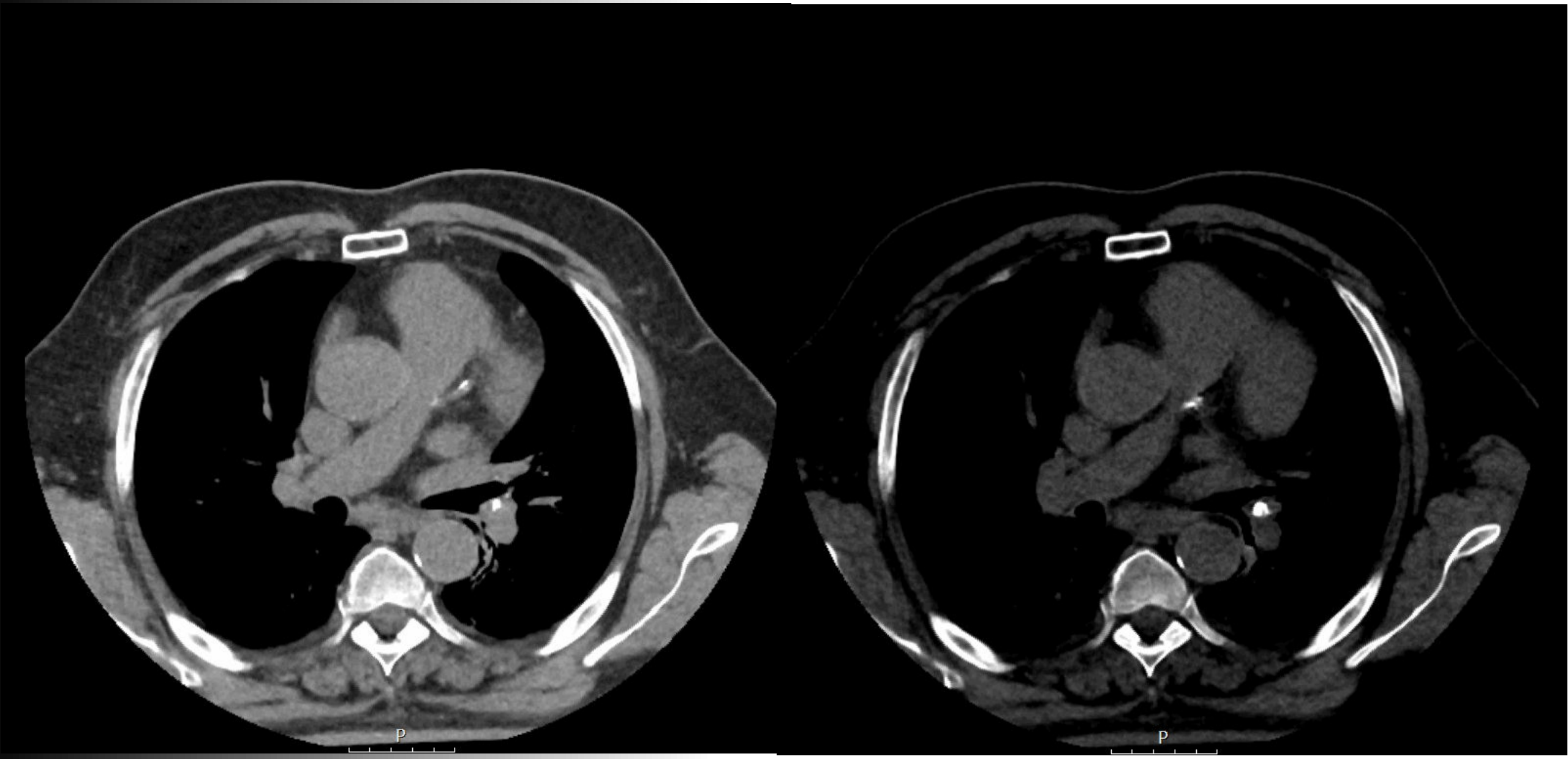
Case 4

- Male
- 66 years
- HCC recurrence MRI
- Segmento VI
- DEB-TACE



Case 4

Case 4



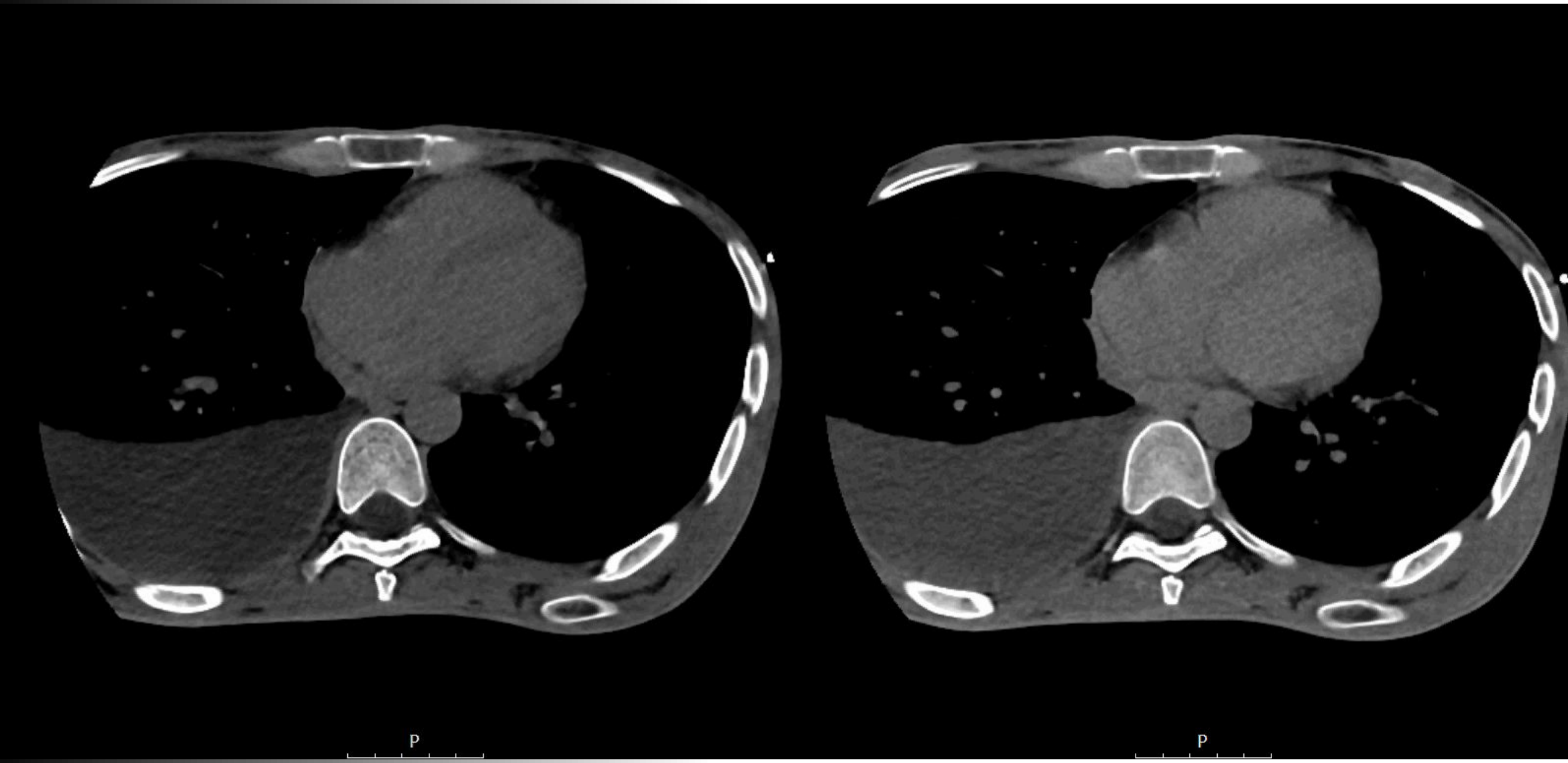
Case 5

- Male
- 32 years
- Lobulated and heterogeneous mass
- HCC multifocal
- Radioembolization

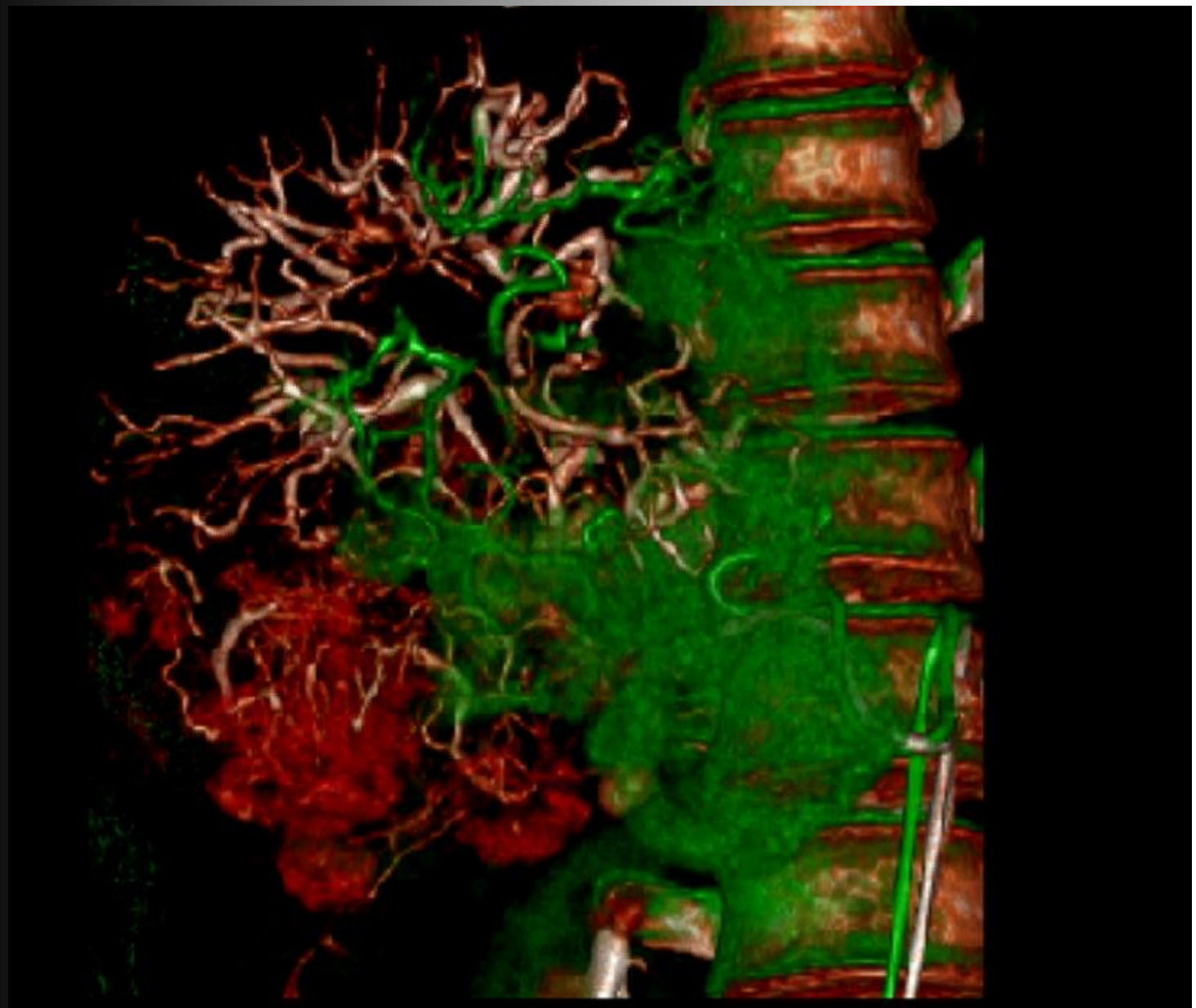
Case 5

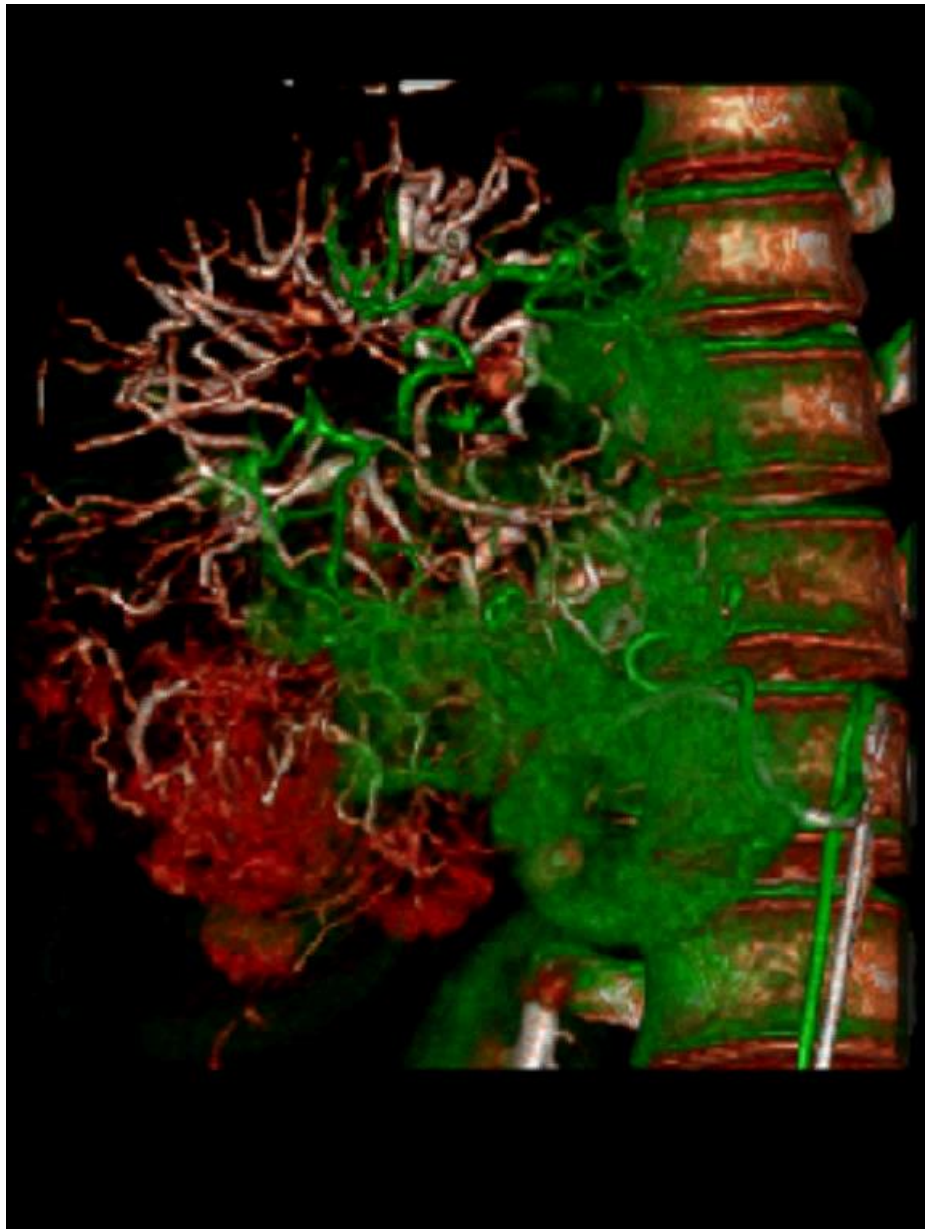
Case 5

Case 5



Case 5





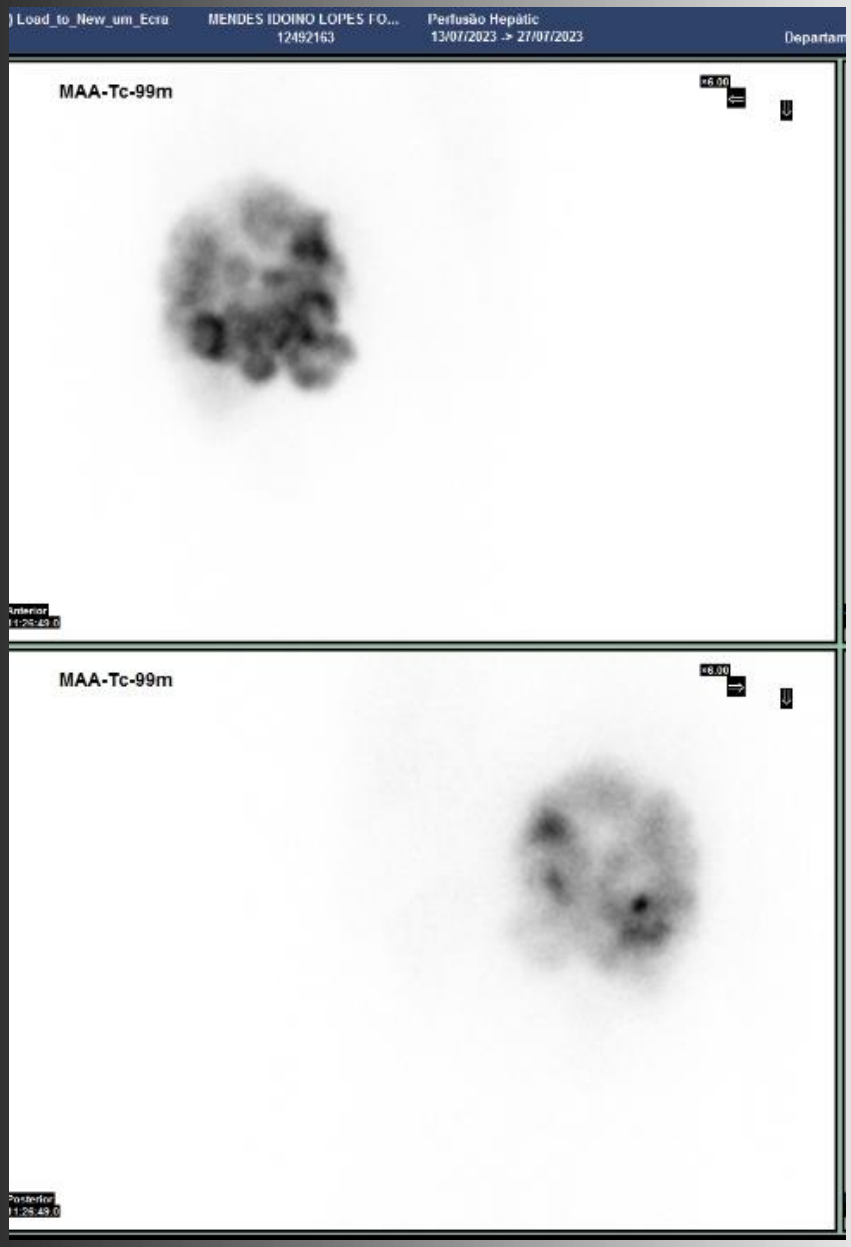
Case 5

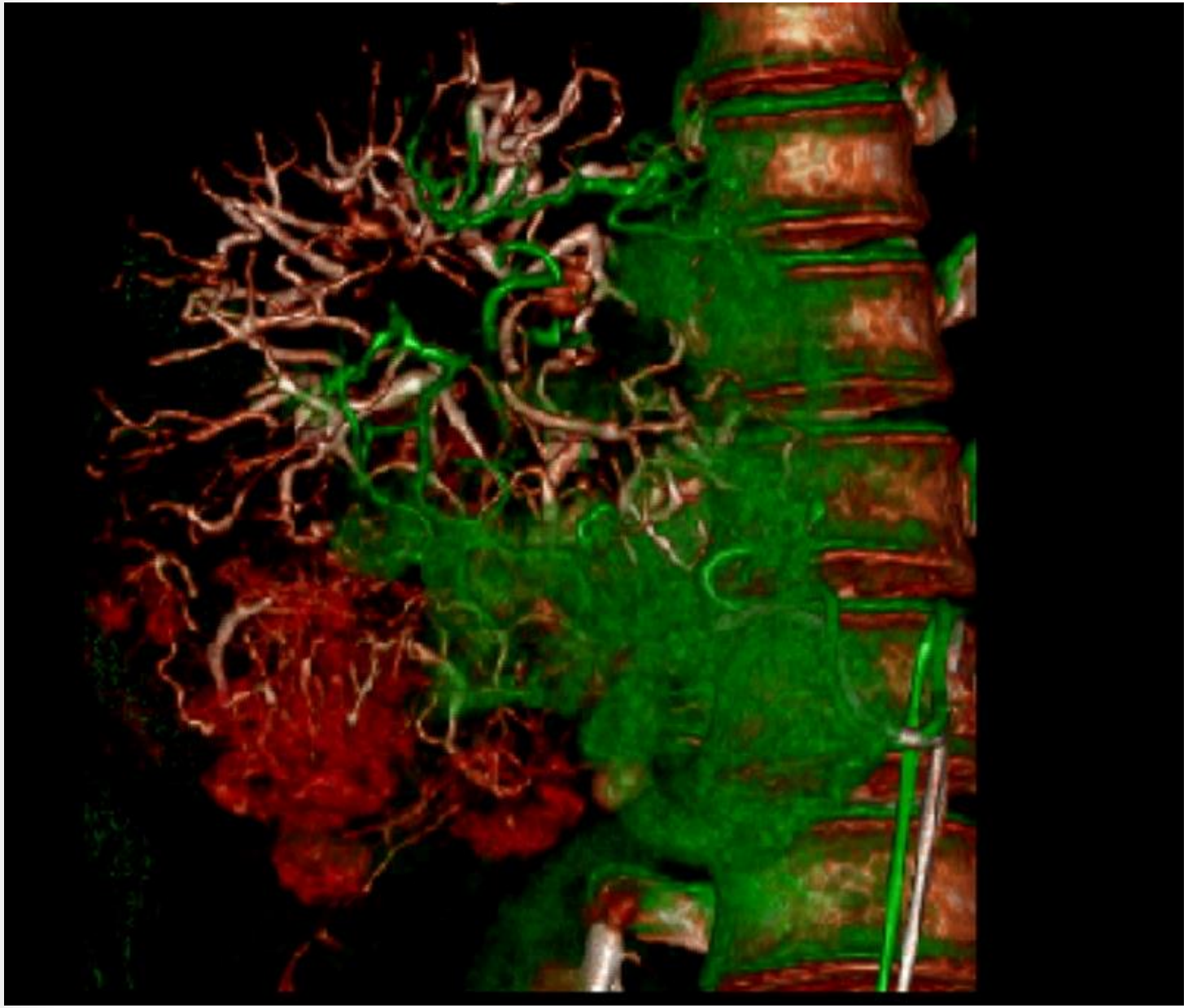
MENDES IDOINO LOPES FO...
12492163
Perfusão Hepática
13-Jul-23 11:26
Hosp S. João
Departamento Medicina Nuclear

12492163
A
DFOV 29.8 cm
SFOV 50.0 cm
I30s
R
L
Holmio HDCT 3.0 I30s_2
47
P
W: 540
L: 278
1520.30

Case 5

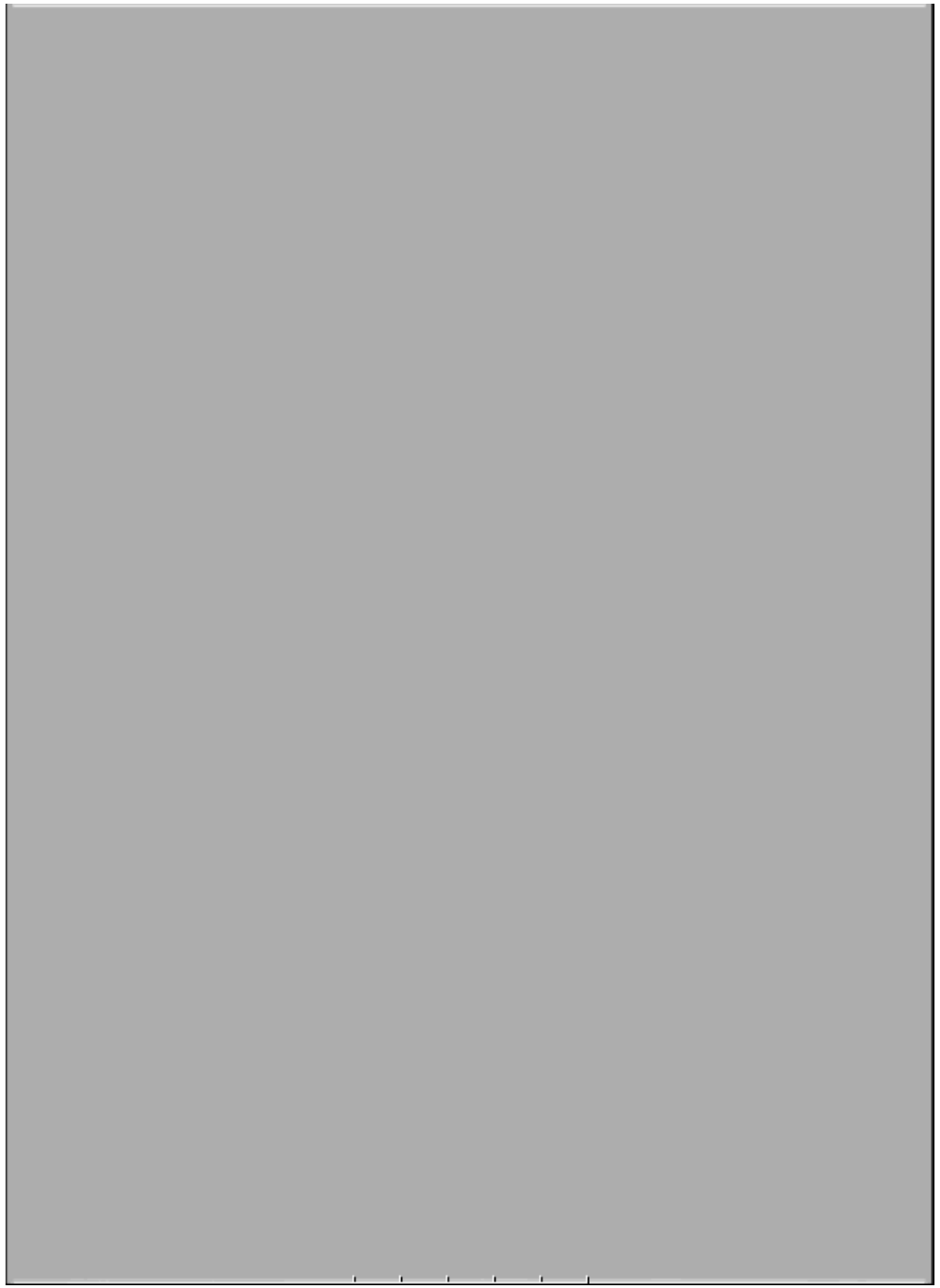
Case 5


Load_to_New_um_Ecra
MENDES IDOINO LOPES FO...
12492163
Perfusão Hepática
13/07/2023 -> 27/07/2023
MAA-Tc-99m
MAA-Tc-99m

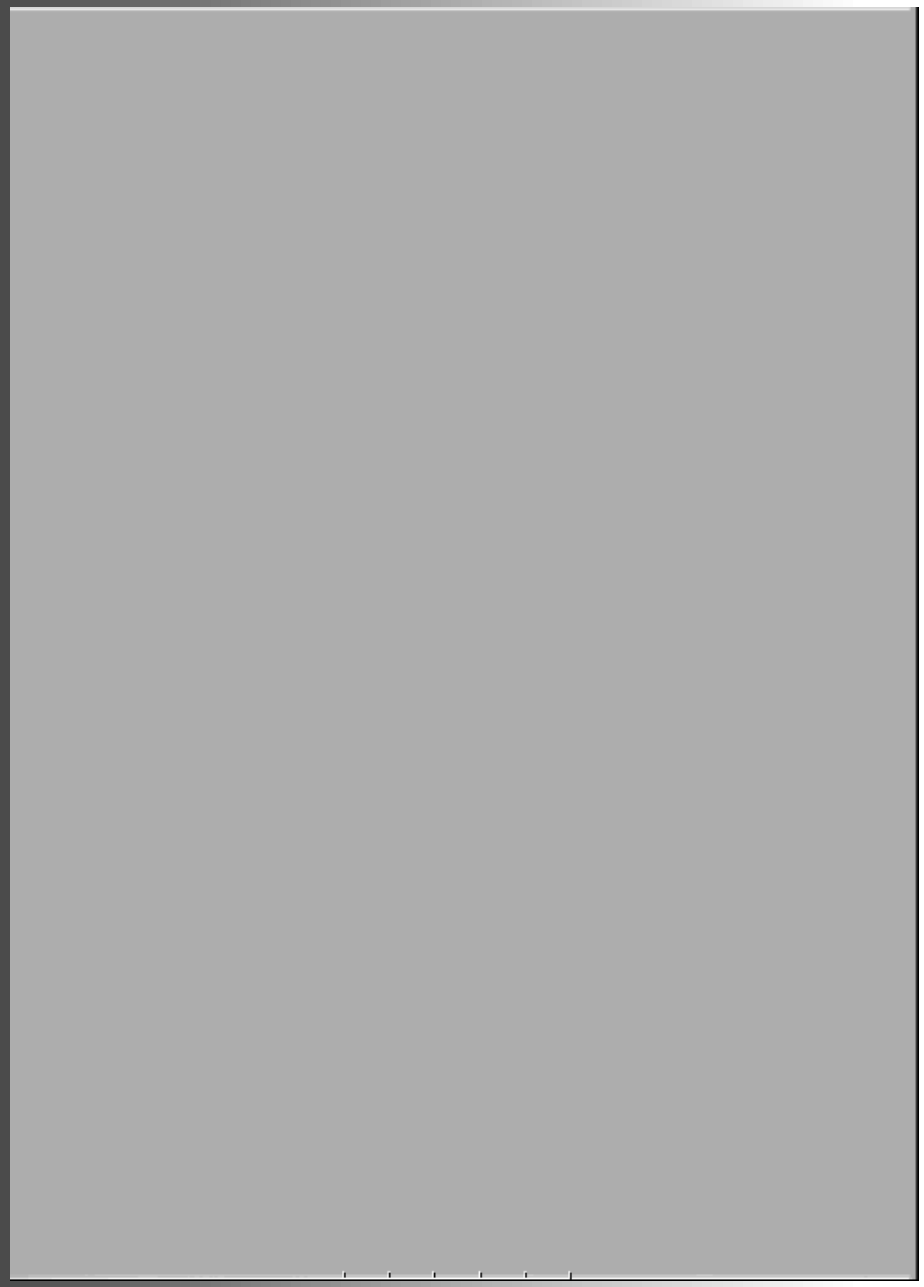


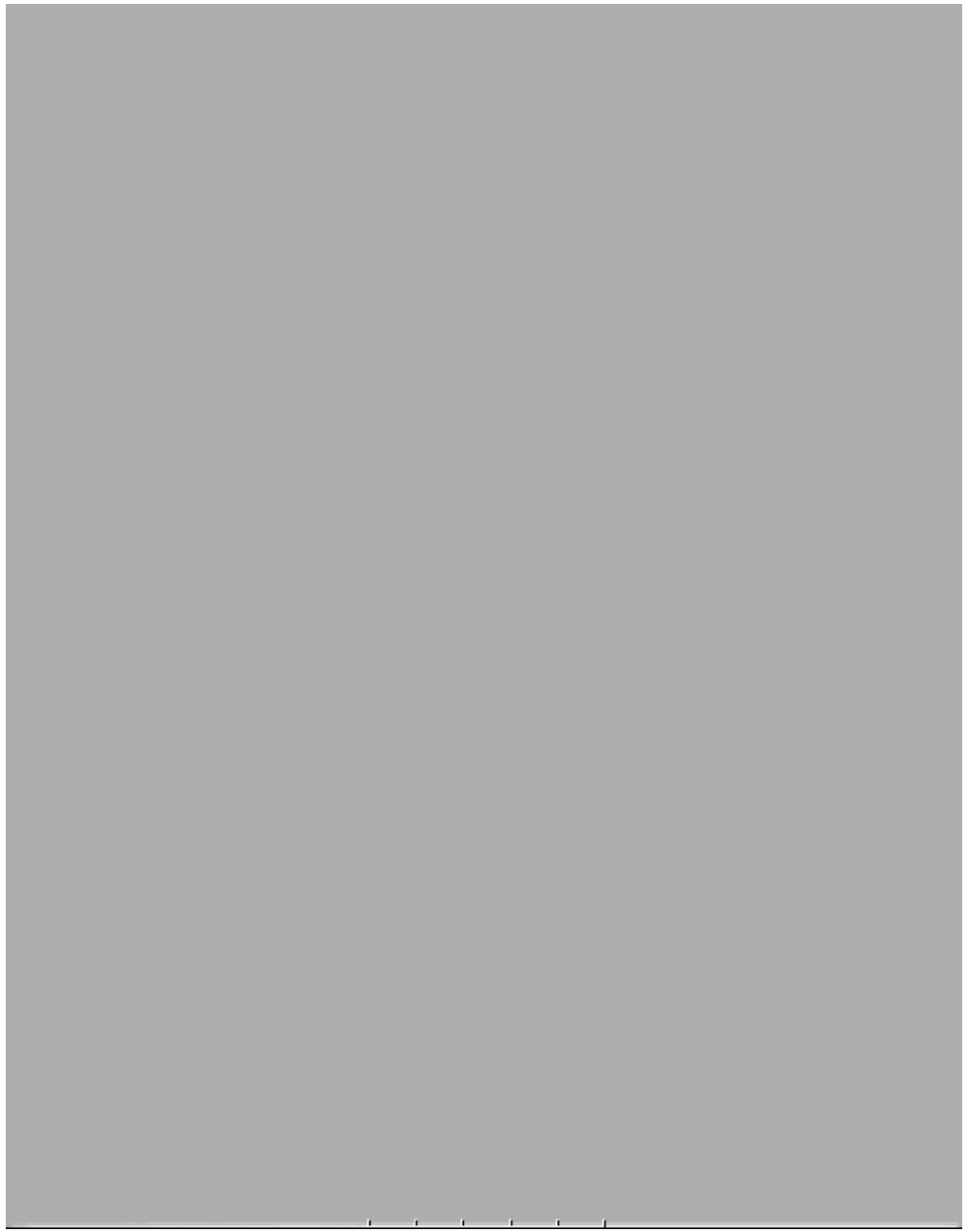
Case 6

- Male
- 36 years
- Right and left lobe involvement
- Mass with 16,5 x 15,5 x 11,5cm
- Calcifications and fatty areas
- HCC fibrolamelar??
- Radioembolization

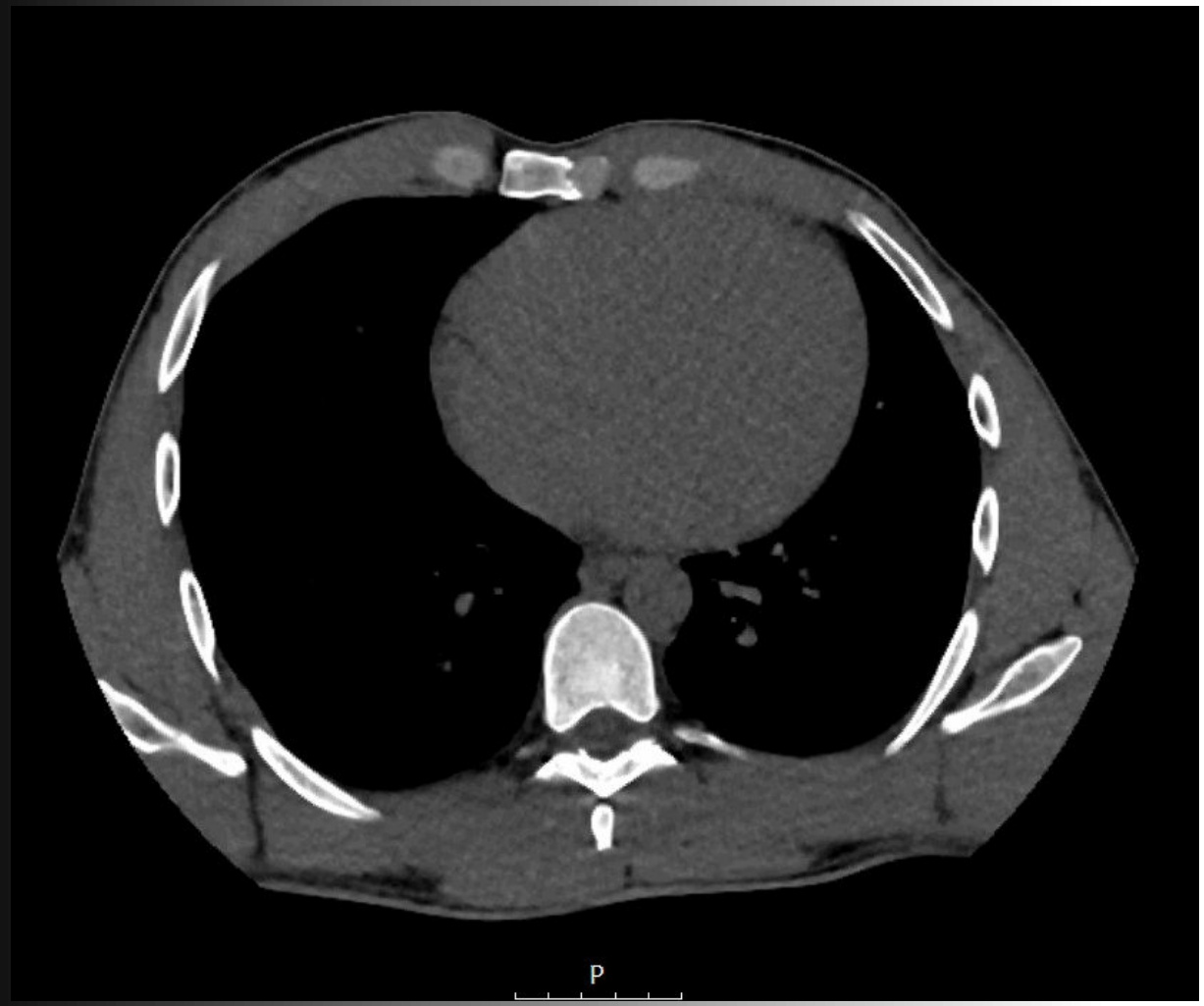


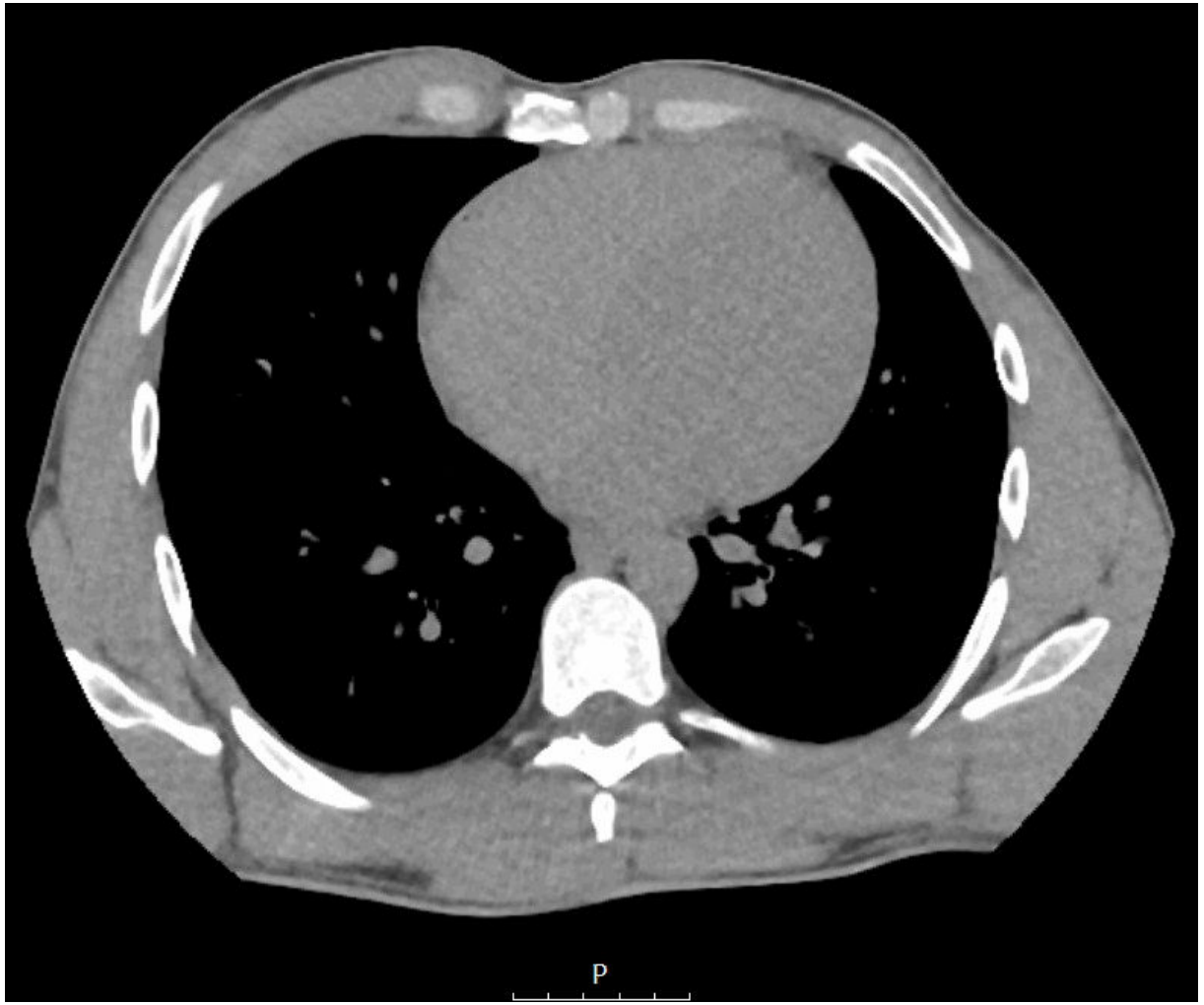
Case 6



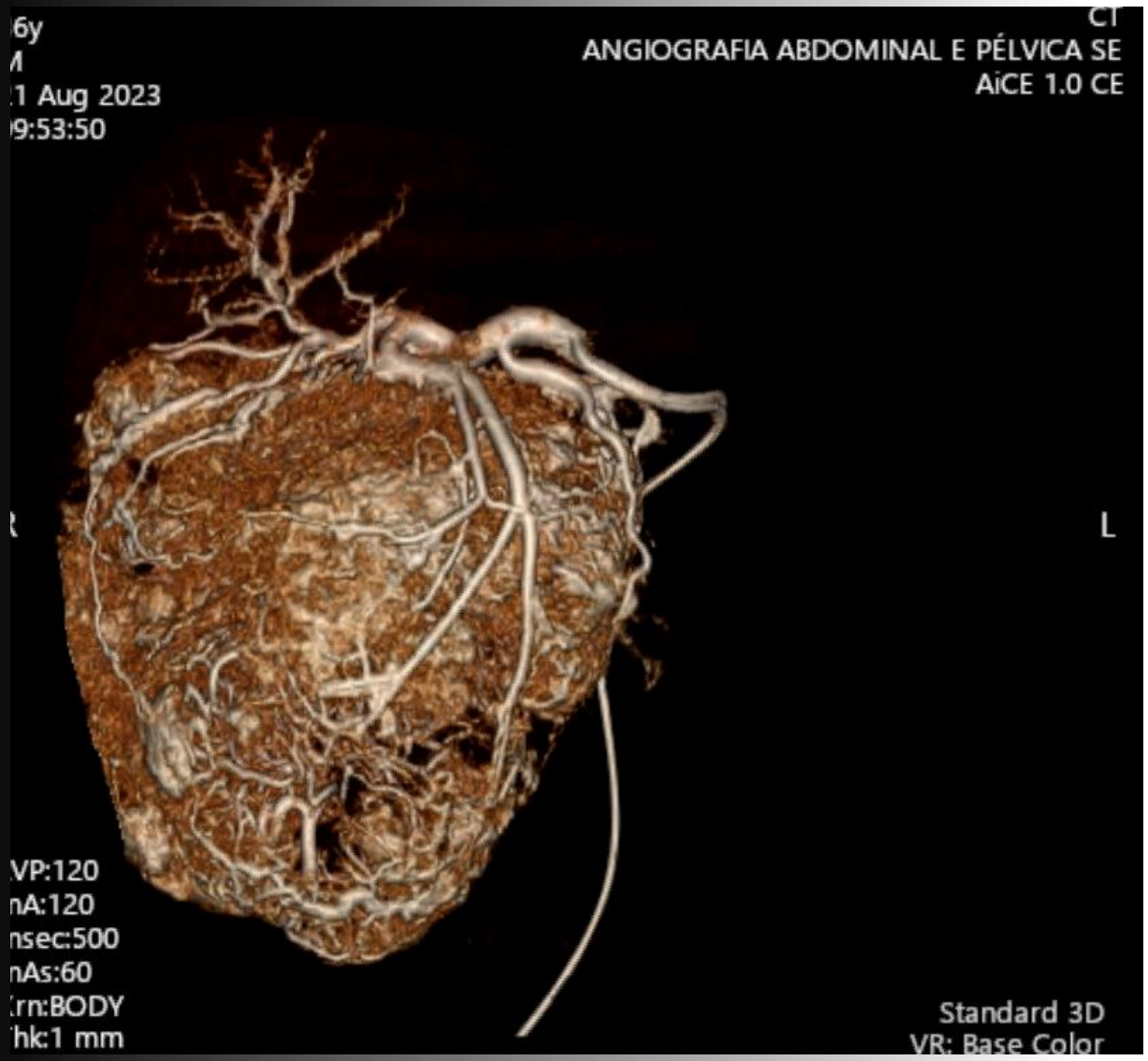


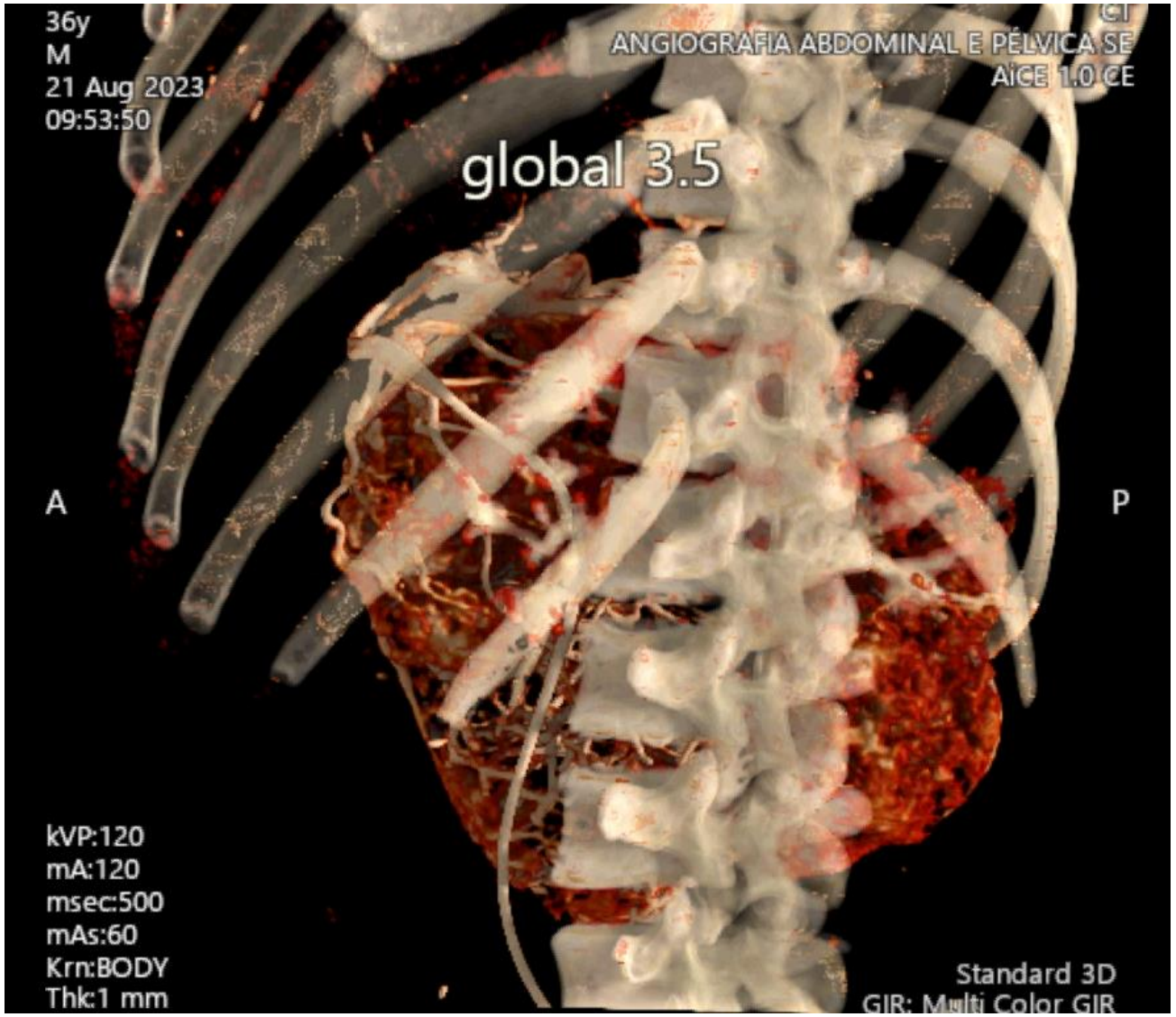
Case 6



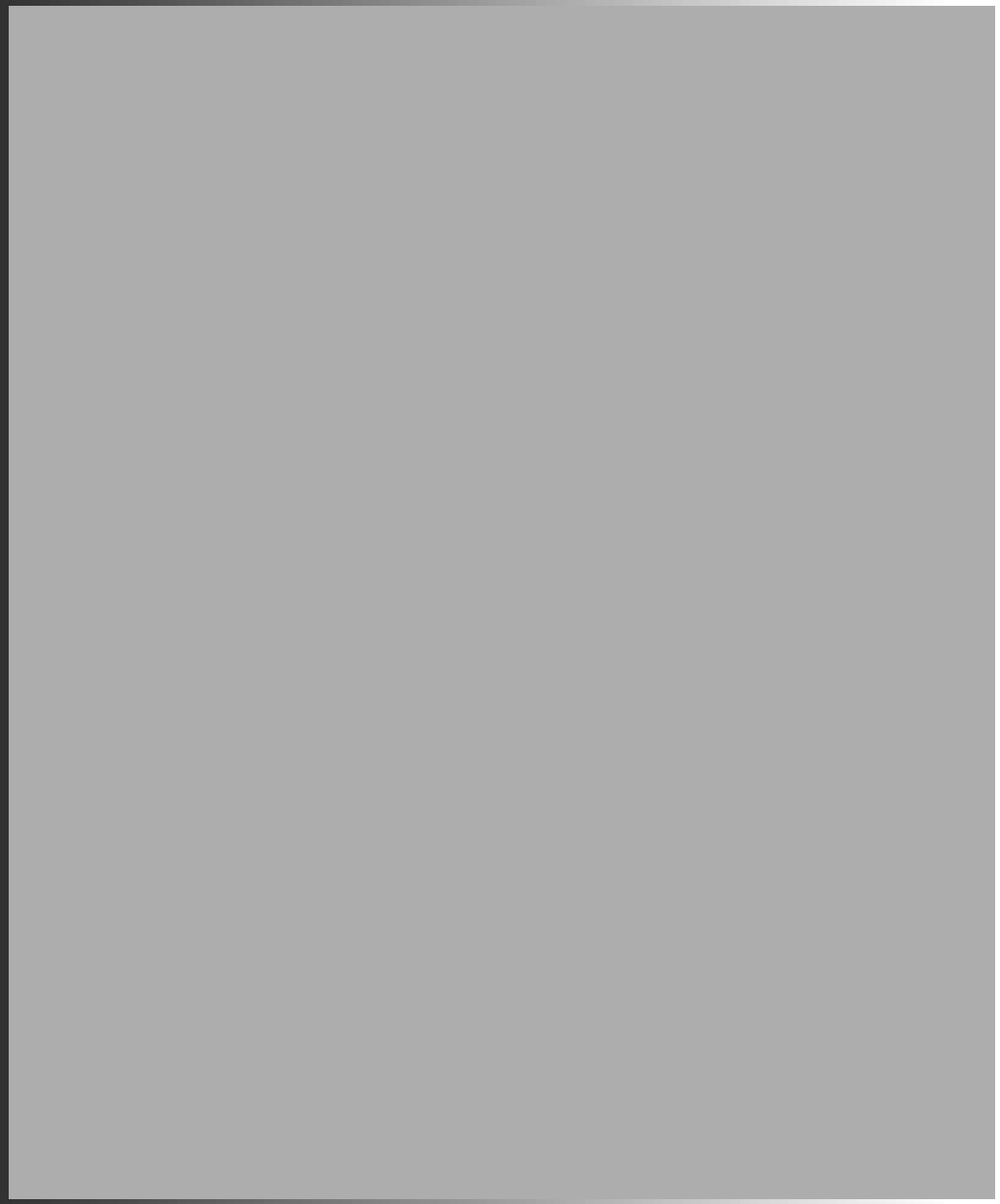


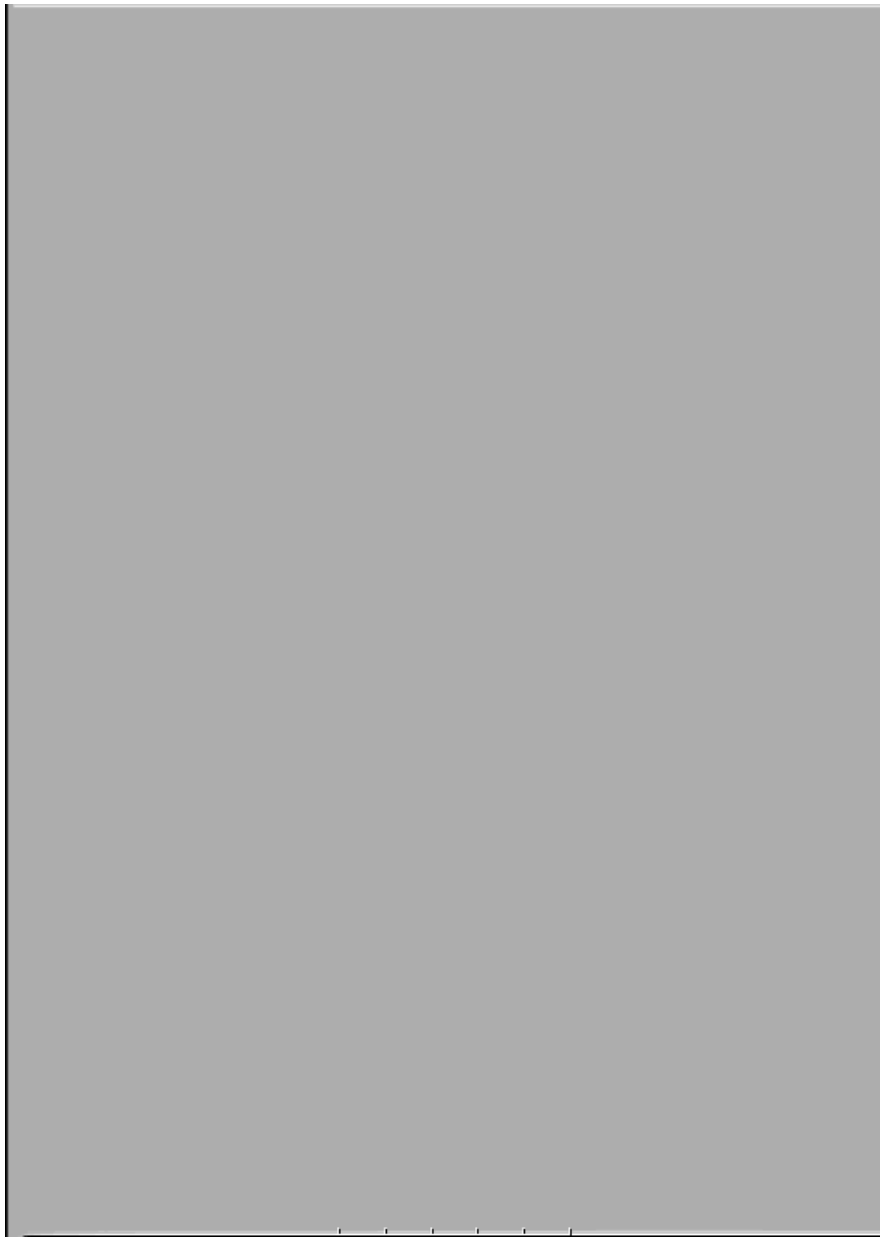
Case 6


6y
1 Aug 2023
9:53:50
CT
ANGIOGRAFIA ABDOMINAL E PÉLVICA SE
AiCE 1.0 CE
L
VP:120
nA:120
nsec:500
nAs:60
rn:BODY
hk:1 mm
Standard 3D
VR: Base Color

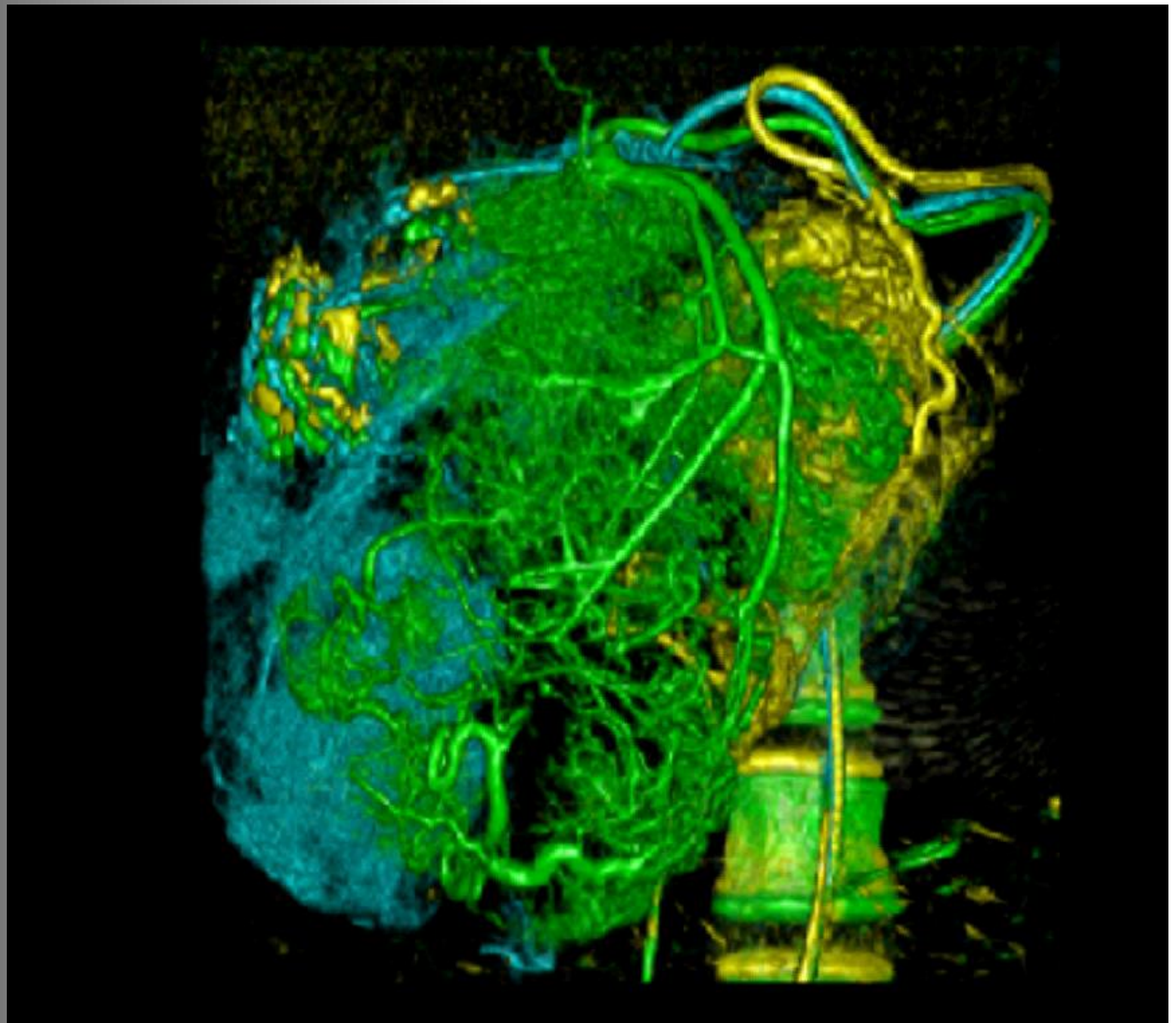

36y
M
21 Aug 2023
09:53:50
CT
ANGIOGRAFIA ABDOMINAL E PÉLVICA SE
AiCE 1.0 CE
global 3.5
A
P
kVP:120
mA:120
msec:500
mAs:60
Krn:BODY
Thk:1 mm
Standard 3D
GIR: Multi Color GIR

Case 6



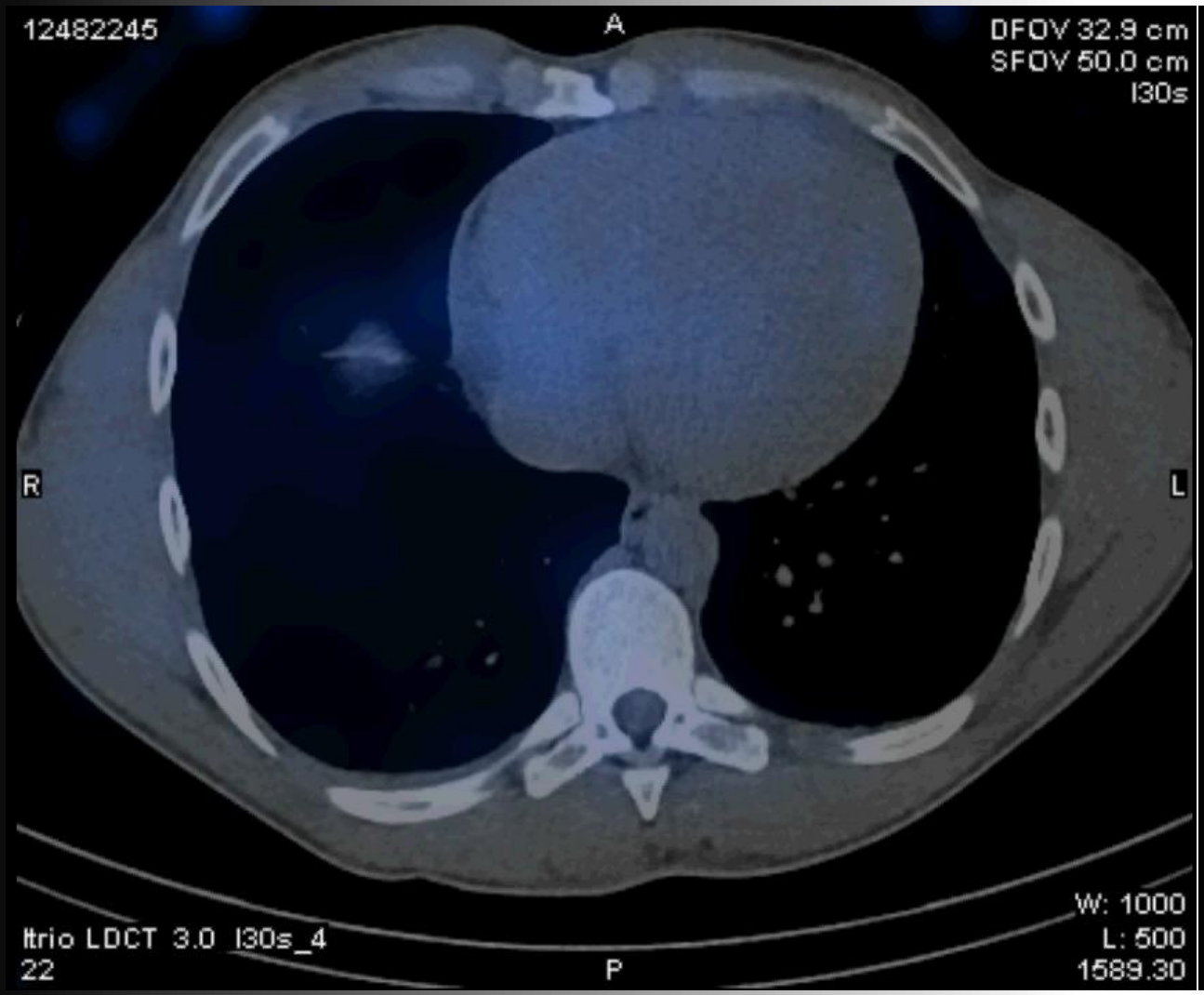


Case 6

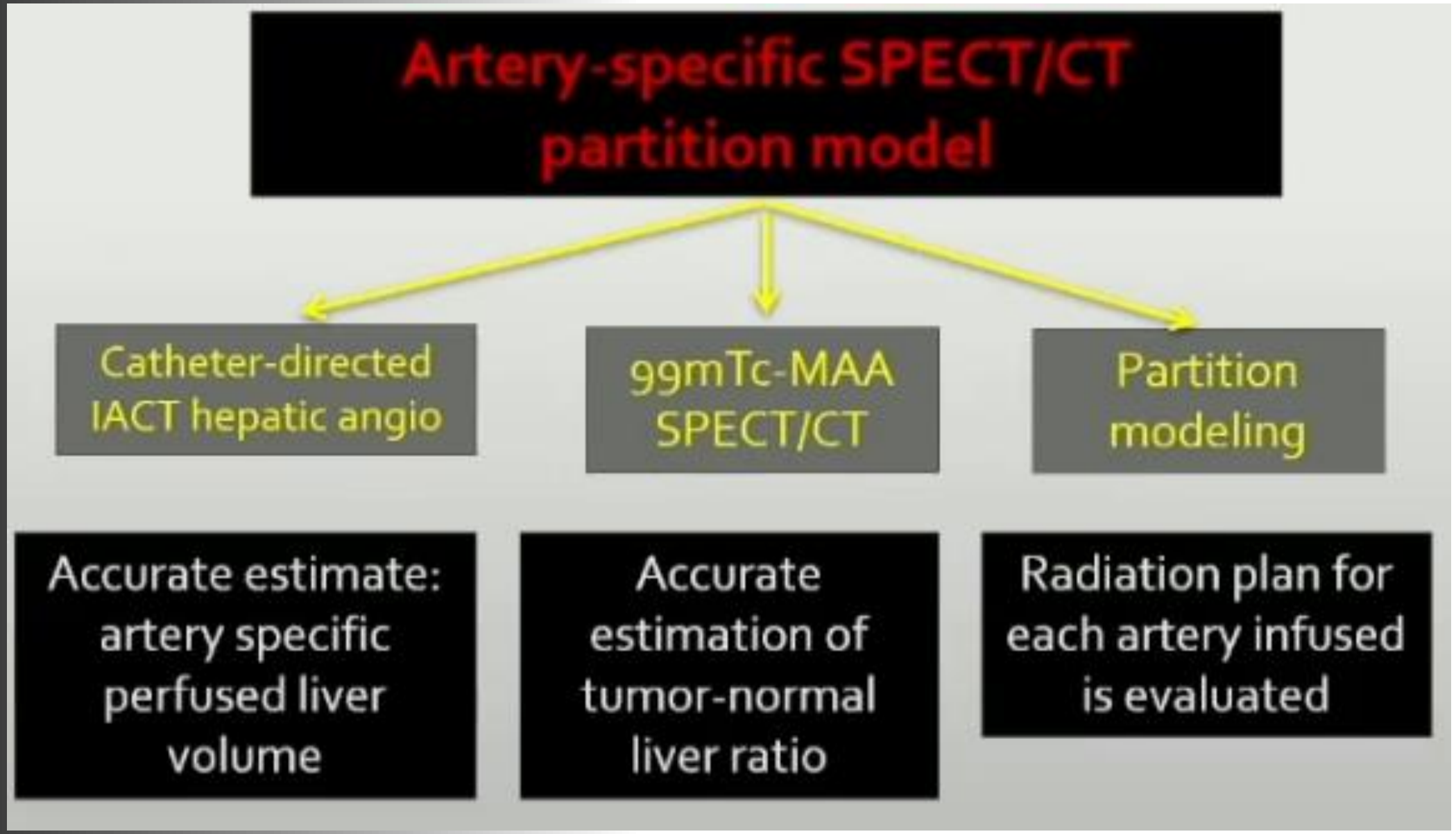


Case 6

Case 6


12482245
A
DFOV 32.9 cm
SFOV 50.0 cm
I30s
R
L
W: 1000
L: 500
ltrio LDCT 3.0 I30s_4
22
P
1589.30

12482245
S
DFOV 32.9 cm
SFOV 50.0 cm
I30s
R
L
W: 1000
L: 500
ltrio LDCT 3.0 I30s_4
132
I
-255.58


Artery-specific SPECT/CT partition model
Catheter-directed IACT hepatic angio
99mTc-MAA SPECT/CT
Partition modeling
Accurate estimate: artery specific perfused liver volume
Accurate estimation of tumor-normal liver ratio
Radiation plan for each artery infused is evaluated

Obrigado!

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