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FRANCE

Robotic navigation for iliac and femoral artery recanalizations

THE MAGELLAN™ ROBOTIC SYSTEM

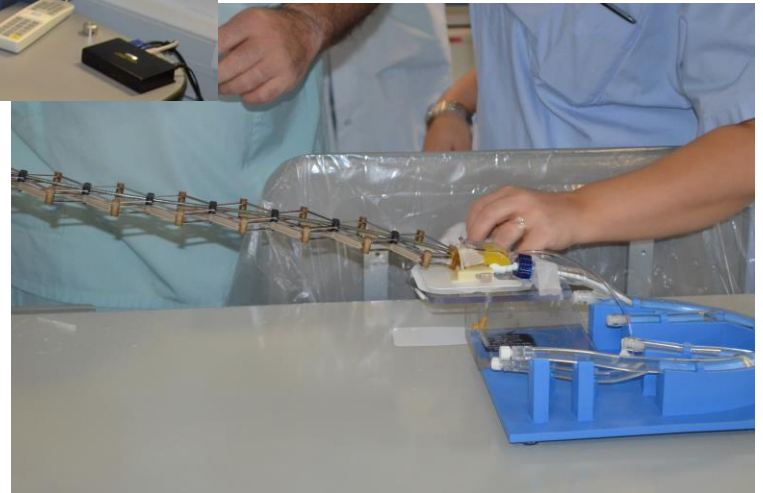
The Magellan™ Robotic System is a peripheral interventional platform that has the potential to provide:



- Precise endovascular navigation and therapy delivery using 3D control of robotically steerable catheters and guidewires¹
- Fast and predictable procedures¹
- Vessel navigation with less trauma than manual approaches²
- Catheter stability during the delivery and placement of therapeutic devices
- Physician protection from radiation exposure and procedural fatigue
- Designed to integrate easily in the hybrid OR and interventional lab

1 Bismuth J, Stankovic M, Gerzak B, Lumsden AM. The role of flexible robotics in overcoming navigation challenges in the iliofemoral arteries: a first in man study. 69th SVS Annual Meeting, June 2011. Chicago, USA.

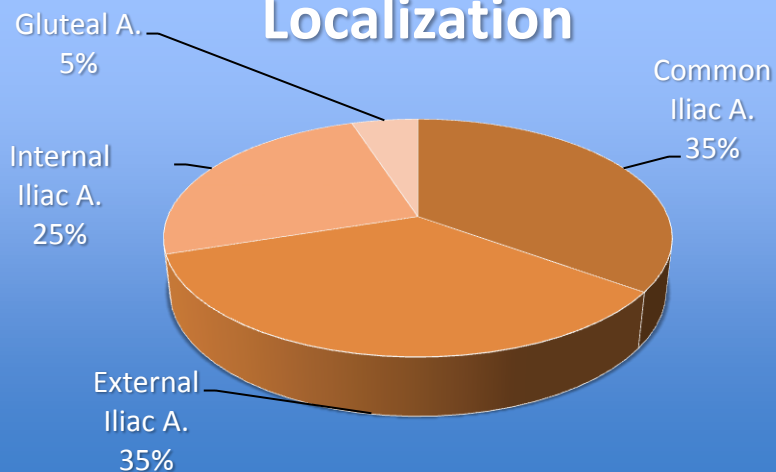
2 Bismuth J, Kashef E, Cheshire N, Lumsden A. Feasibility and Safety of Remote Endovascular Catheter Navigation in a Porcine Model J Endovasc Ther 2011;18:243-249.



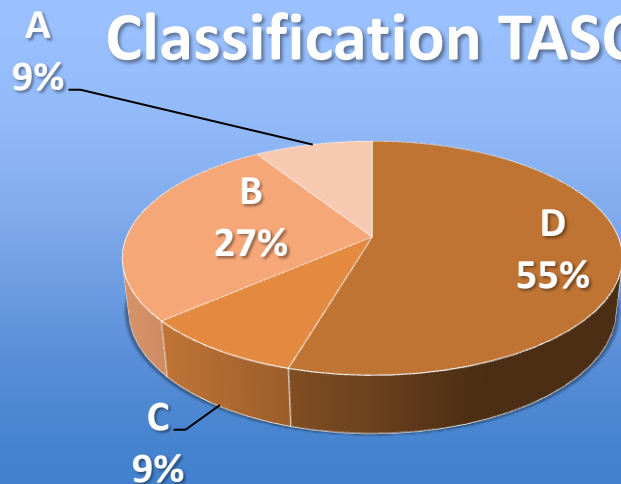
OUR EXPERIENCE IN ROBOTIC ILIO-FEMORAL RECANALIZATION

11 PATIENTS
17 MEMBRES

Localization



Classification TASC



STUDIED POPULATION CHARACTERISTICS

91%
OCCLUSIONS

LESION MEDIAN
LENGHT = 8CM
(2-15)

60% = 1ST INTENTION
40% = AFTER
CONVENTIONNAL
FAILURE

Age (median)	62 (39-73)
BMI (median)	25,5 (17-31)
HTA	82%
Dyslipidemia	64%
Smoking	91%
Diabetes mellitus	37%
Renal insufficiency	9%
Ischemic heart disease	45%
Rutherford Category	
2	20%
3	80%

PROCEDURES & PERIPROCEDURAL DETAILS

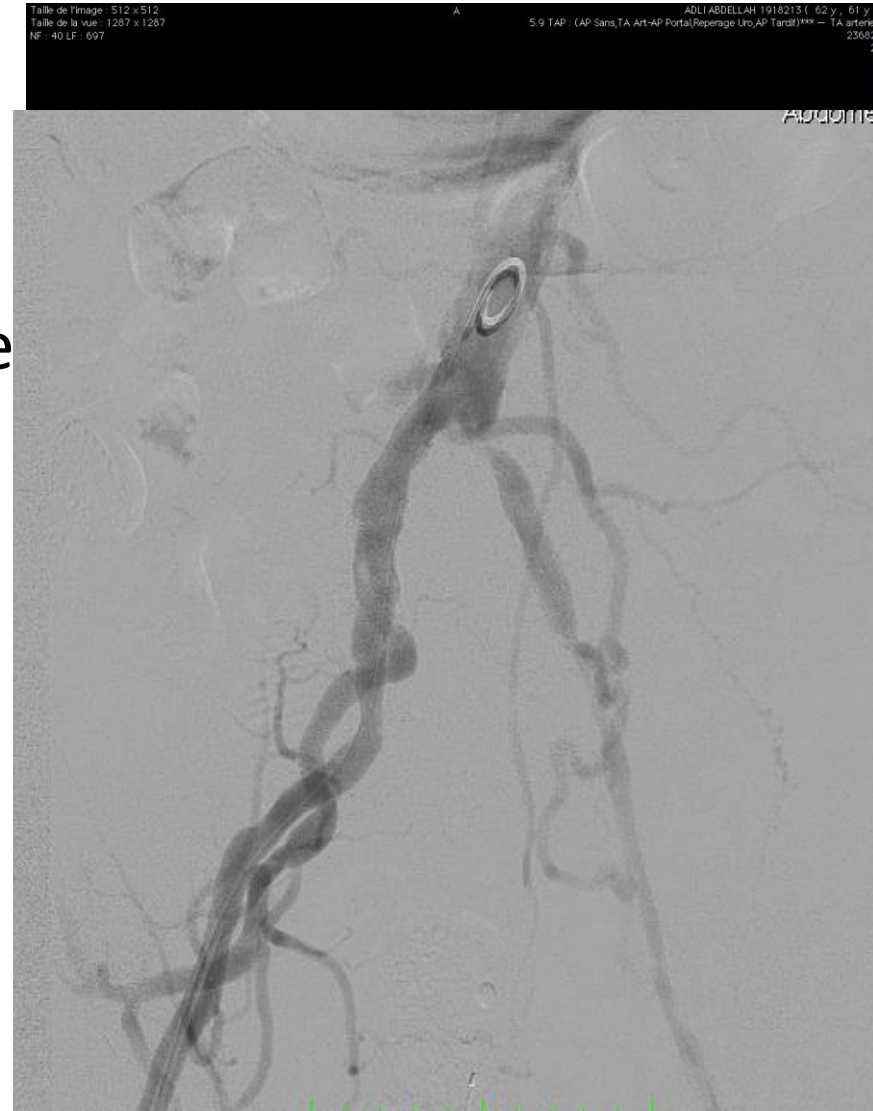
Length, minutes (median)	150 (126-277)
Radioscopie Time, minutes (median)	24 (16-42)
Dose, mGy/cm ² (median)	337341
Contrast, ml (median)	75 (31-150)
Technical succes	100%
Complications (groin hematoma, acute ischemia, artery rupture)	0
Discharge, days (median)	2 (2)

Common Iliac artery recanalization

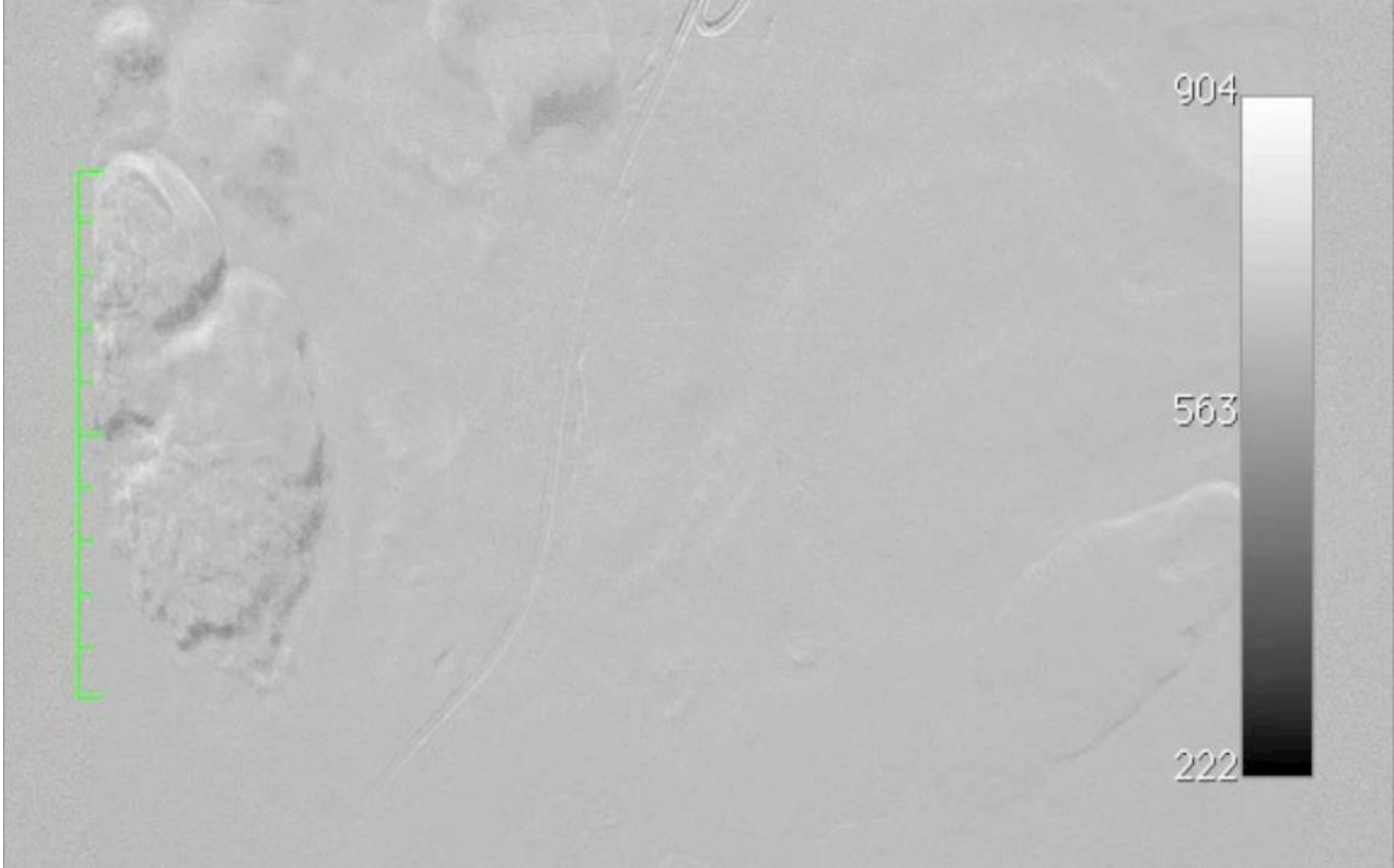
1

PRESENTATION

- 62-year old man:
 - 100 m claudication distance
 - **2 previous attempts of conventional iliac recanalizations**



MAGELLAN PROCEDURE



Common Iliac artery recanalization

2

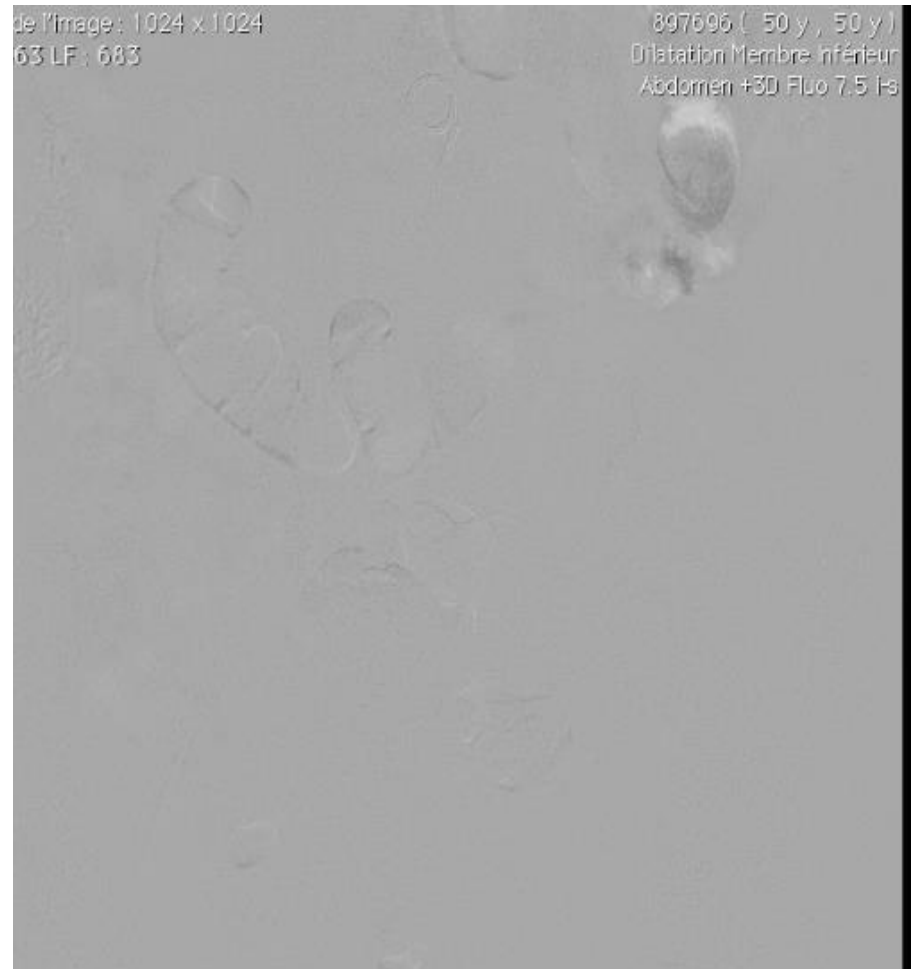
PRESENTATION

- 50 years-old woman
- 100m claudication
- Left side: Complete common iliac artery thrombosis
- Right side: common iliac artery stenosis



Magellan procedure

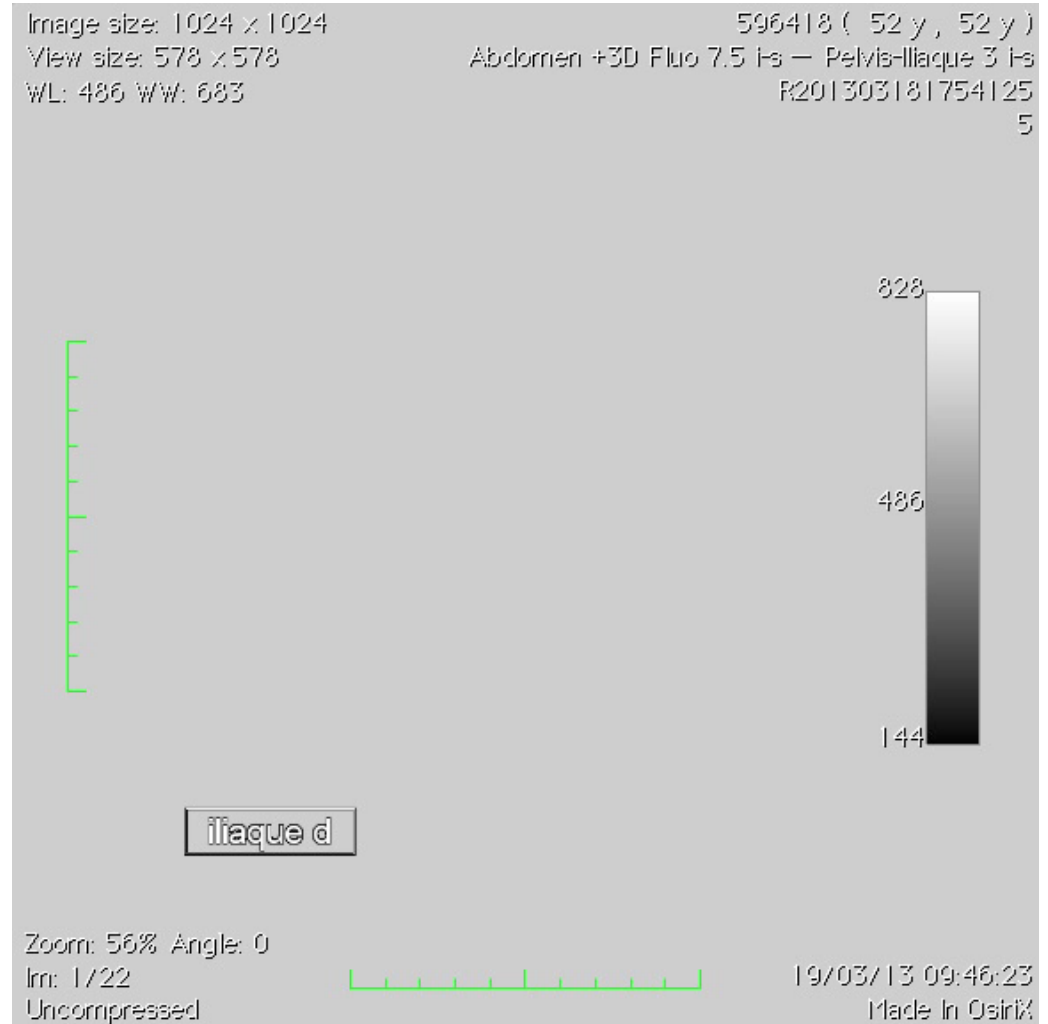
- Bilateral ponction
- Left Retrograde recanalisation with Magellan
- Iliac Kissing stent
- Good technical succes and 1 month clinical succes



External Iliac artery recanalization

PRESENTATION

- 43-year old man:
 - 150 m claudication distance



MAGELLAN PROCEDURE

Image size: 1024 x 1024

View size: 578 x 578

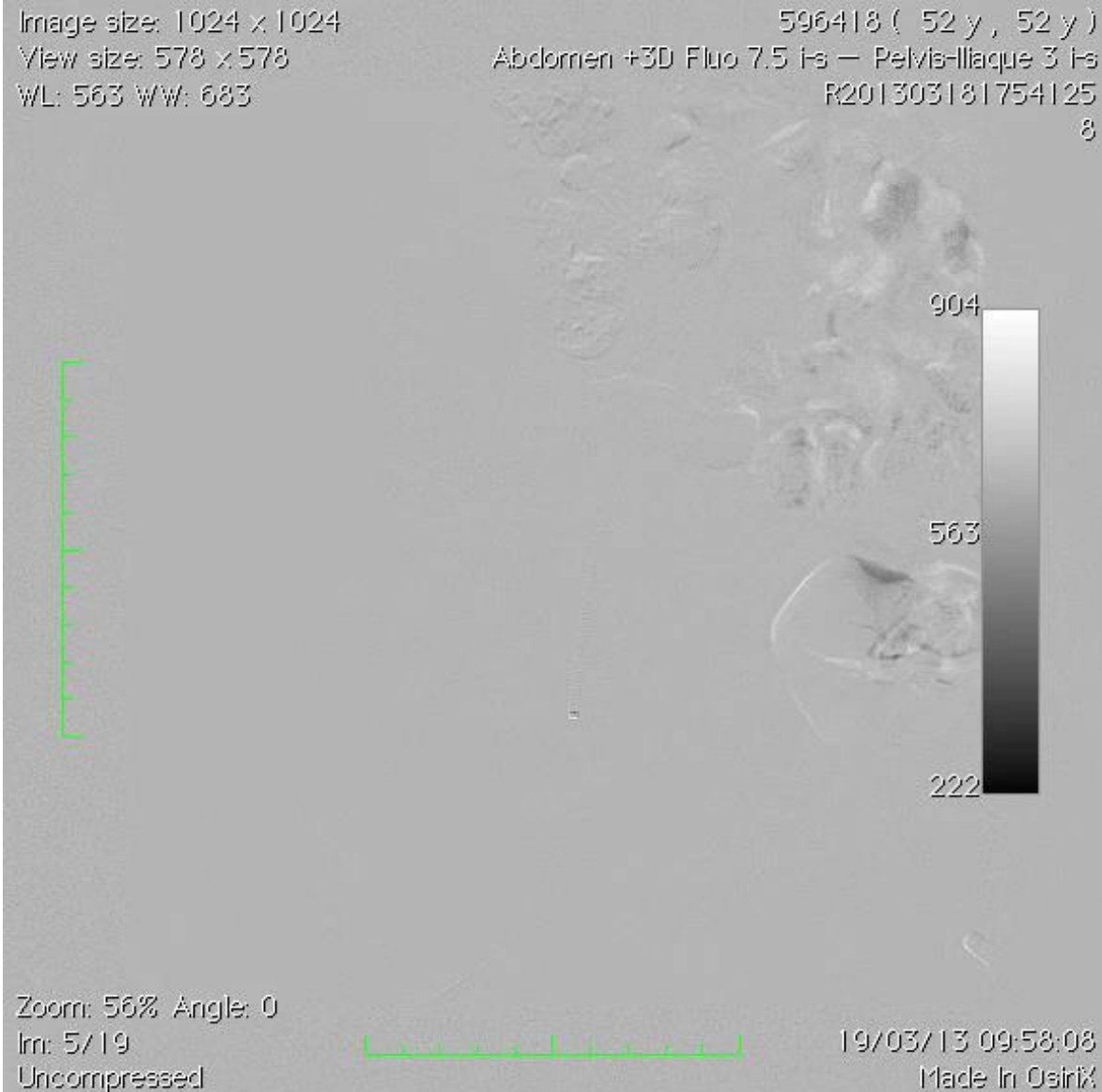
WL: 563 WW: 683

596418 (52 y , 52 y)

Abdomen +3D Fluo 7.5 Is - Pelvis-Iliac 3 Is

R201303181754125

8



Zoom: 56% Angle: 0

Im: 5/19

Uncompressed

19/03/13 09:58:08

Made In OsiriX

MAGELLAN PROCEDURE

Image size: 1024 x 1024

View size: 578 x 578

WL: 529 WW: 683

596418 (52 y , 52 y)

Abdomen +3D Fluo 7.5 Is — Pelvis-Iliaque 3 Is

R201303181754125

19



Zoom: 56% Angle: 0

Im: 1/17

Uncompressed



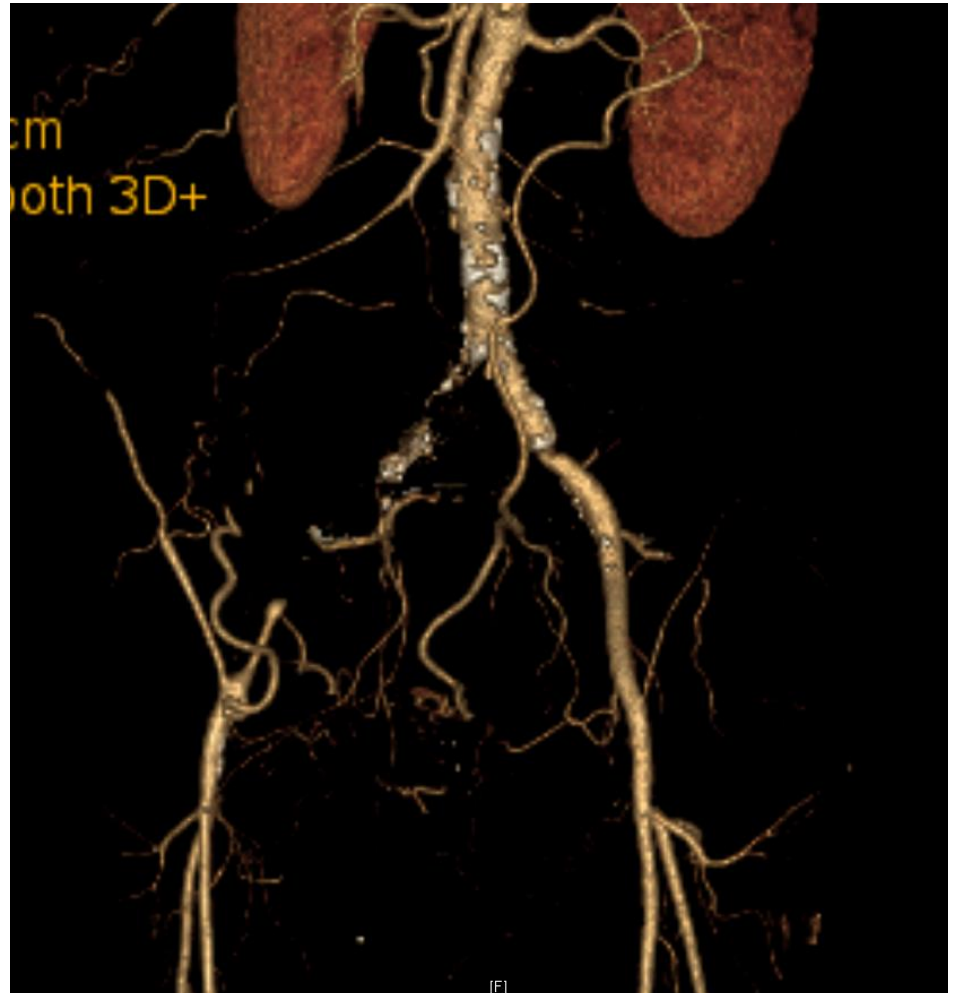
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Total Iliac artery recanalization

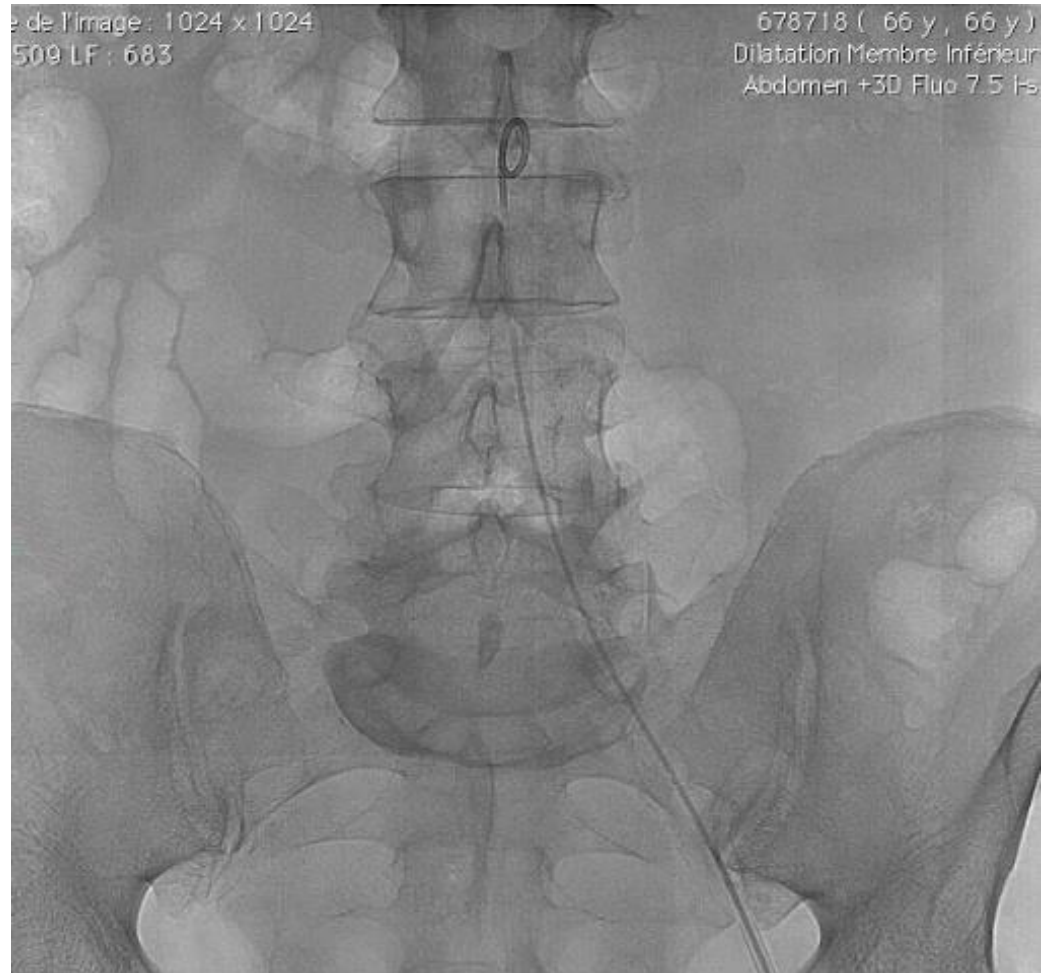
PRESENTATION

- 66 year-old man
- Occlusion of right common and external artery
- 200m claudication
- 1 **previous attempt** of revascularisation by conventional technics, with both **direct ponction** and **cross-over**



MAGELLAN PROCEDURE

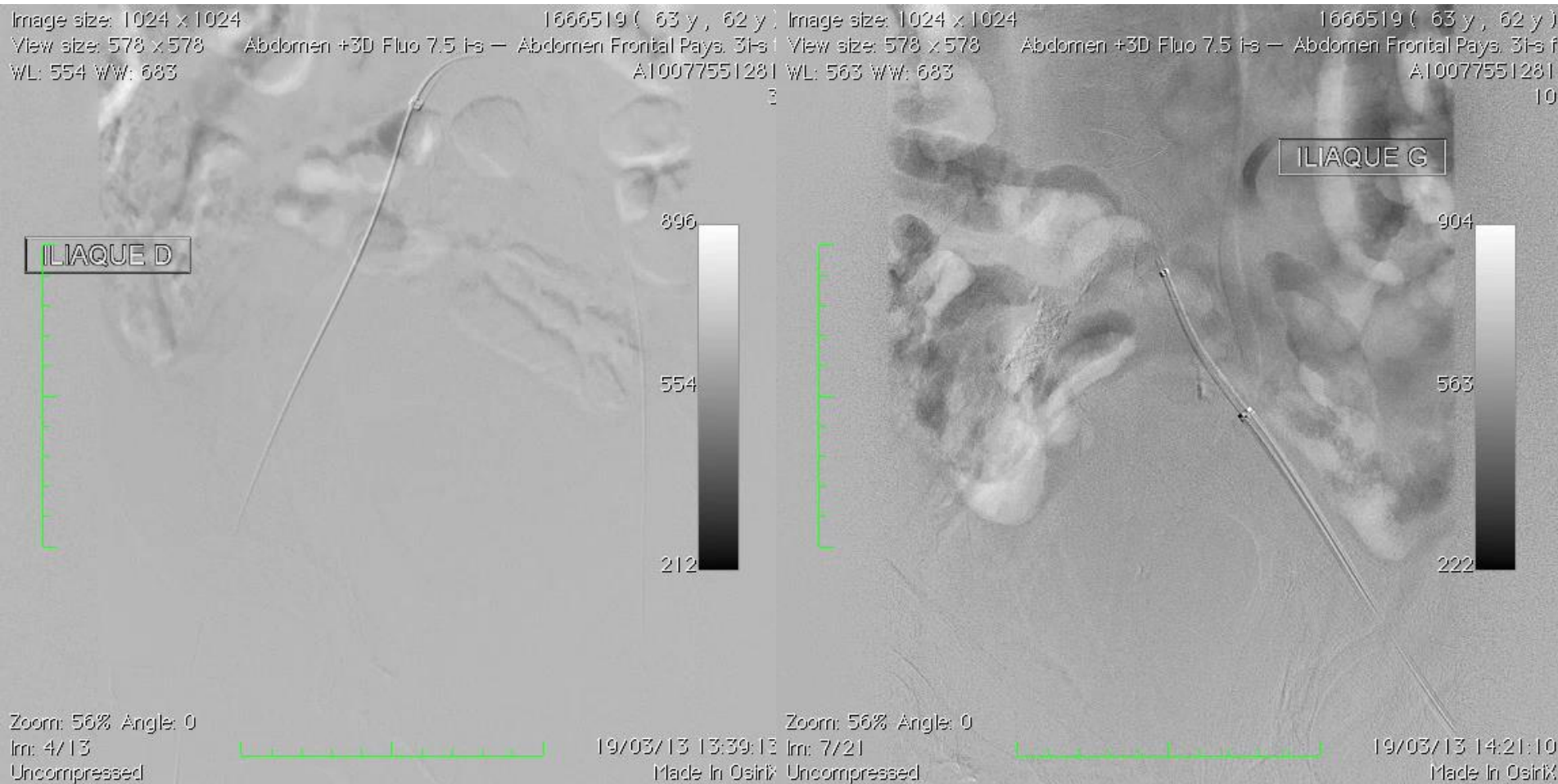
- Controlateral approach
- **Robot assisted recanalisation**
- Angioplasty & Stenting
- **Technical succès**
- 1 month clinical succes



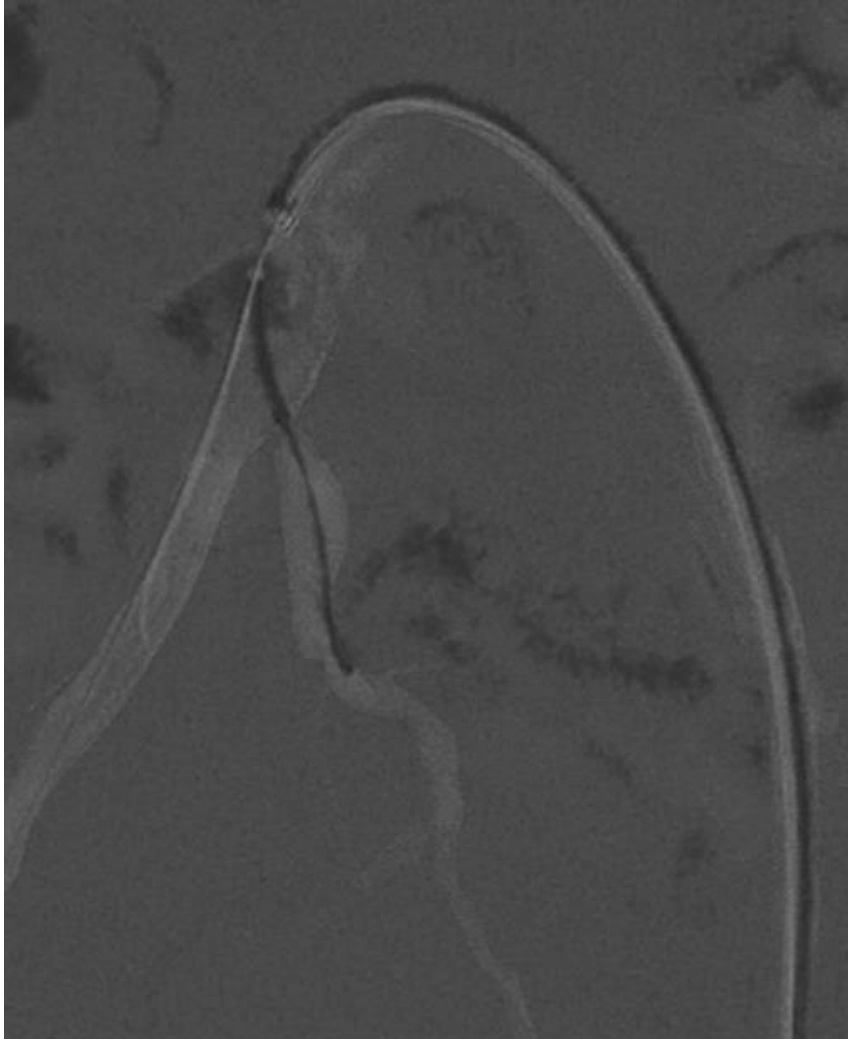
Multiple Iliac artery stenoses

MAGELLAN Procedure

- 54-year old man: buttock claudication:
 - R IIA, L IIA

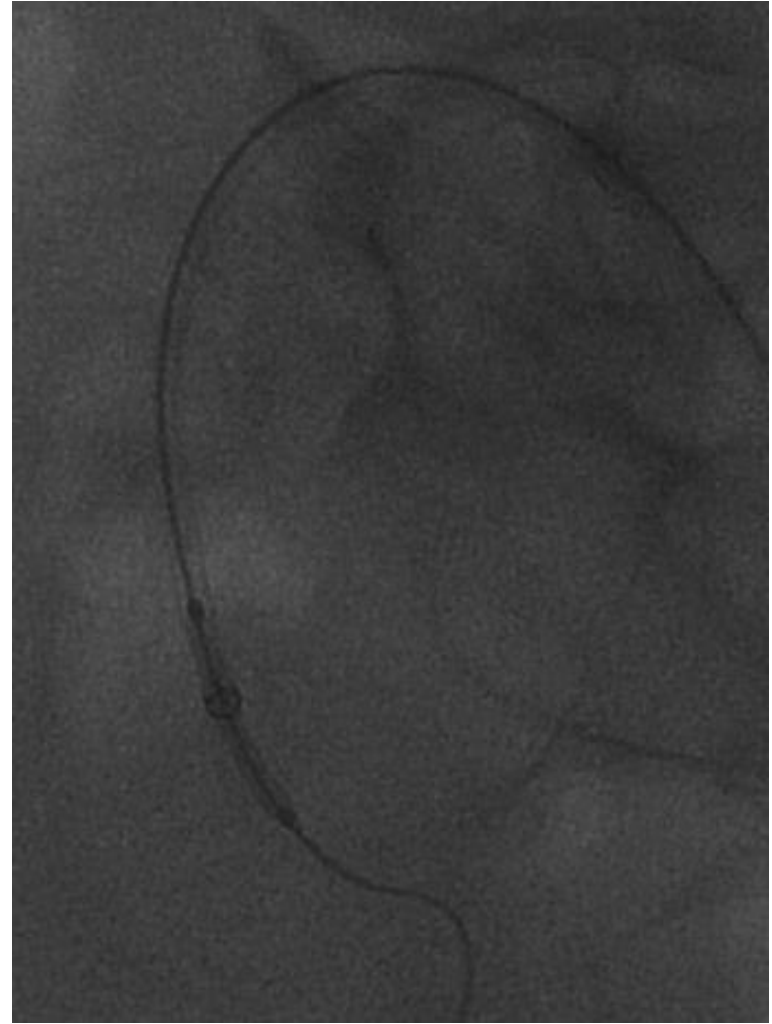
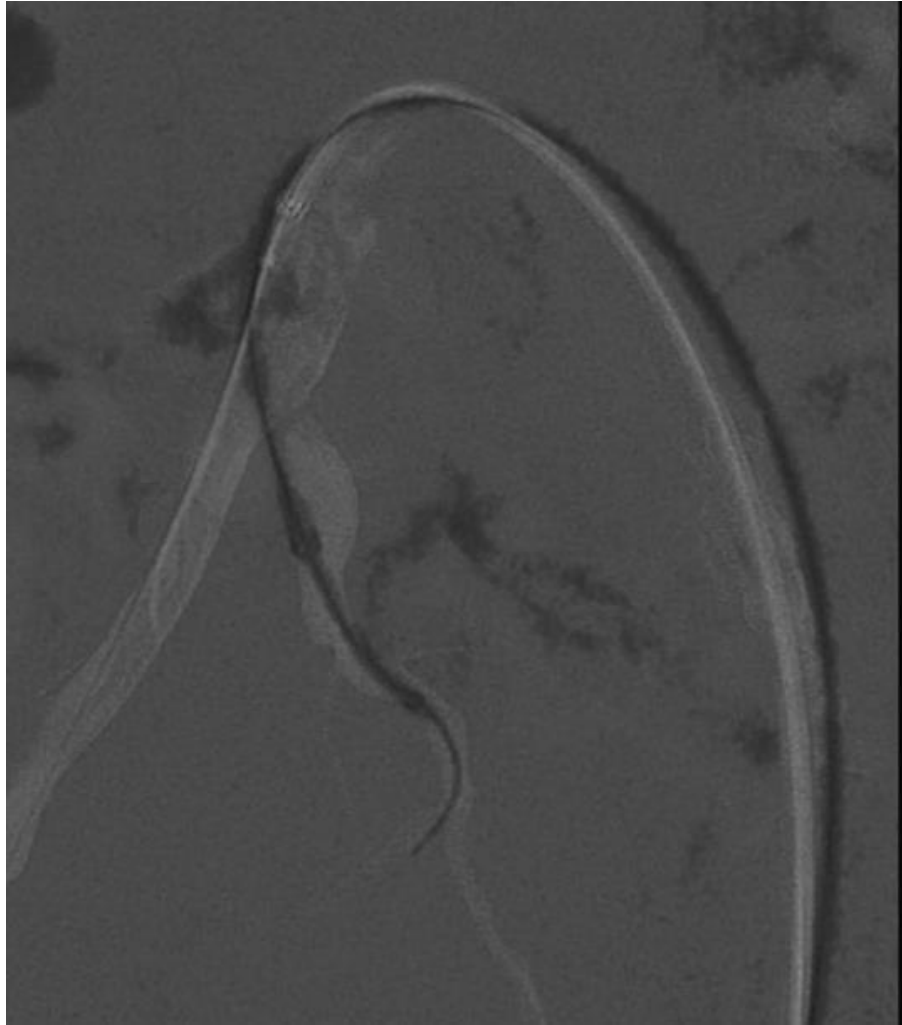


MAGELLAN Procedure



Hypogastic canulation with the leader

MAGELLAN Procedure



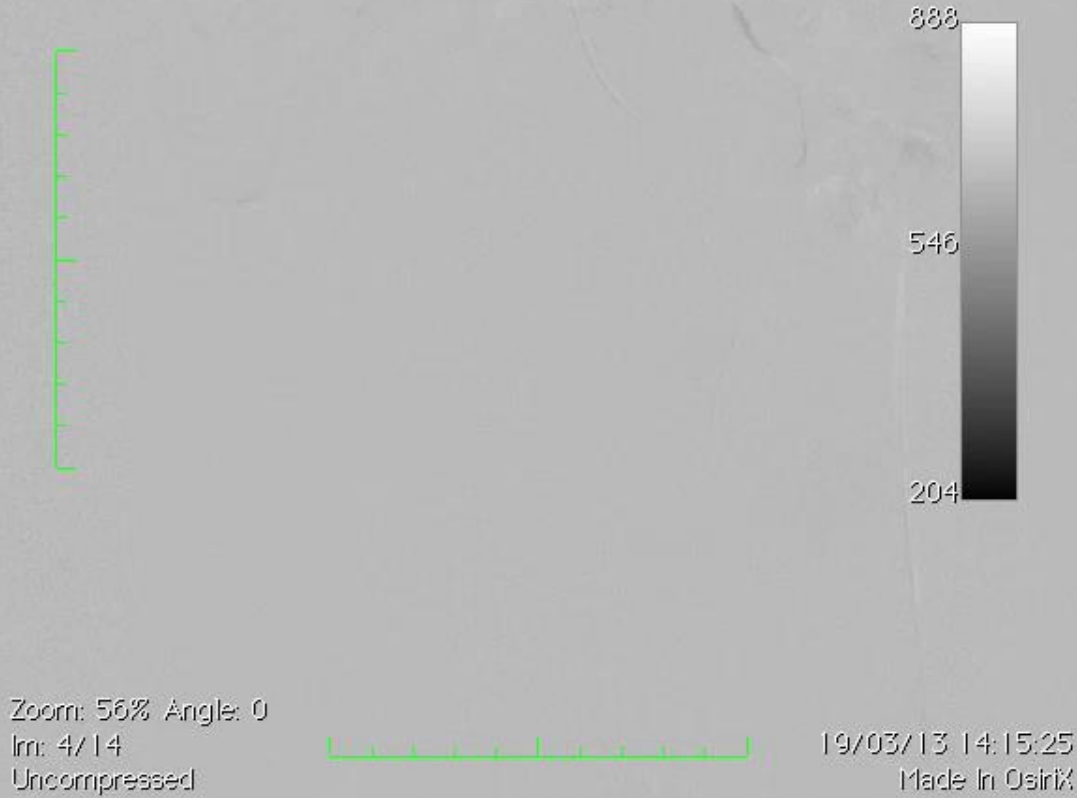
Hypogastric canulation with the sheath to pass the stent

MAGELLAN Procedure



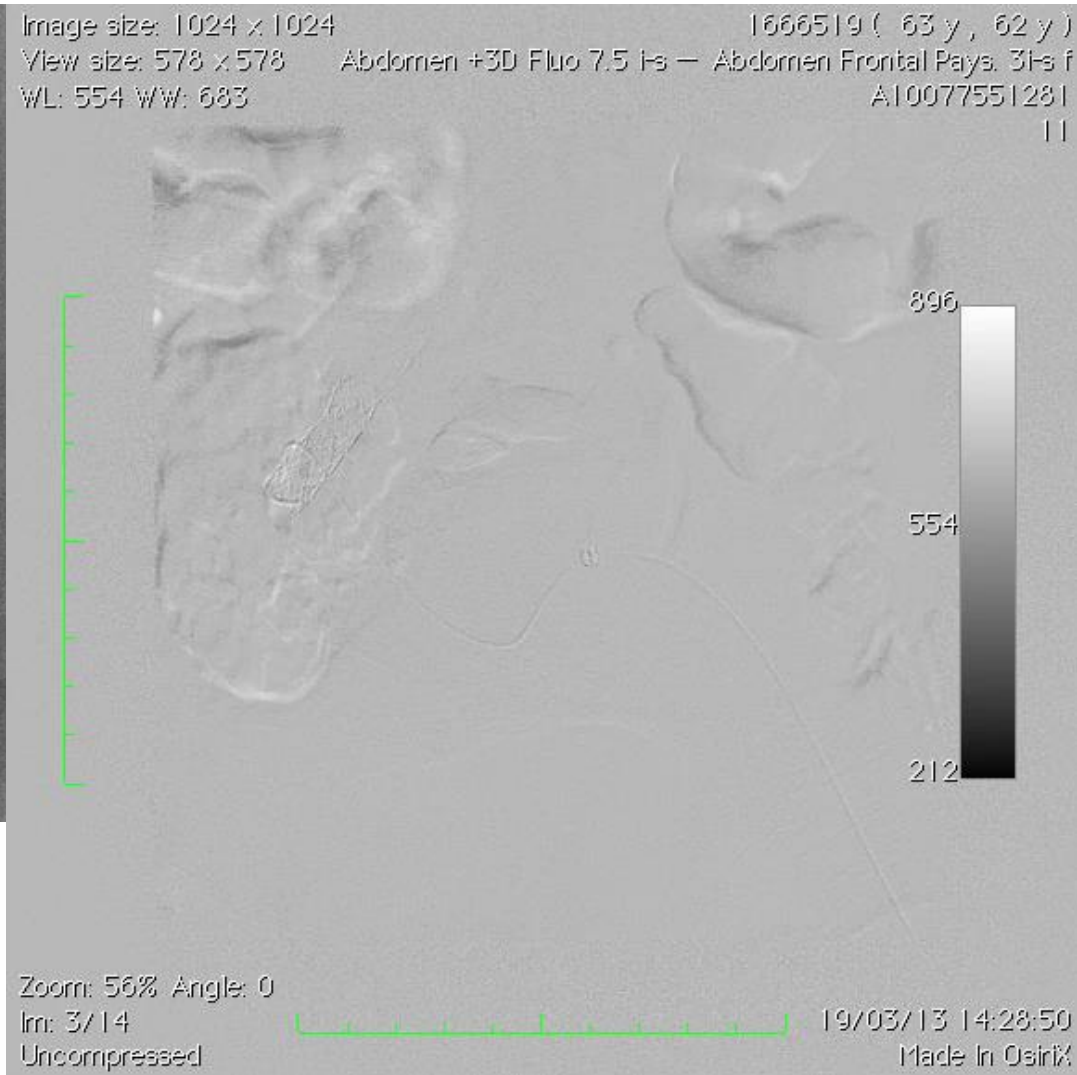
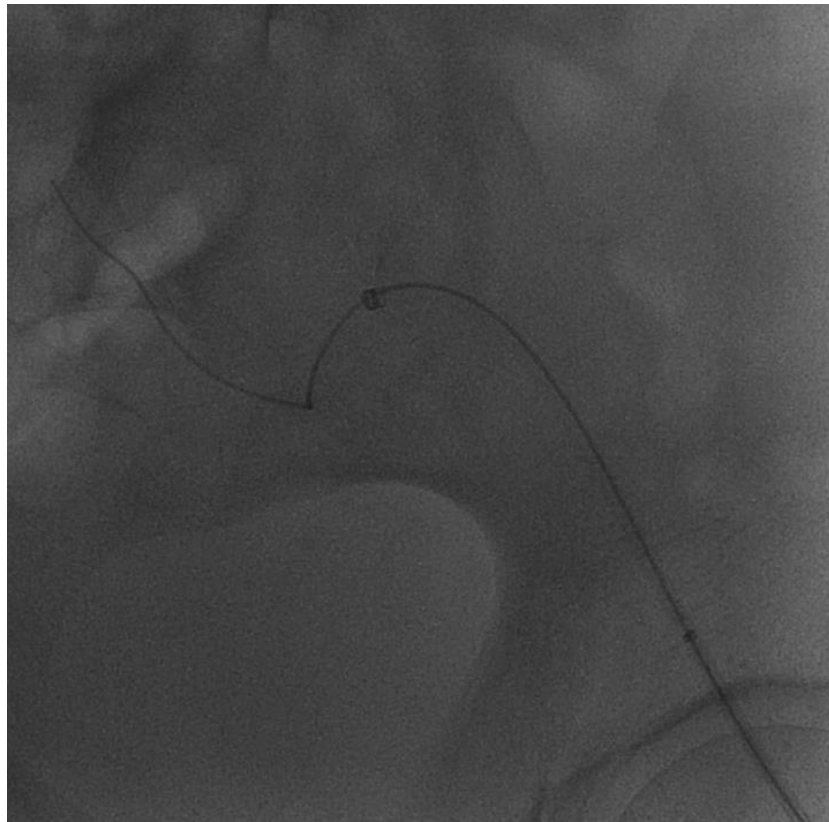
Image size: 1024 x 1024
View size: 578 x 578
WL: 546 WW: 683
1666519 (63 y , 62 y)
Abdomen +3D Fluo 7.5 Is — Abdomen Frontal Pays. 3Is f
A10077551281
9

CONTROLE POST STENT



Primary stenting and control

MAGELLAN Procedure



Ipsilateral canulation with the sheath

MAGELLAN Procedure

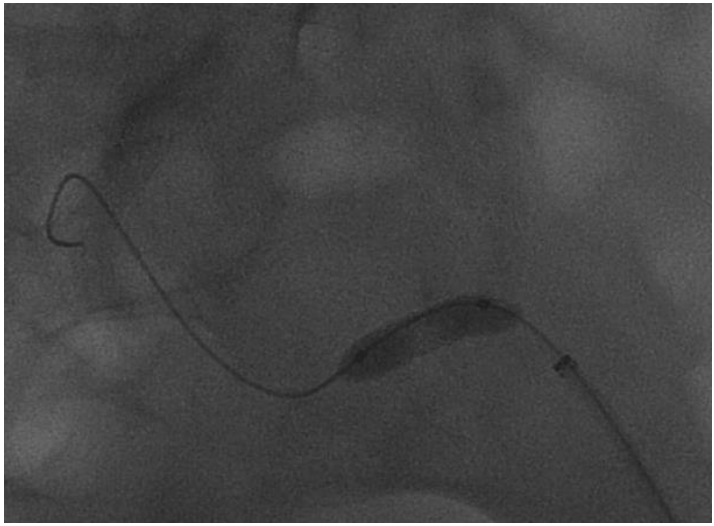
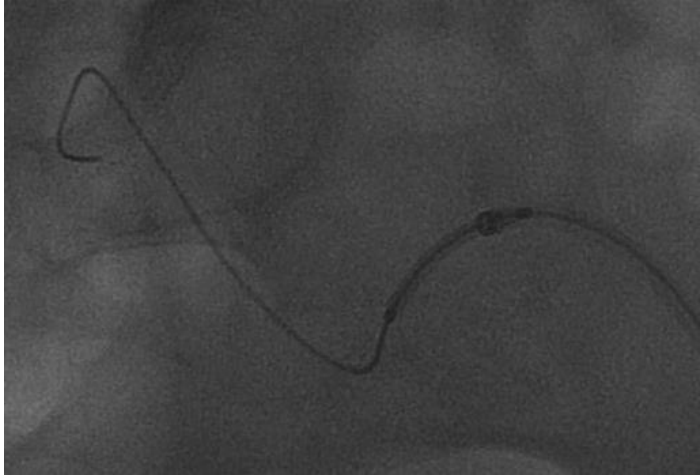


Image size: 1024 x 1024
View size: 578 x 578
WL: 546 WW: 683

CONTROL POST STENT (y)
Abdomen +3D Fluo 7.5 Fs — Abdomen Frontal Pays. 3Fs f
A10077551281
13

888
546
204

Zoom: 56% Angle: 0
Im: 1/16
Uncompressed

19/03/13 14:36:30
Made In OsiriX

Ipsilateral stenting and control

THE MAGELLAN™ ROBOTIC SYSTEM

The Magellan™ Robotic System is a peripheral interventional platform that has the potential to provide:



Precise endovascular navigation !

- Precise endovascular therapy delivery with control of catheters and

- Fast and predictable procedures¹

- Vessel navigation with **Less trauma !** less trauma than manual approach

- Catheter stability for delivery and placement of stents and other devices **Catheter stability !**

- Physician protection from radiation exposure and procedural fatigue

- Designed to integrate easily in the hybrid OR and interventional lab

¹ Bismuth J, Stankovic M, Gerzak B, Lumsden AM. The role of flexible robotics in overcoming navigation challenges in the iliofemoral arteries: a first in man study. 69th SVS Annual Meeting, June 2011. Chicago, USA.

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