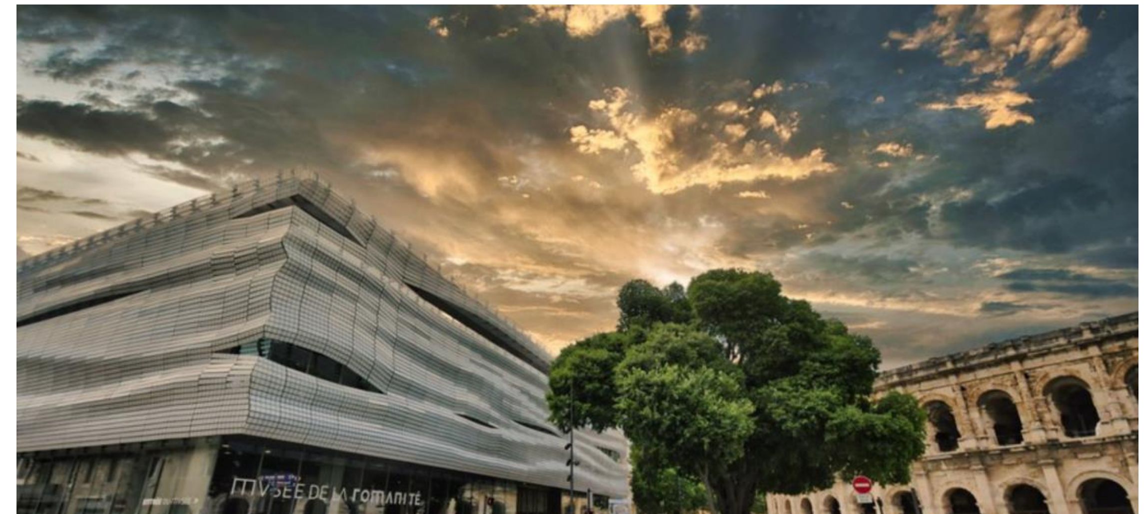
My nightmarish and most didactic case

Nicolas LOUIS
Vascular Surgeon
Hôpital Privé Les Franciscaines
Nîmes



BORDEAUX
PERSPECTIVES
Vendredi 17 juin 2022

Men 69 Y/O
60 mm Asymptomatic Thoracic Aneurism

- <u>Surgical record:</u>

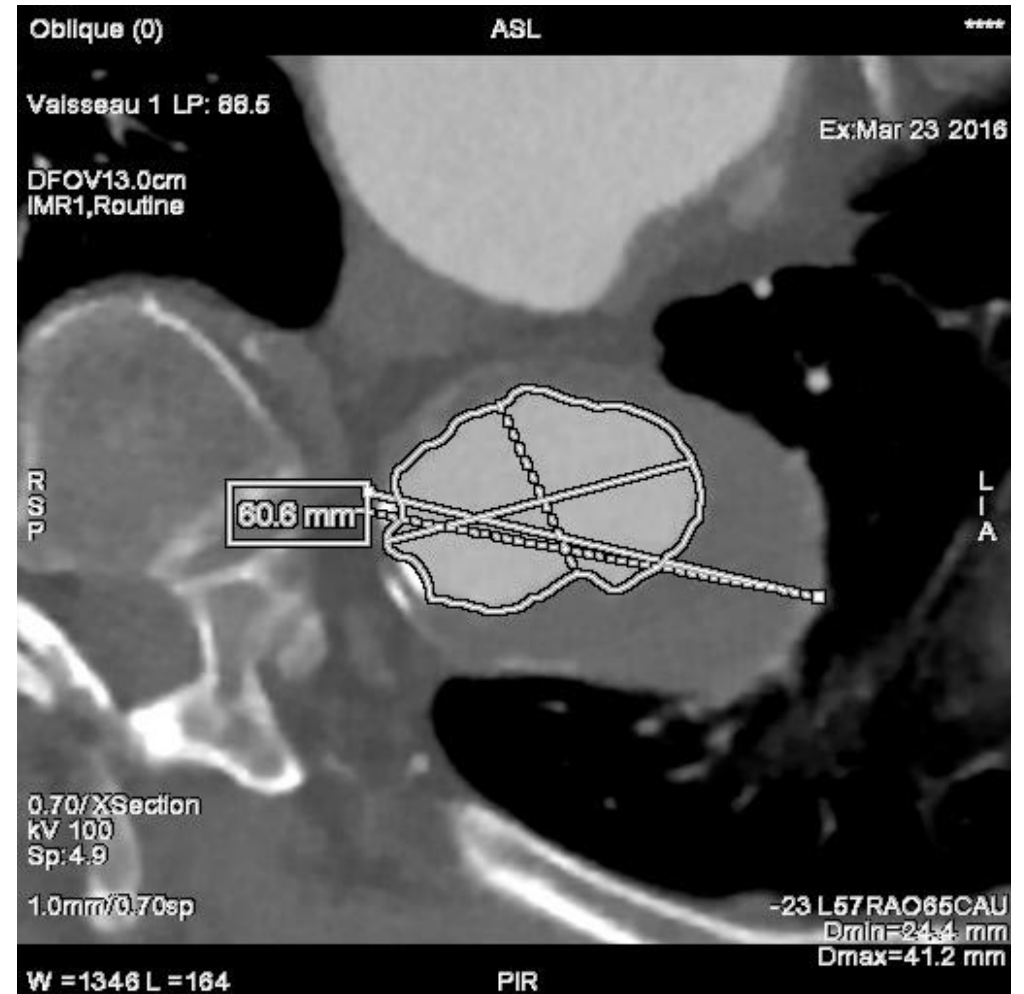
left CEA in 2013
Left venus femoro popliteal by pass in 2017

- <u>Medical record:</u>

Atrial fibrillation, Flutter with stroke in2003
multivessel coronary disease
Myocardial infarction in 1994
Aortic insufficiency grade 1/2
chronic obstructive pulmonary disease

- cardiovascular risk factors:

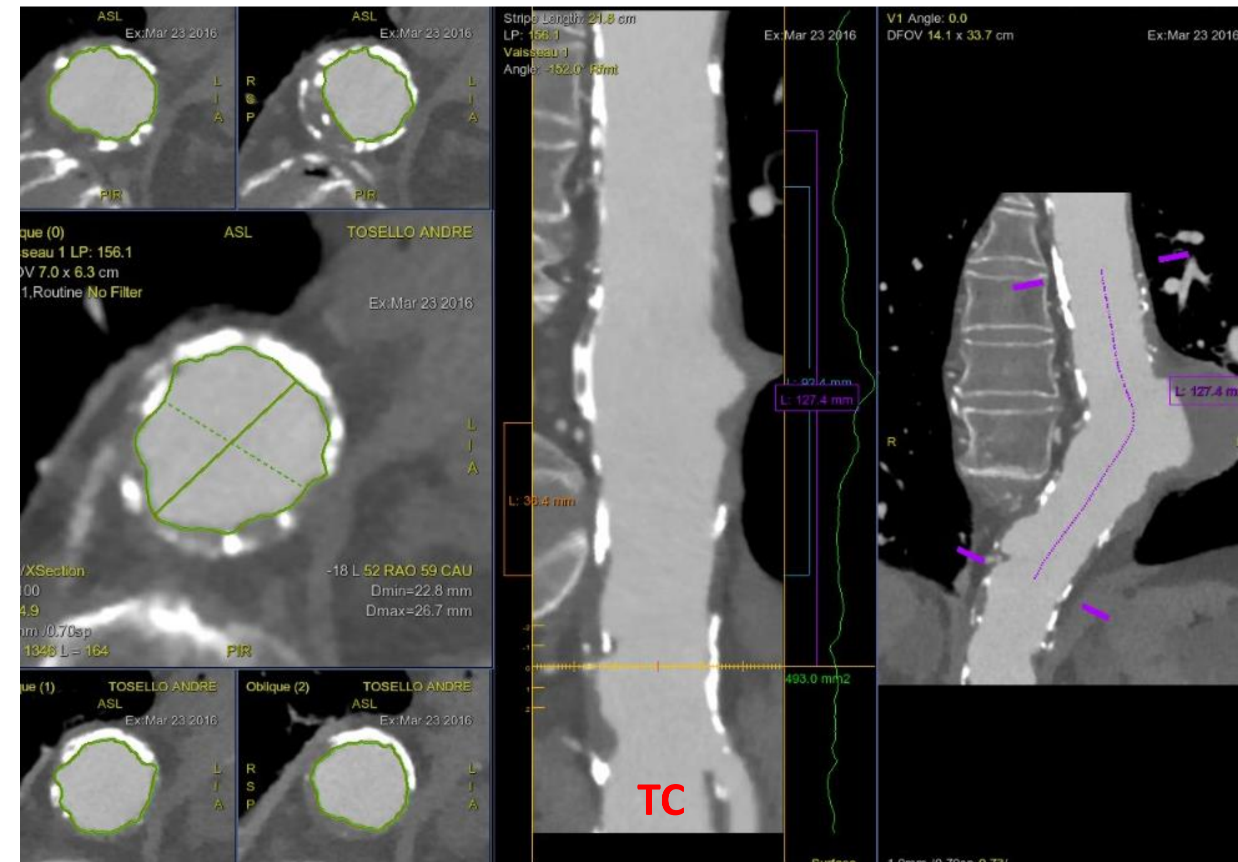
High blood pressure
Tabaccoo abuse (50 PA)



WINS
99
PUSH START
ROUND 1

My nightmarish and most didactic case

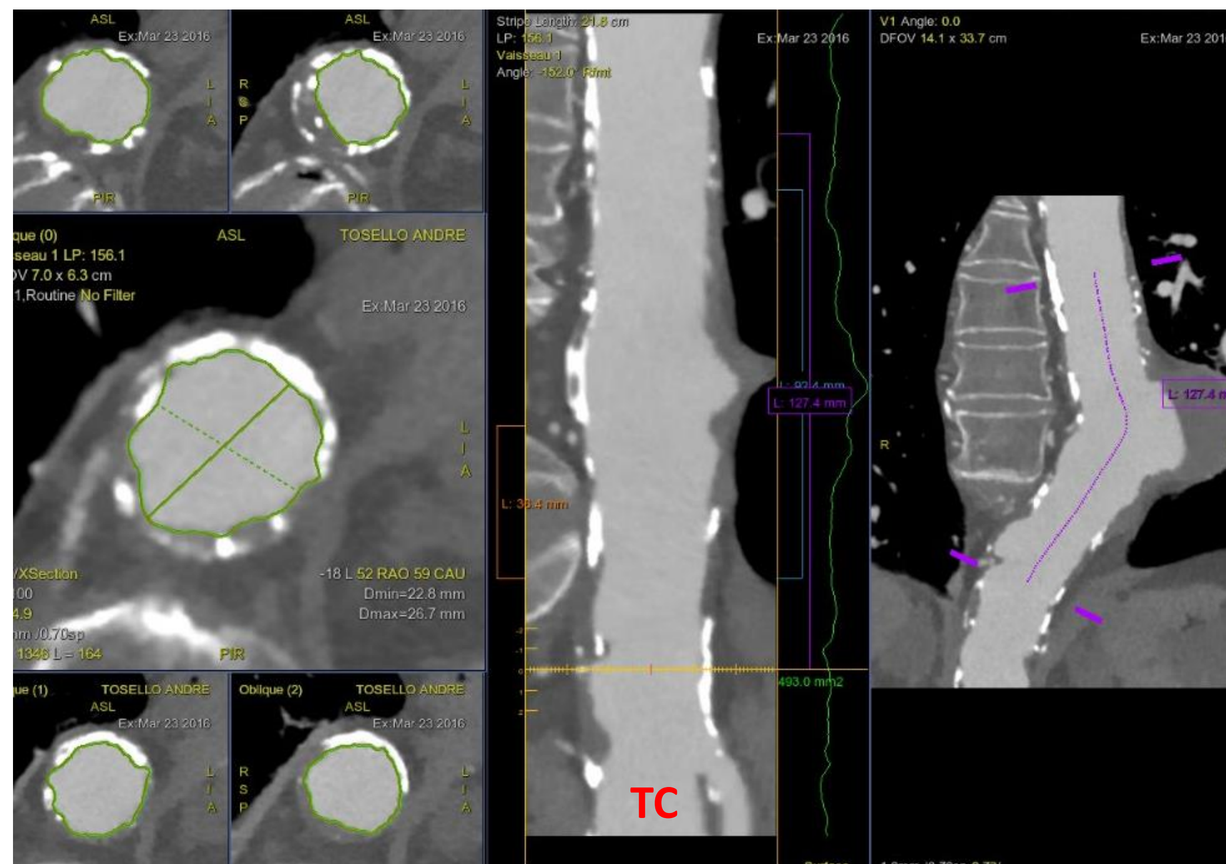
- Collet proximal et distal ⌀ 28 mm
- Couverte thoracique 100-120 mm
- Landing Zone distal 40 mm au dessus du TC



My nightmarish and most didactic case

- Proximal and distal landing zone : ⌀ 28 mm
- Total thoracic coverage 120-140 mm
- Distal landing Zone at 40 mm above the CT

SIMPLE CASE FOR A CARDIAC SURGEON



My nightmarish and most didactic case

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- Total thoracic coverage 120-140 mm
- Distal landing Zone at 40 mm above the CT

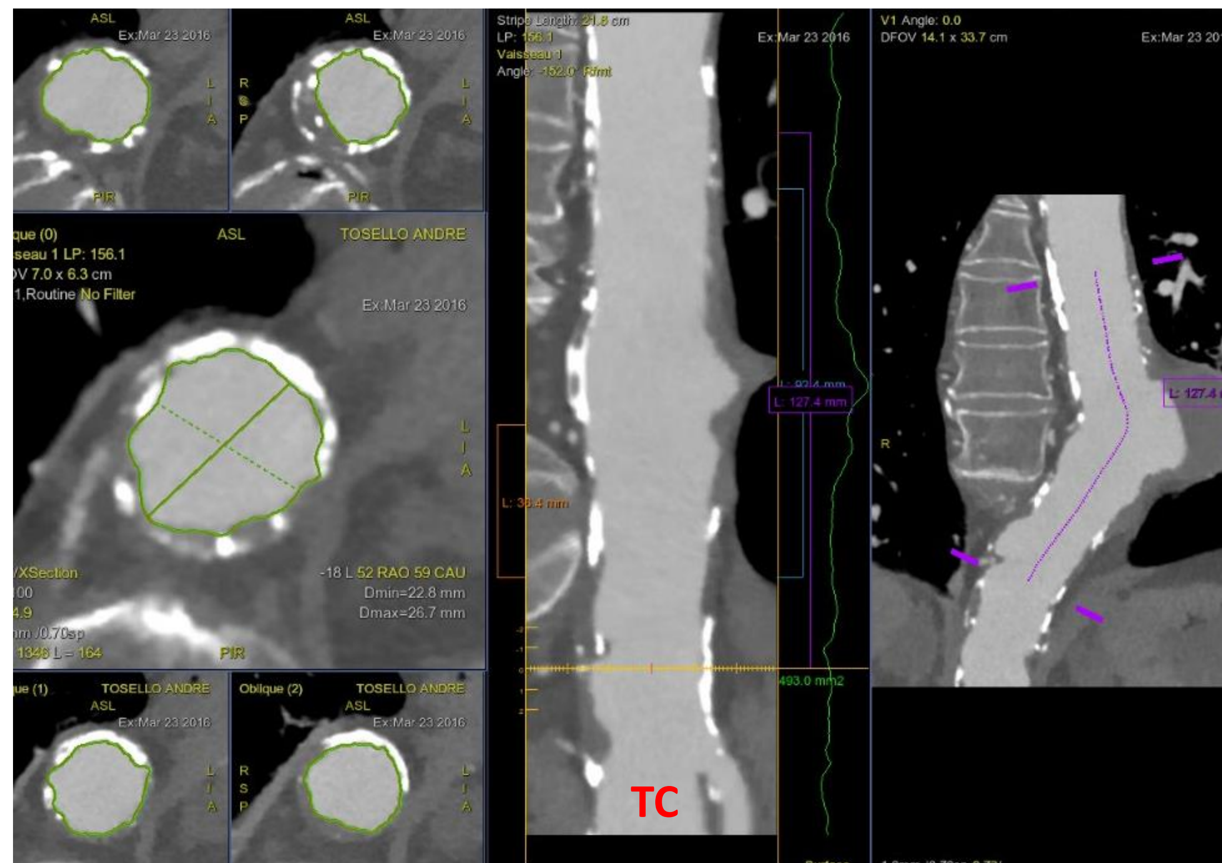
Tout Publics
(réservé à Canal+)

Accord
Parental
Souhaitable

Accord
Parental
Nécessaire

Interdit aux
moins de 16 ans

Interdit aux
moins de 18 ans



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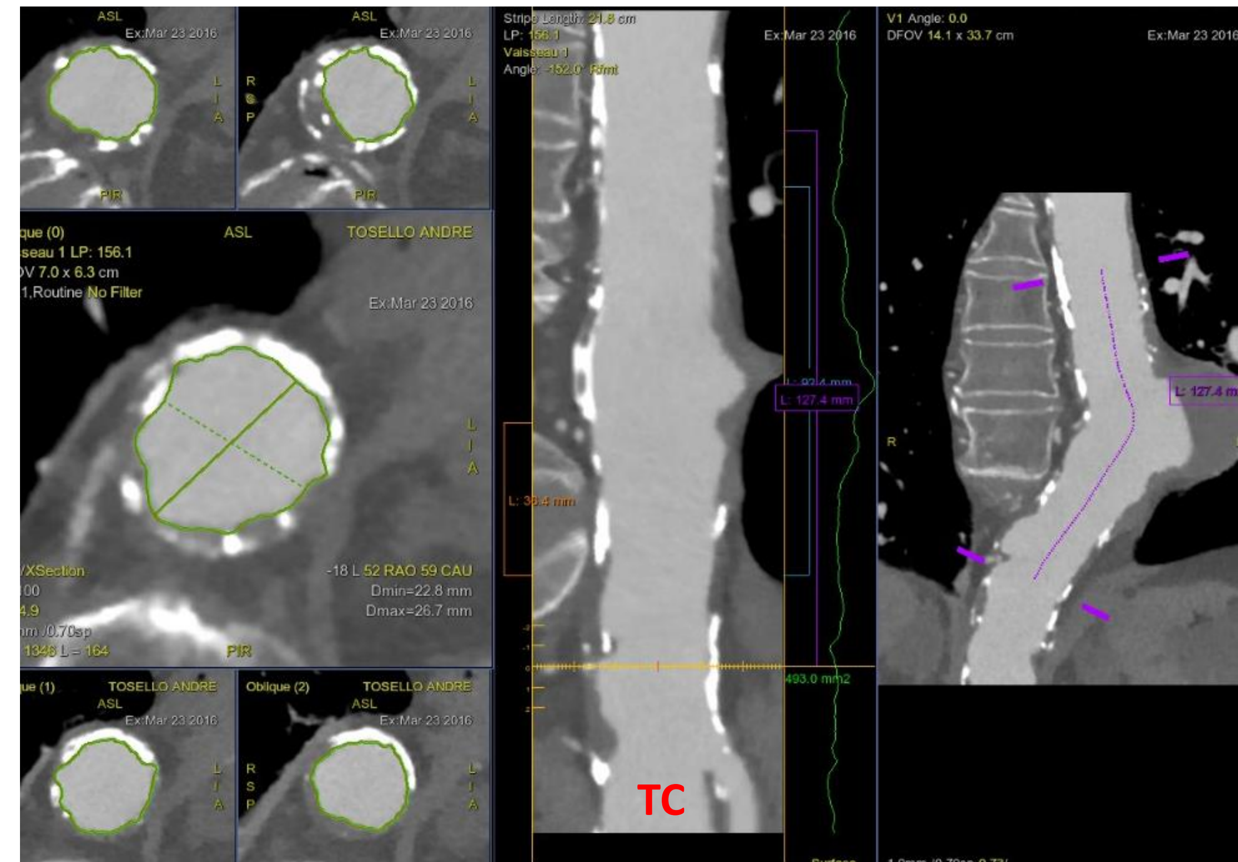
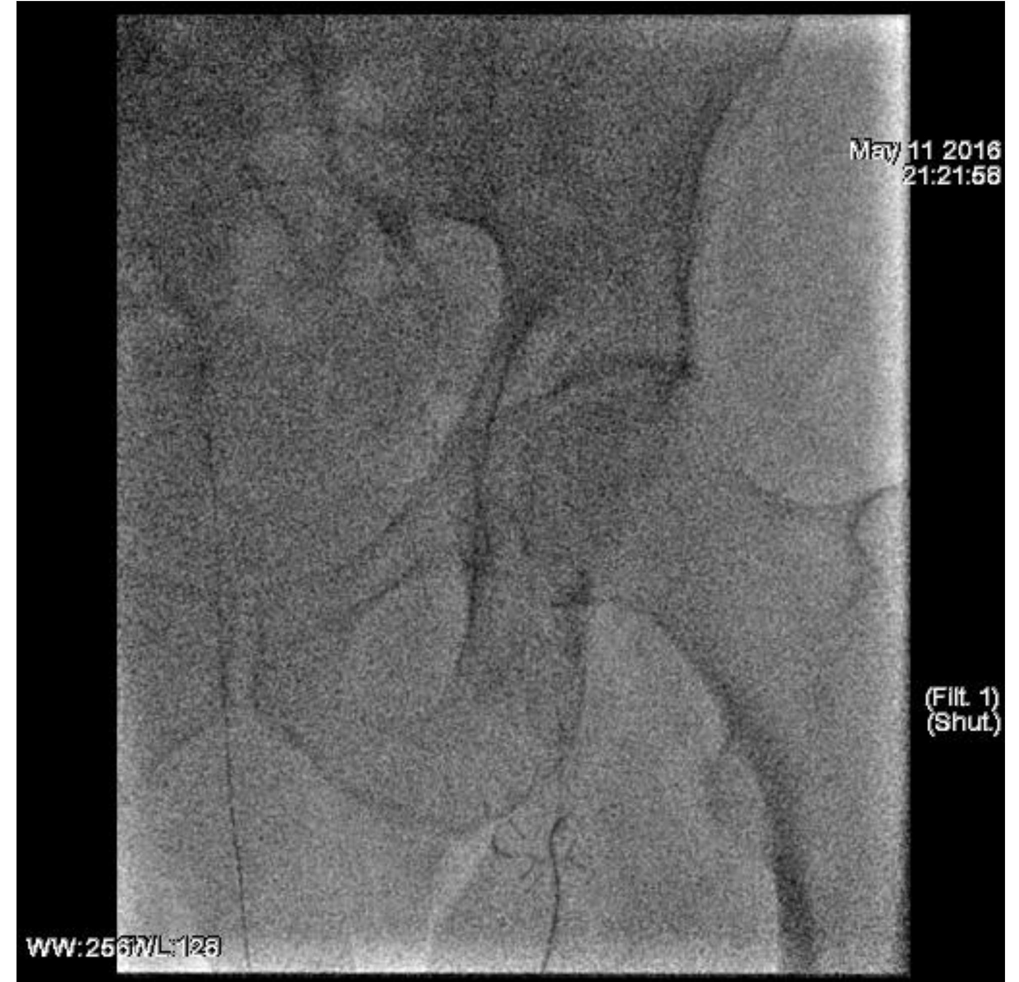


My nightmarish and most didactic case

My nightmarish and most didactic case

Phone call at 9.30 PM
For dissection of the left CFA
and percutaneous failure converted
with a right groin surgical approach

Patient under peridural anaesthesia
Without discussion of CSF drainage

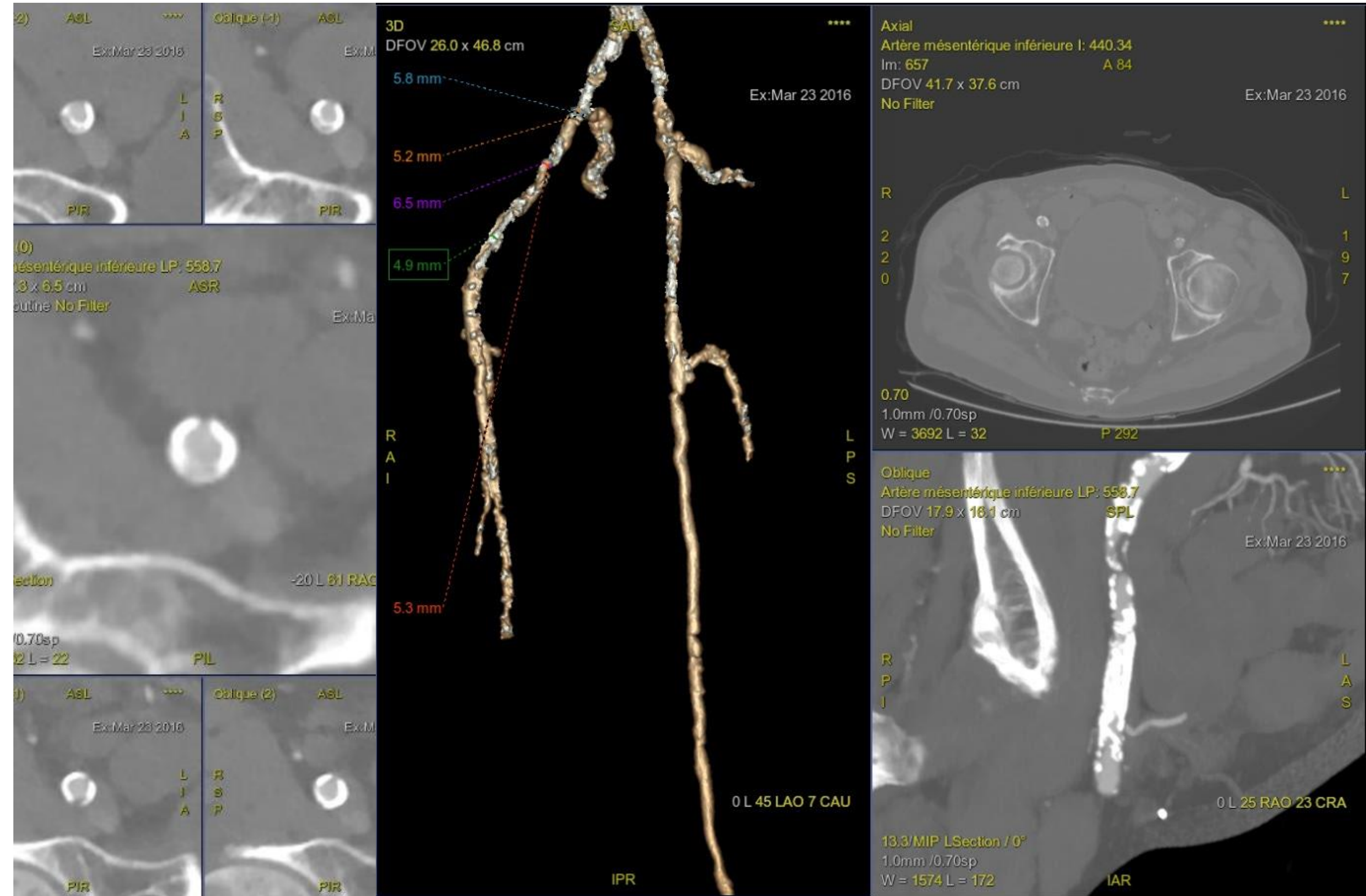


My nightmarish and most didactic case

Sizing the access on the workstation

Circumferential calcification of the external Iliac artery

Range: 4.9-5.2 mm



My nightmarish and most didactic case

Interest of peridural anaesthesia

My nightmarish and most didactic case

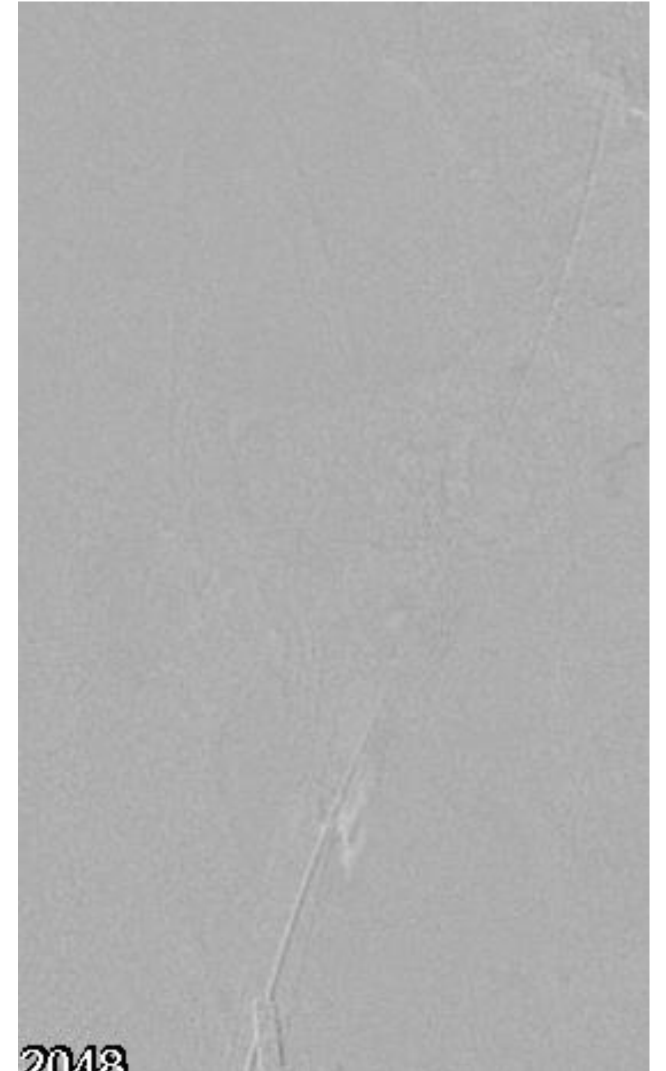
ILIAC RUPTURE
during the insertion of the stent graft

- <u>Stop bleeding:</u>

Insert a short 14 fr Sheet on the lunderquist
+ a 8 fr sheet55 cm, balloon 12x 40 in the iliac

- Secure a second access from left CFA

- Intubation, central venus line…..



My nightmarish and most didactic case

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My nightmarish and most didactic case

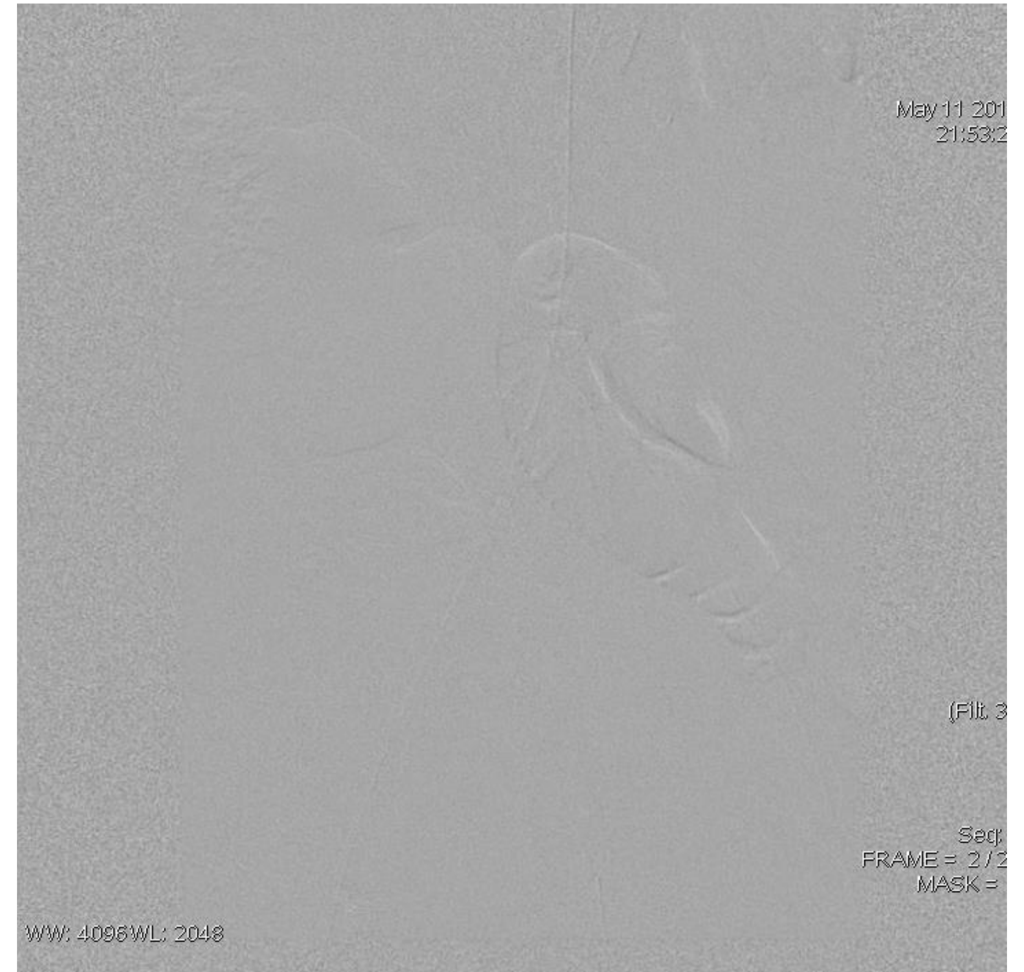
STOP THE BLEEDING

- <u>Stop the bleeding:</u>

Insert a short 14 fr Sheet on the lunderquist
+ a 8 fr sheet55 cm, balloon 12x 40 in the iliac

- Secure a second access from left CFA (Pigteal…)

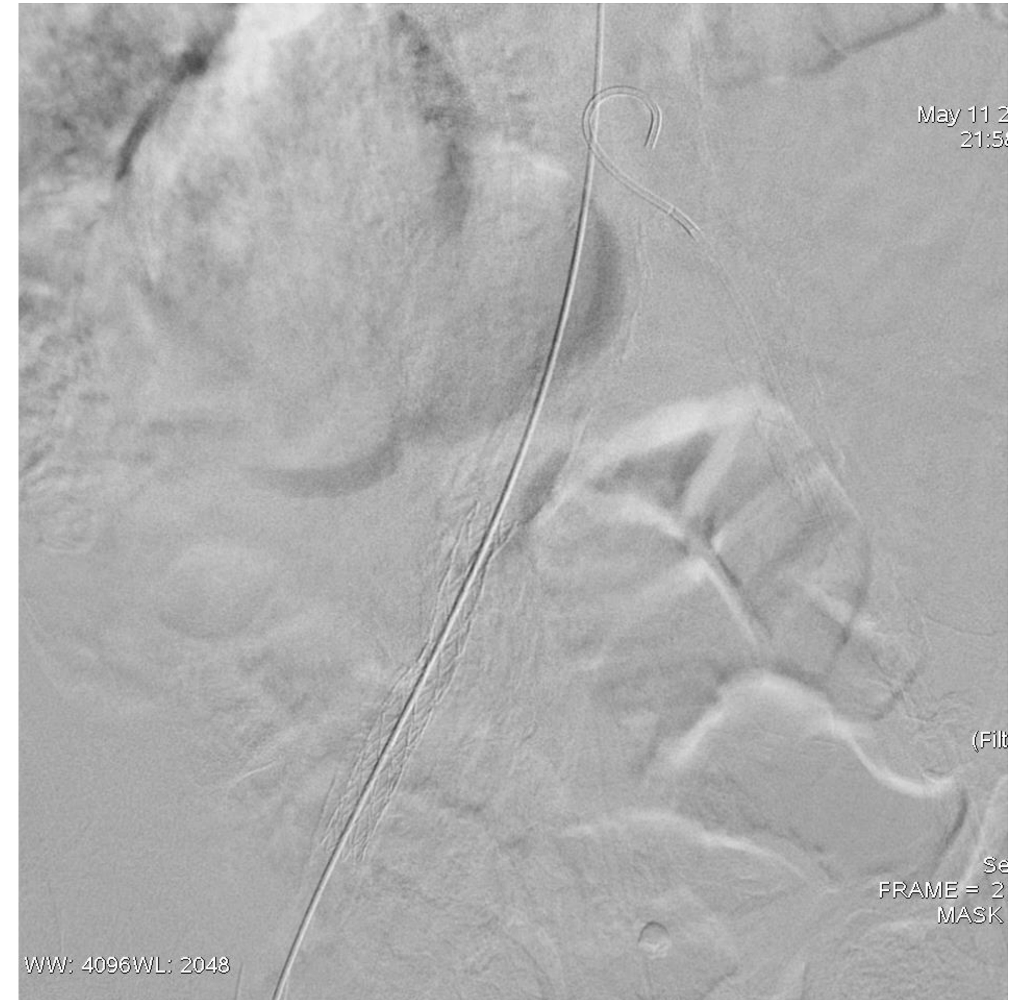
Rupture near the iliac bifurcation ?



My nightmarish and most didactic case

RECONSTRUCTION THE RIGHT ACCESS

- Fluency: 12X 80 mm
- Not so bad but……



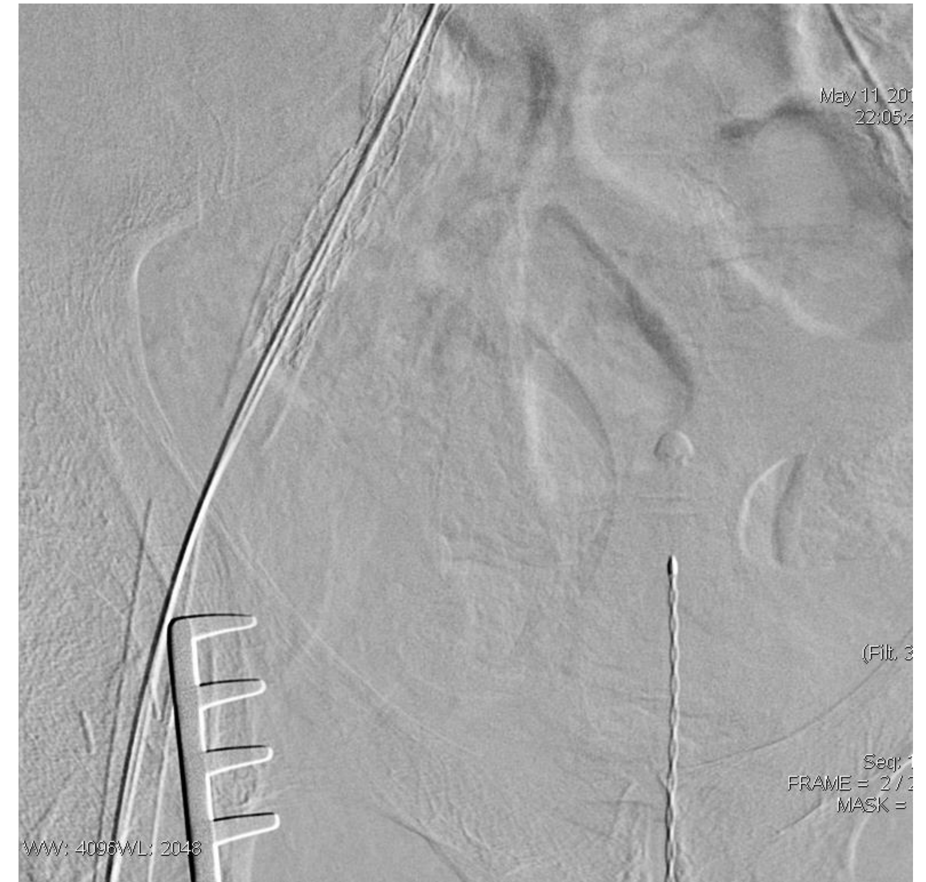
My nightmarish and most didactic case

RECONSTRUCTION THE RIGHT ACCESS

- Fluency: 12X 80 mm,

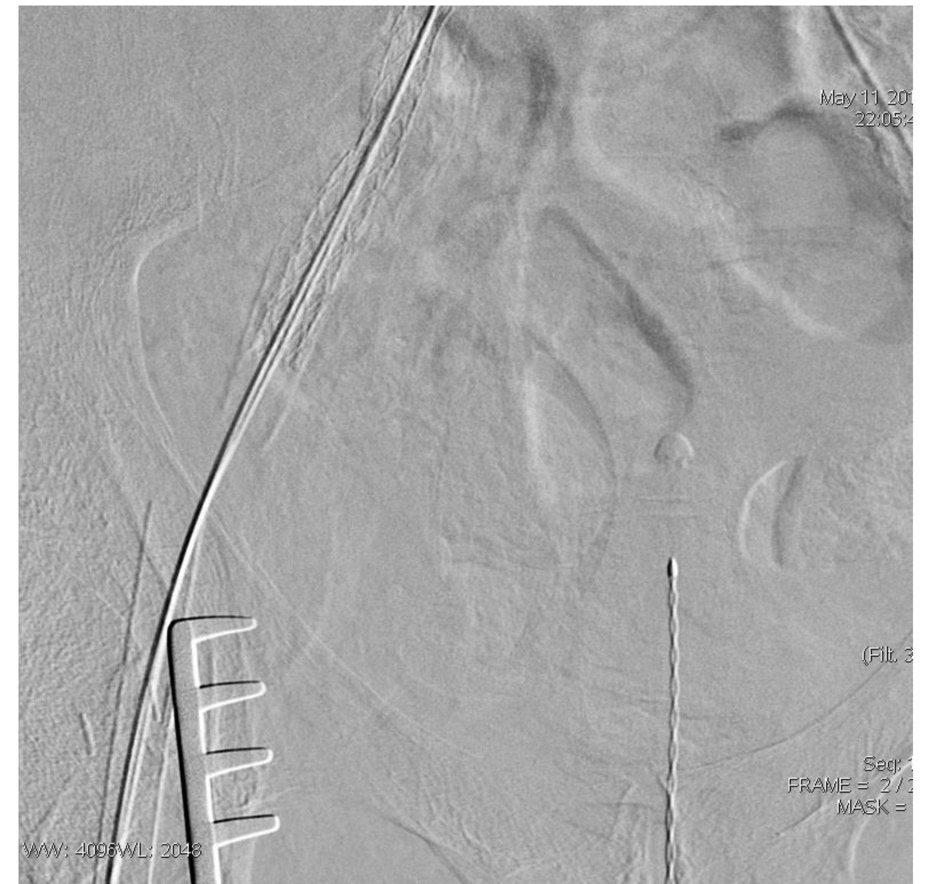
- Not so bad but ….

 the angiography from below…



My nightmarish and most didactic case

TOTAL RUPTURE OF THE EXTERNAL ILIAC ARTERY

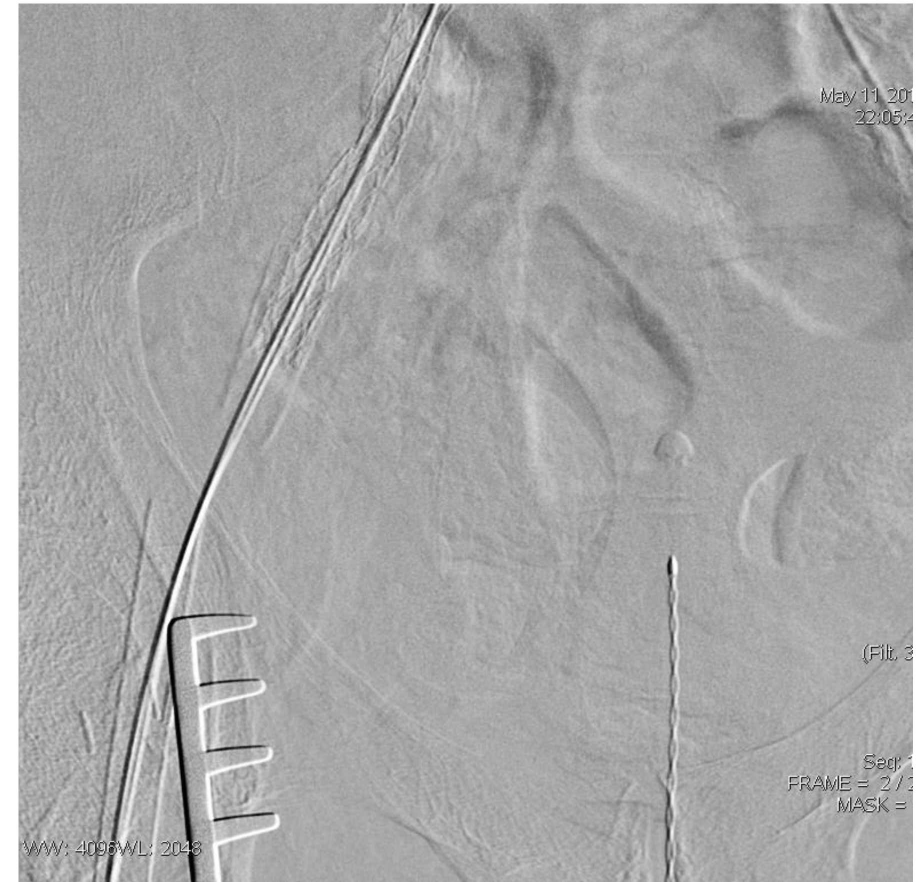


My nightmarish and most didactic case

VISION FROM THE GROIN

- **Total section of the CFA**
- **Distal part of the Covered stent surrounding with media artery**

Which option?



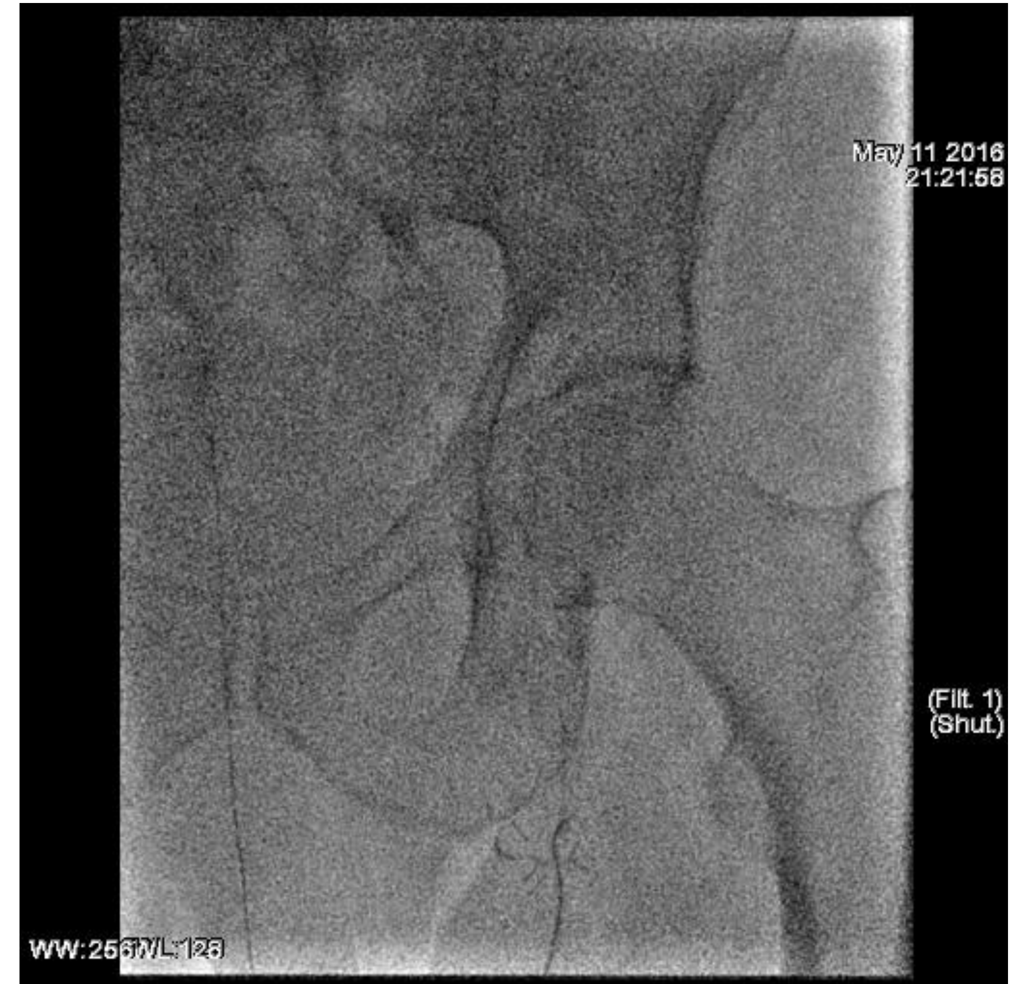
My nightmarish and most didactic case

VISION FROM THE GROIN

- **Total section of the CFA**
- **Distal part of the Covered stent surrounding with media artery**

Which option?

. Femoro-femoral by pass form the left



My nightmarish and most didactic case

VISION FROM THE GROIN

- **Total section of the CFA**
- **Distal part of the Covered stent surrounding with media artery**

My option:

. By pass from the stent graft to the femoral bifurcation…

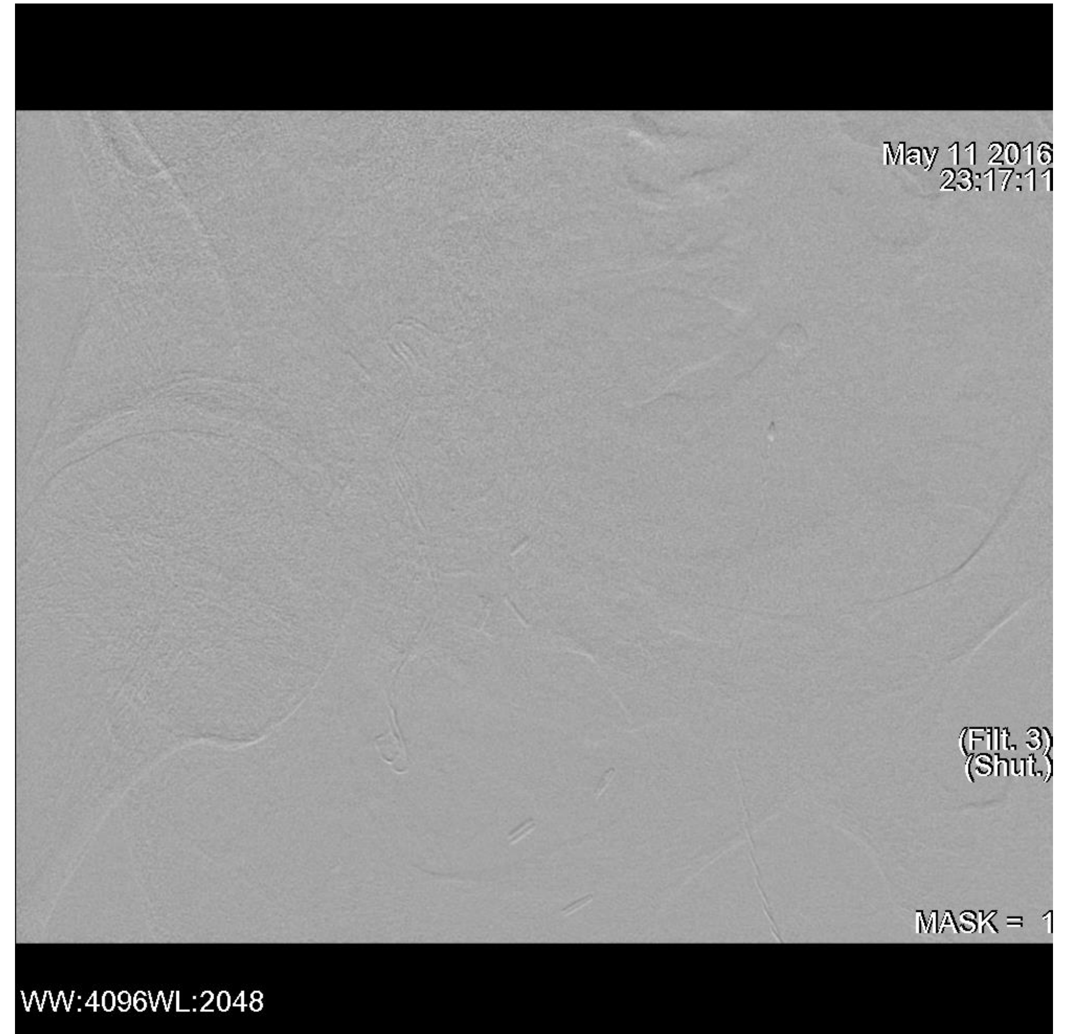
My nightmarish and most didactic case

VISION FROM THE GROIN

- **Total section of the CFA**
- **Distal part of the Covered stent surrounding with media artery**

My option:

. By pass from the stent graft to the femoral bifurcation…



My nightmarish and most didactic case

My option:

. By pass from the stent graft to the femoral bifurcation…

Nice anastomosis stenosis

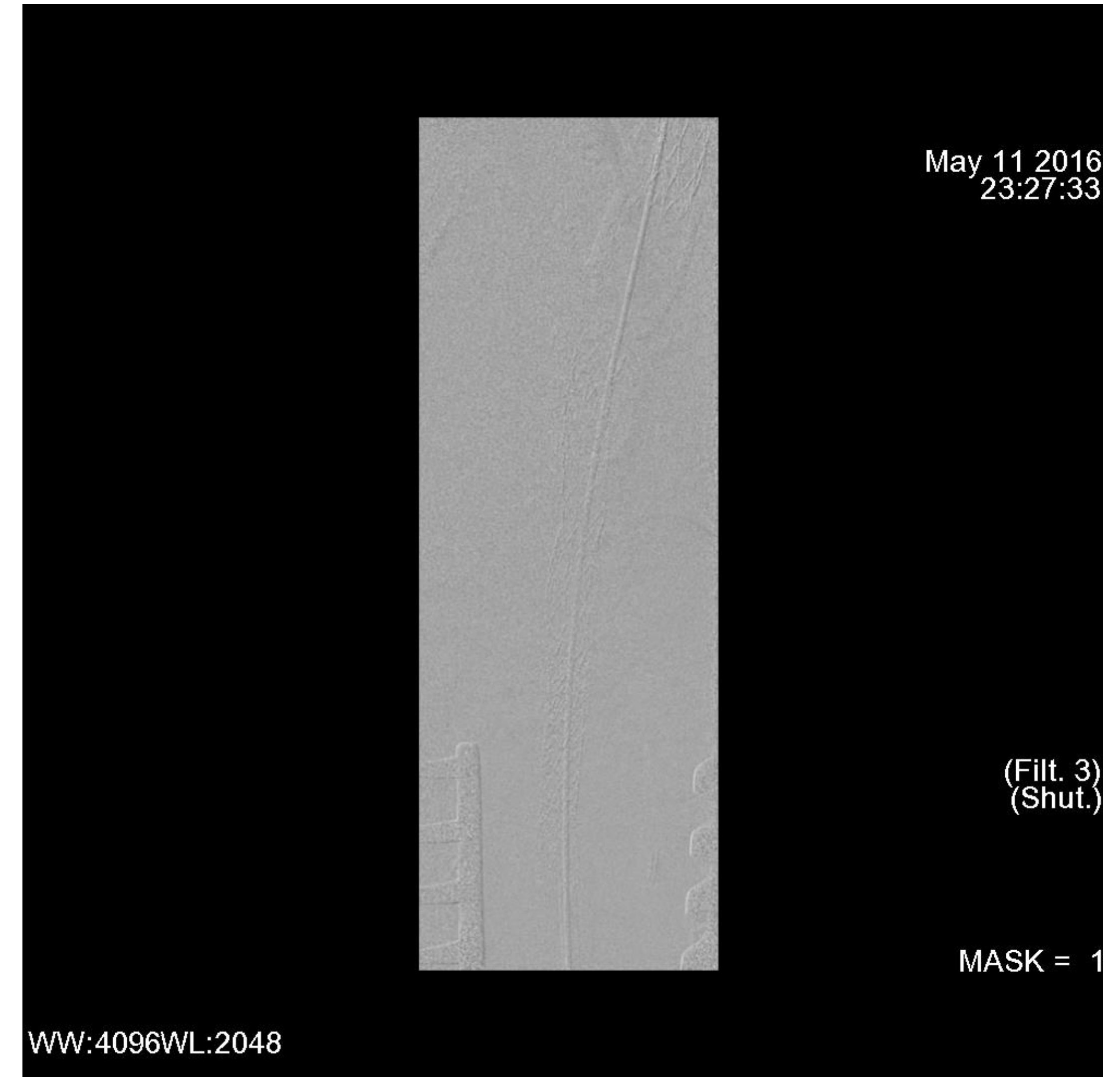
7fr radial sheet

Sion blue 0.014 guide wire

Coronary balloon 4X20, peripheral balloon 7X40

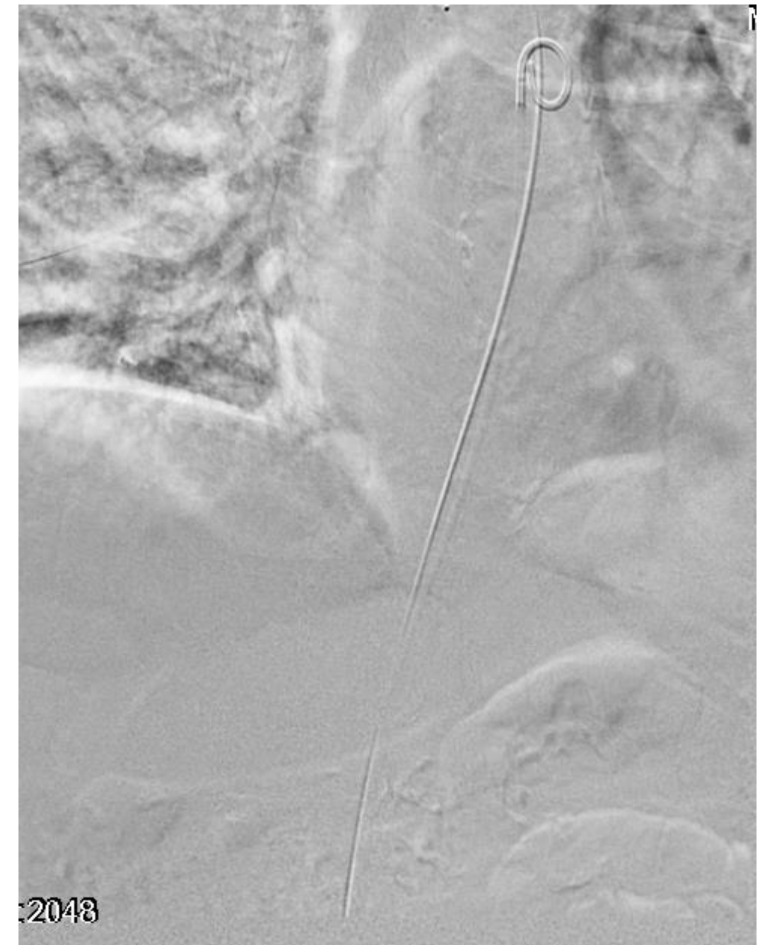
0.035 guide wire

STENT: 10X19 mm



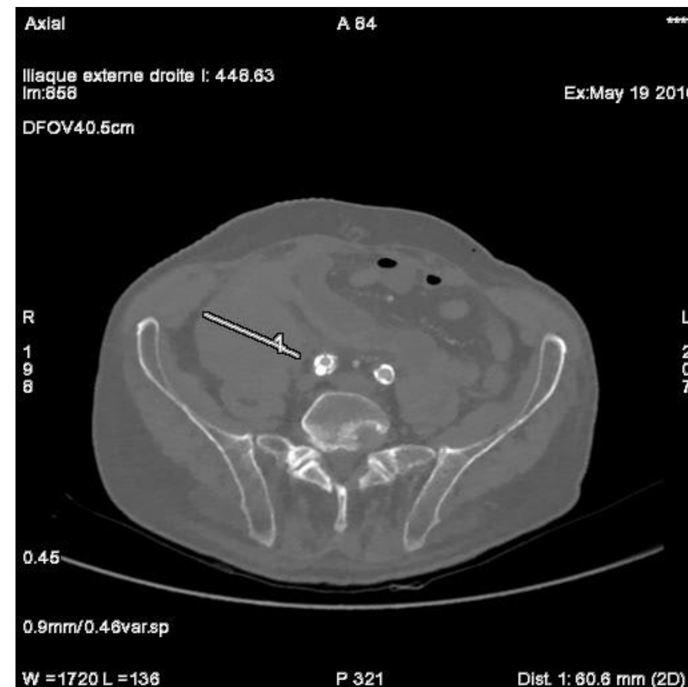
My nightmarish and most didactic case

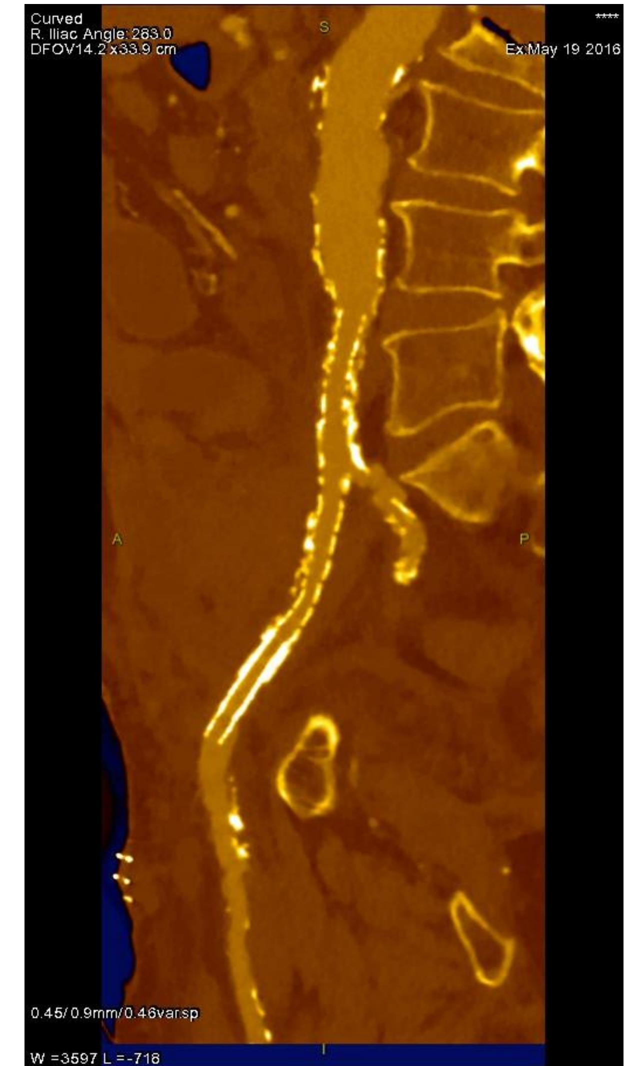
SUMMIT NOT FOR TODAY……..



My nightmarish and most didactic case

Post operative CT scan





<u>Transfert UCI:</u>

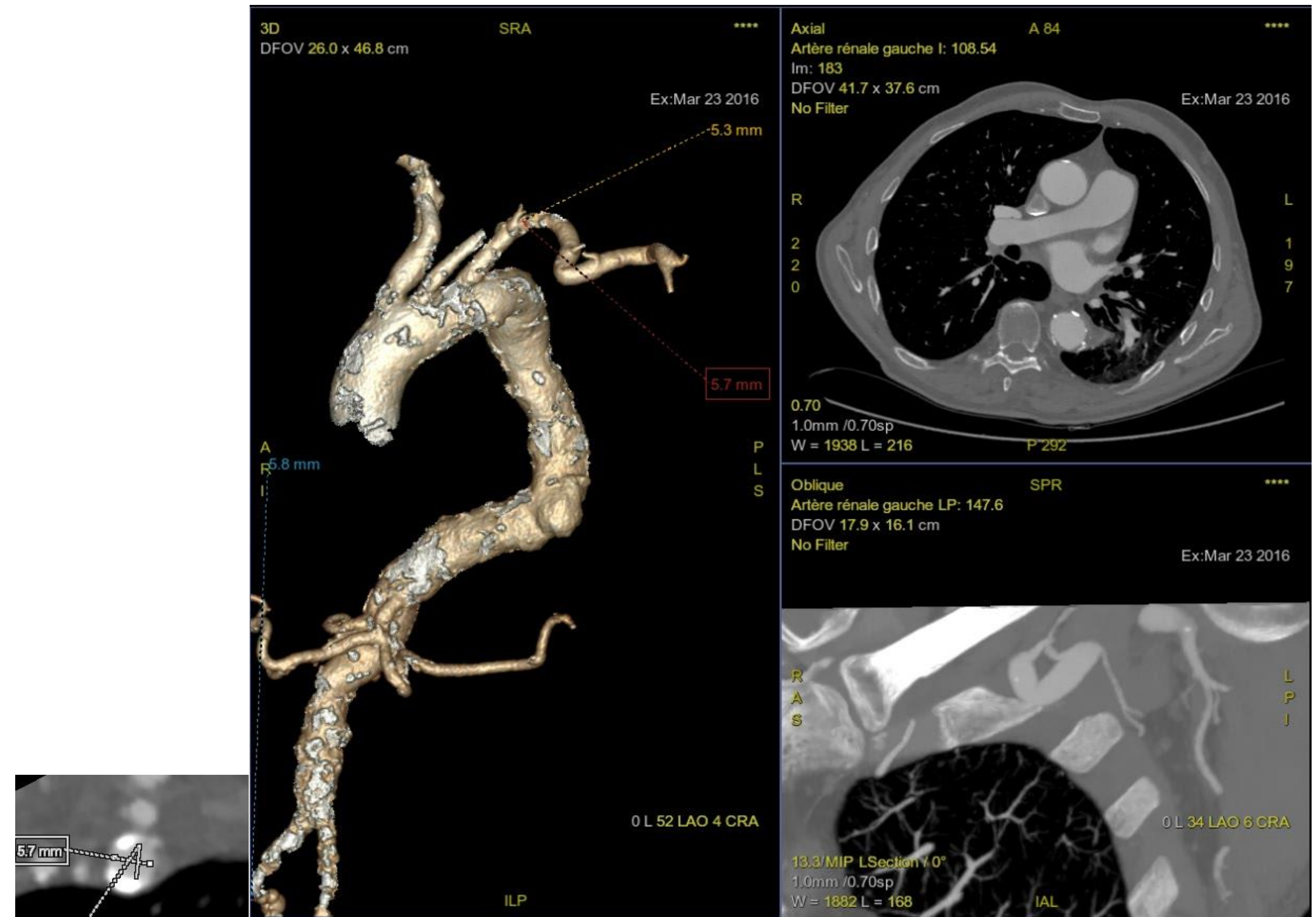
- Good recovery
- No paraplegia
- No Myocardial infarction
- No ischemic colitis

LV.5
LV.10
ROUND 2
MAFIA CITY

My nightmarish and most didactic case

Which access?

1. Left Iliac access
2. Left Subclavian artery
3. Left Carotid artery



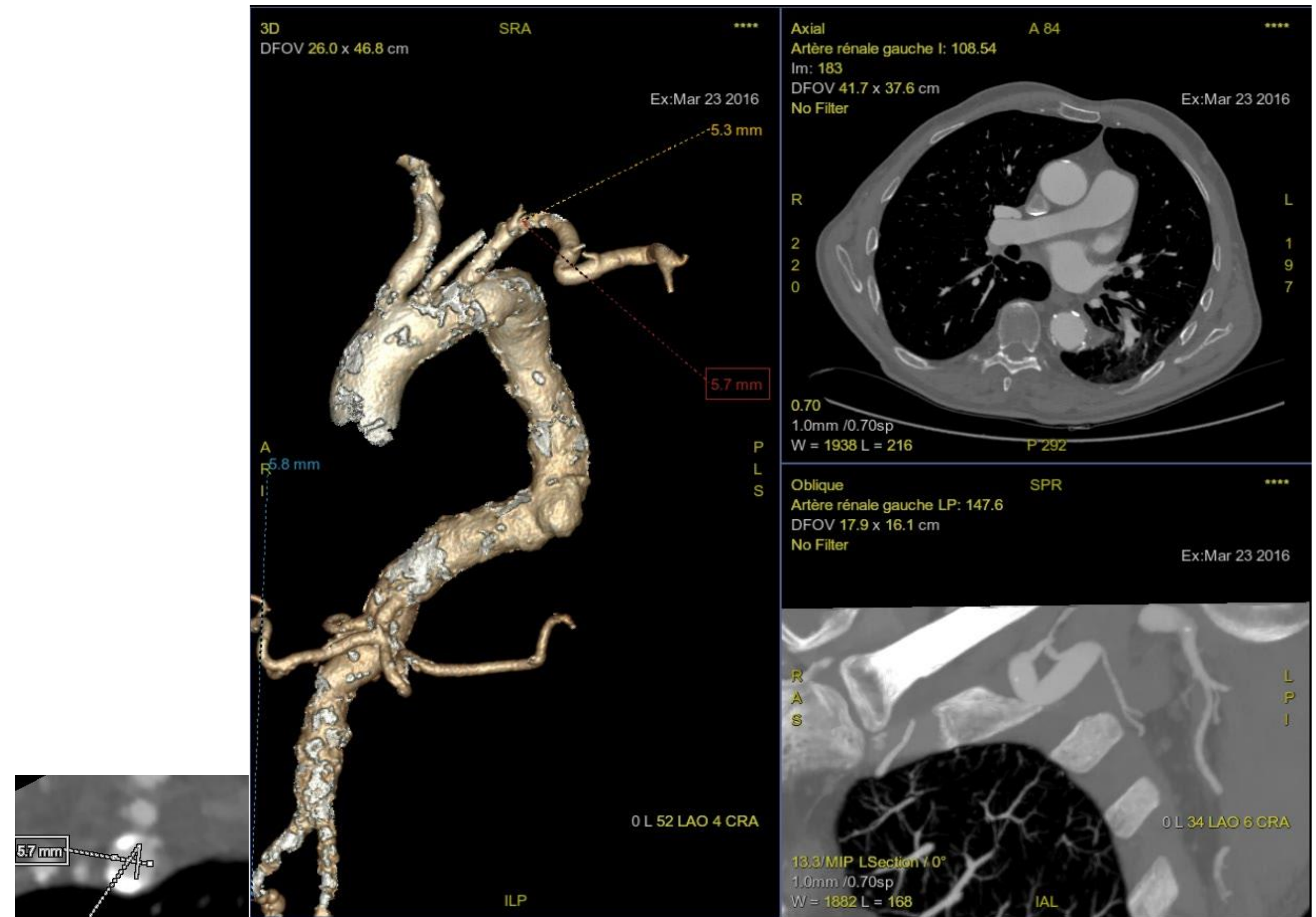
BORDEAUX
PERSPECTIVES
Vendredi 17 juin 2022

My nightmarish and most didactic case

Which access?

1. Left Iliac access
2. Left Subclavian artery
3. Left Carotid artery

Major calcifications, small access
Major angulation of the arch

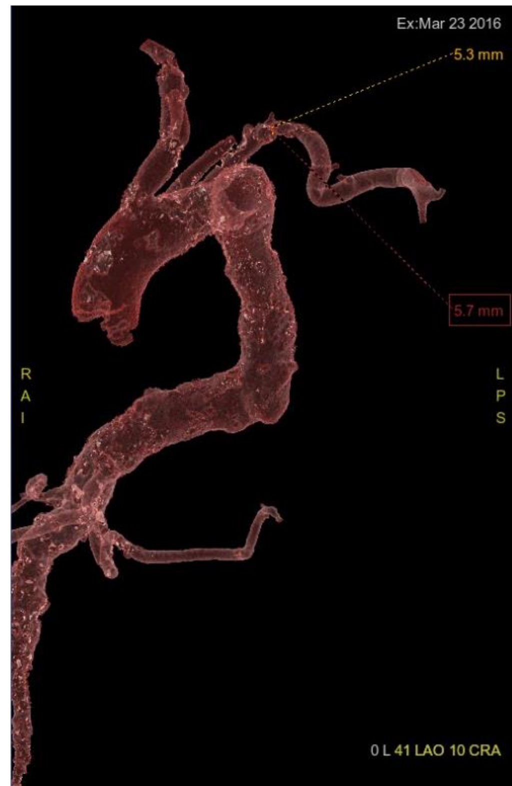


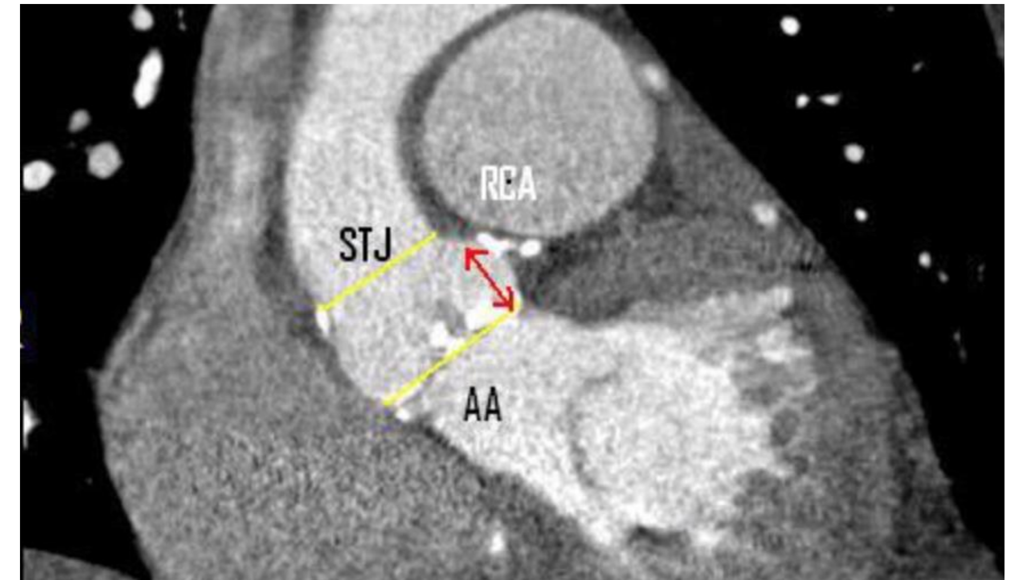
BORDEAUX PERSPECTIVES
Vendredi 17 juin 2022

My nightmarish and most didactic case

Transapical Approach is possible

TEAM STAFF:
Vascular Surgeon
Cardiologist





Analysis of the aortic Valve

My nightmarish and most didactic case

5 case reports
2 papers with 6 patients

Multicenter Study > Ann Vasc Surg. 2017 Aug;43:56-64.
doi: 10.1016/j.avsg.2016.10.054. Epub 2017 Mar 10.

Transapical Endovascular Repair of Thoracic Aortic Pathology

Takashi Murakami [1], Shinsuke Nishimura [2], Mitsuharu Hosono [2], Yoshitsugu Nakamura [3], Etsuji Sohgawa [4], Yukimasa Sakai [4], Toshihiko Shibata [2]

Affiliations + expand

PMID: 28288887 DOI: 10.1016/j.avsg.2016.10.054

Abstract

Background: Alternative access for thoracic endovascular aortic repair (TEVAR) has been explored for patients with unsuitable femoral and iliac access, but few cases of transapical access have been described. We report our experience with transapical access for various aortic pathologies.

Methods: We reviewed 6 cases undergoing transapical access for endovascular repair of thoracic aortic pathology between December 2013 and August 2015. Five patients had an aortic arch aneurysm and 1 patient presented with Stanford type A subacute aortic dissection. Transapical access was indicated to avoid approach through the severely atherosclerotic thoracic descending aorta in 4 patients and severely kinked aorta in 1 patient and to treat an ascending aortic dissection lesion in 1 patient.

Results: Transapical endografting was completed in all patients. Significant aortic valve regurgitation occurred in 3 patients when a large bore sheath was placed across the aortic valve. There was 1 death attributed to global cerebral ischemia due to carotid dissection after carotid bypass and chimney stent-graft insertion. There were no access-related complications. Computed tomography revealed complete exclusion of the aortic aneurysm in 4 patients, and shrinkage of the false lumen in 1 patient with aortic dissection.

Conclusions: Transapical access for TEVAR would be a potential alternative when the anatomy is unfit for routine retrograde approach. This method might have potential benefit of reducing the risk of embolism in patients with severe atherosclerotic thoracic descending aorta. However, certain safety concerns must be addressed, including maintenance of hemodynamics, wire exteriorization for navigation of the device tip, and rapid pacing during deployment.

Endovascular repair of the ascending aorta in patients at high risk for open repair

Prashanth Vallabhajosyula, MD, MS, Jean-Paul Gottret, MD, Joseph E. Bavaria, MD, Nimesh D. Desai, MD, PhD, and Wilson Y. Szeto, MD

Objective: Although endovascular repair has been widely adopted for treatment of descending thoracic aortic pathologies, its role in ascending aortic pathologies remains undefined. We reviewed our experience with endovascular repair of ascending aortic pathologies in patients facing high or prohibitive risk with open surgical treatment.

Methods: From 2007 to 2013, 6 patients (aged 16-90 years) underwent endovascular repair (pseudoaneurysm, n = 4; acute type A aortic dissection, n = 2). Their records were retrospectively reviewed.

Results: All patients had extensive comorbidities or anatomic features making an open surgical approach high risk. Three cases were done on an emergency basis (aortic dissection, n = 2; ruptured pseudoaneurysm, n = 1). Ascending aortic access was obtained through transapical (n = 4), transfemoral (n = 1), and left common carotid artery (n = 1) approaches. Cook Zenith TX2 (n = 4), Cook EVAR iliac limb (n = 1), and Amplatzer occluder (n = 1) devices were used, with 3 patients requiring more than 1 stent-graft. Stent-graft lengths ranged from 55 to 81 mm; diameters ranged from 22 to 40 mm. Technical success was achieved in 5 cases (83%); 1 patient (type A dissection) had an intraoperative endoleak not amendable to further endovascular repair. In-hospital and 30-day mortalities were zero. One patient sustained a minor stroke, which reversed completely. Stay ranged from 5 to 15 days. On follow-up, 1 patient (type A dissection) had an endoleak at 12 months. Two patients died of nonaortic causes at 6 and 27 months after endovascular repair.

Conclusions: Endovascular repair of ascending aortic pathology is feasible in patients facing high risk with open surgery, with promising early results. Technical challenges remain in adapting current endovascular technology to ascending aortic pathologies, particularly type A aortic dissection. (J Thorac Cardiovasc Surg 2015;149:S144-50)

My nightmarish and most didactic case

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5 case reports
2 papers with 6 patients

Significant Aortic Valve
in 50% of the patients

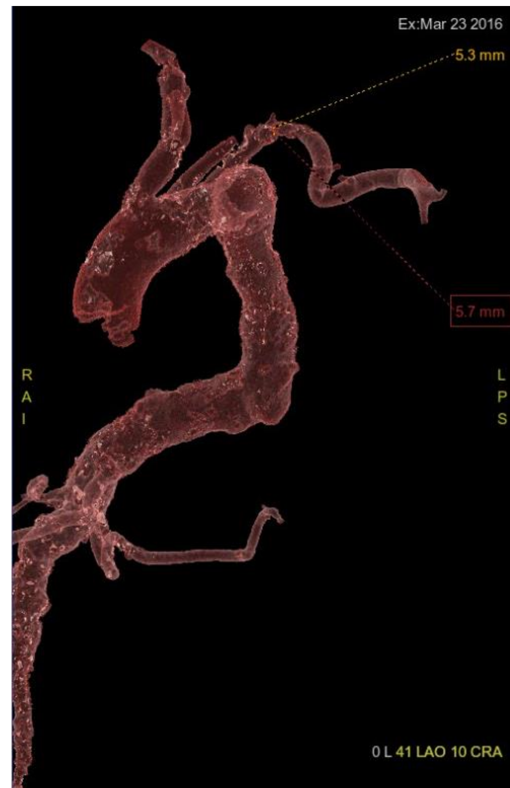
BORDEAUX
PERSPECTIVES
Vendredi 17 juin 2022
Paris Vascular Insights

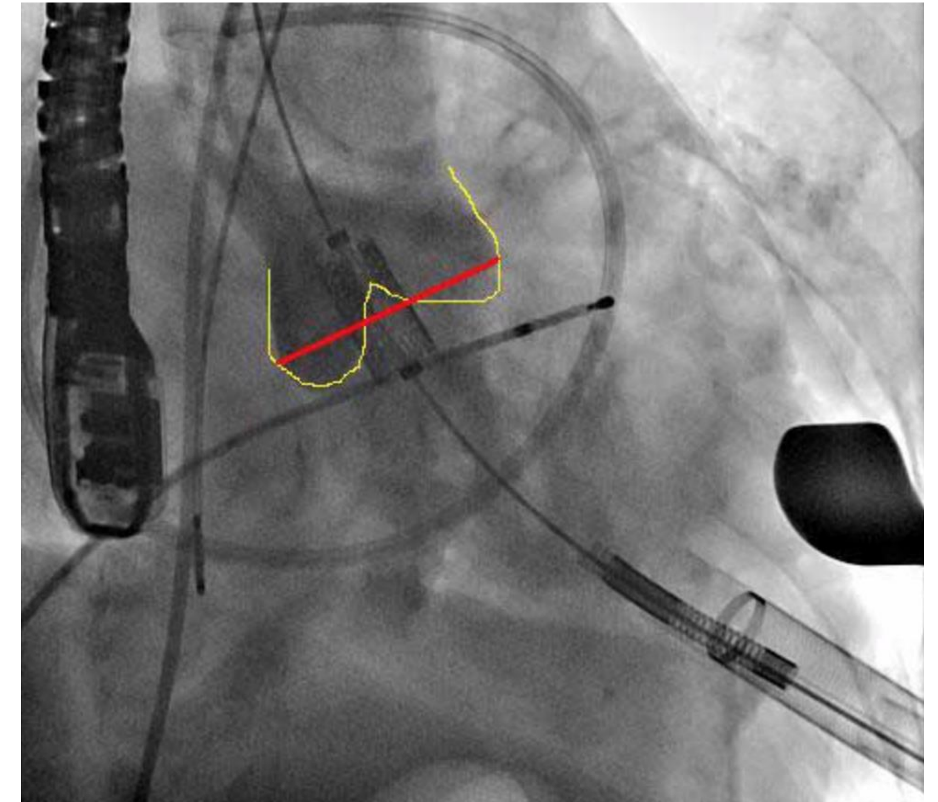
My nightmarish and most didactic case

Best option:

1. TRANSAPICAL APPROACH with rapid pacing

1. WITH A BACK UP TAVI





My nightmarish and most didactic case

Eric
MAUPAS
Cardiologist

Nicolas
LOUIS
Vascular Surgeon

My nightmarish and most didactic case

But there is always a but…………………

TAVI NOT A OPTION FOR CARDIAC SURGEON

My nightmarish and most didactic case

The team…..

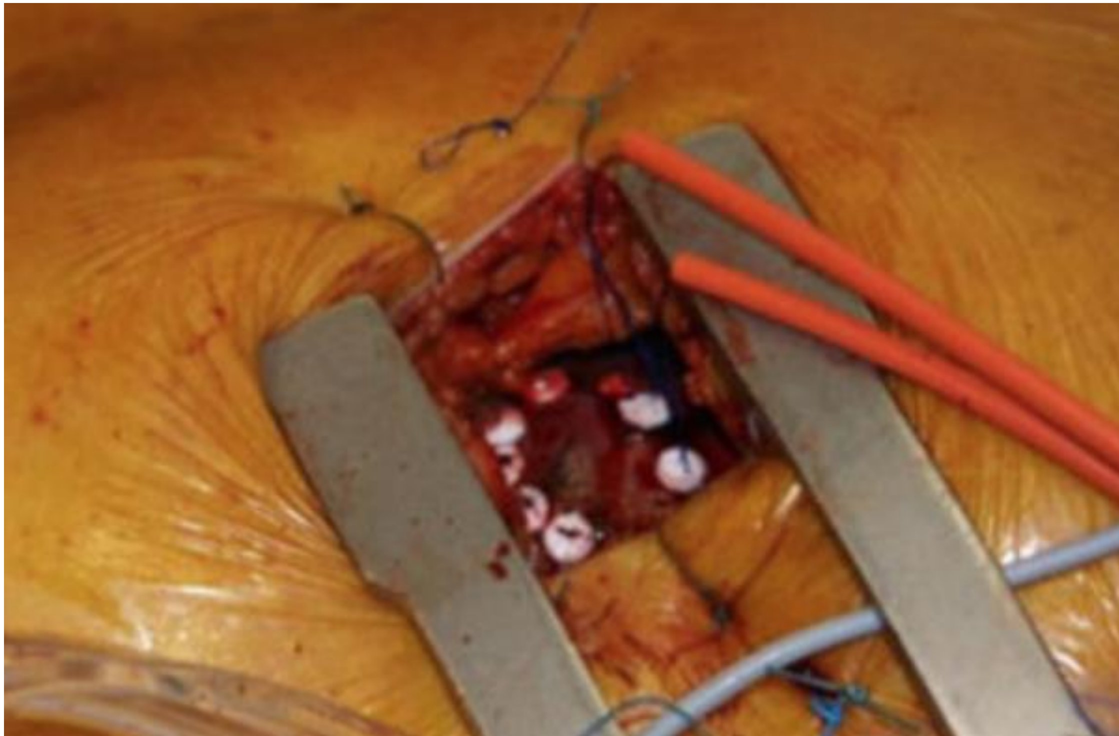
My nightmarish and most didactic case

ATTENTION !

Toute ressemblance avec une personne existant ou ayant existé n'est que pure coïncidence…

La copie, la diffusion ou encore le prêt de ce fichier est très fortement conseillé…

My nightmarish and most didactic case



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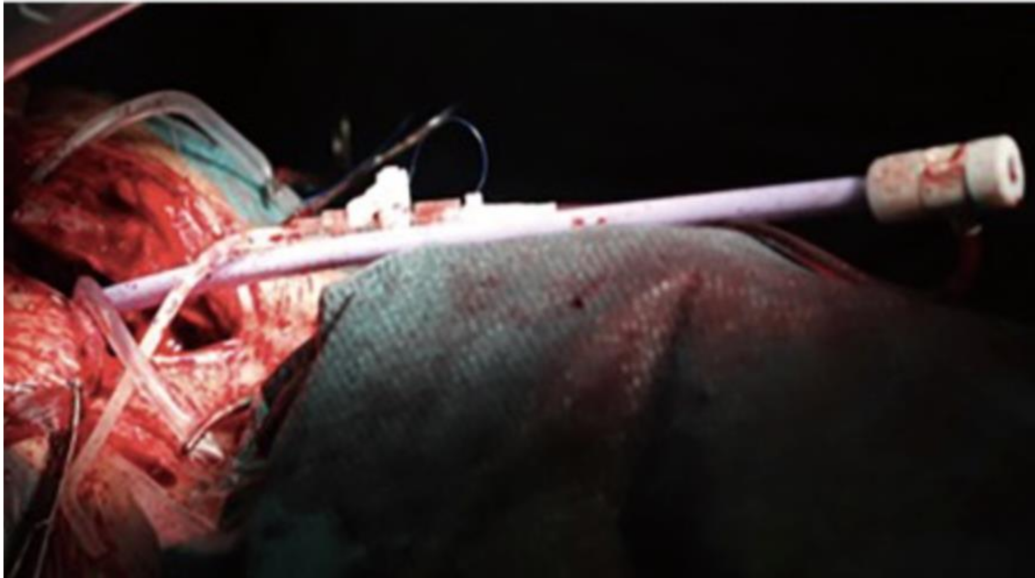
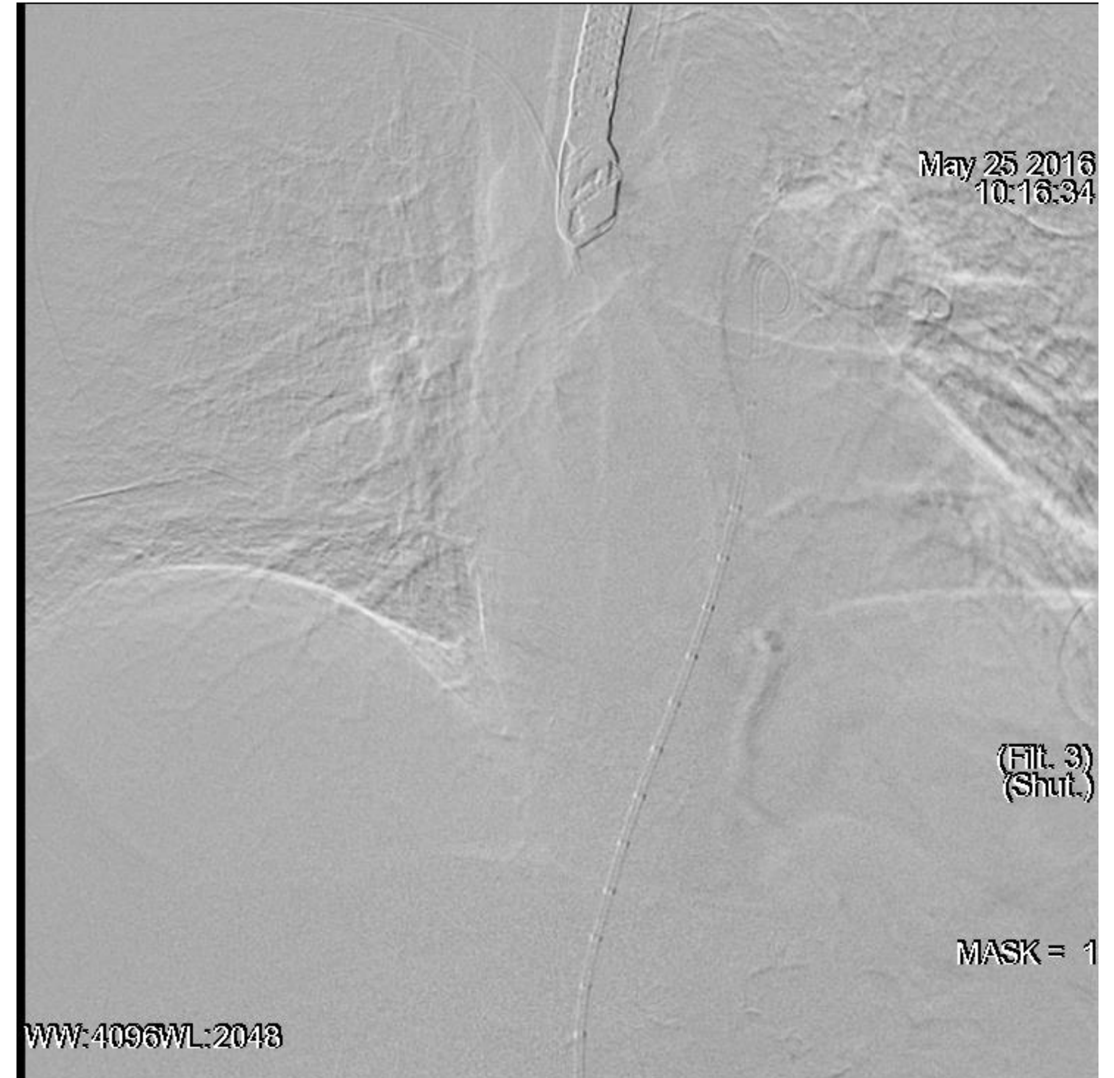
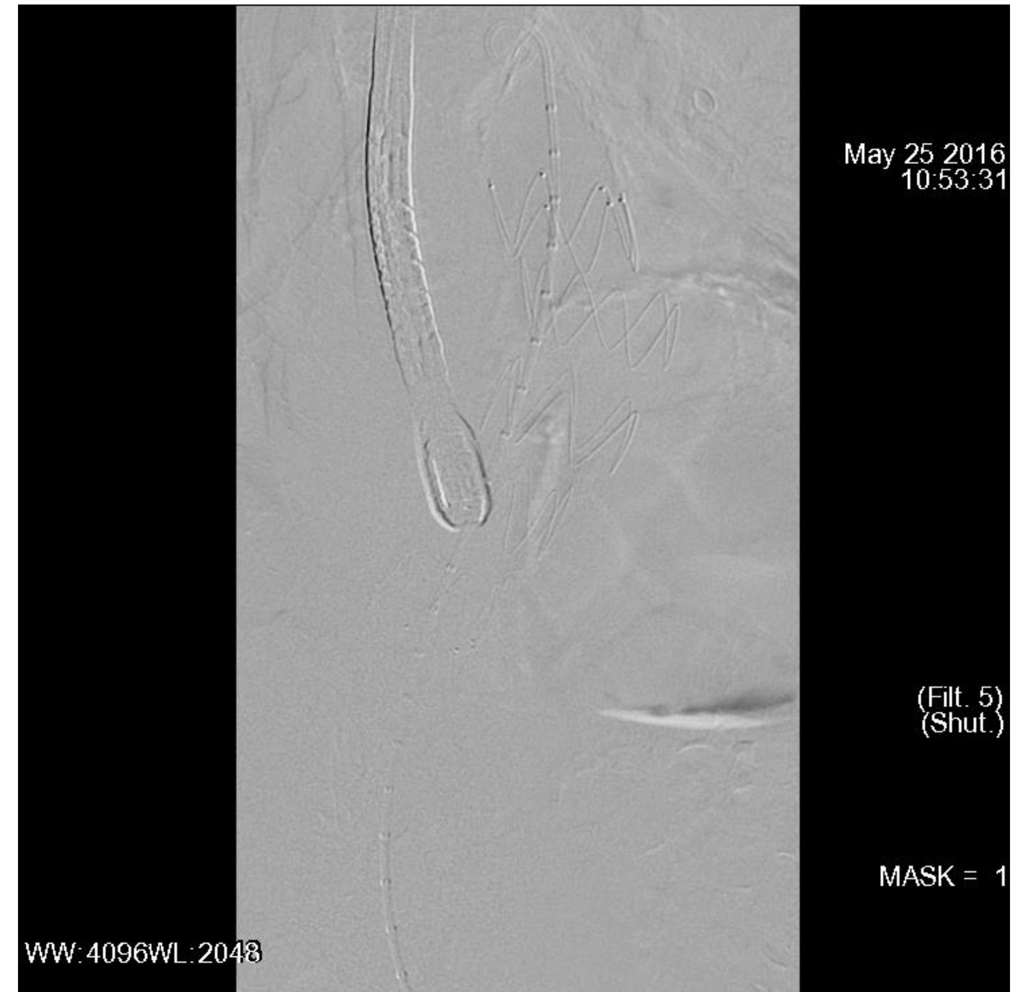




My nightmarish and most didactic case

Final control:
Type I ENDOLEAK

NO EXTENSION ?



BORDEAUX
PERSPECTIVES
Vendredi 17 juin 2022

ROUND 3:

GAME OVER

INSERT COINS
TO CONTINUE

ROUND 3

07/06/2016 à 17:50

FEVG 53%, VG 52mm
IA par prolapsus valve non coronaire, vers le septum interventrciulaire
Vena contacta 4mm, ORE 0.16cm², VR 16ml
PHT en faveur dune IA aigu
PAPS 30+10MMHG

=> Insuffisance aortique grade 2à3/4 excentré par prolpasus ou perforation valve NC
à completer par **ETO** pour améliorer la gradation de la fuite

Le 08/06/2016 à 14:28 nière modification le 08/06/2016 à 15:00	Patient en IA aigue majeure , Icardiaque globale, OAP cardiogénique, mise tout d'abord sous VNI à FiO² 100% puis IOT à FIO2 0.8. Degradation hemodynamique rapide avec misen place noradrenaline 0.5 puis 1 mg/h peu efficace; rapidement adjonction de dobutamine 10 puis 20 gamma/kg/mn . Bradycardie hypotension , MCE et adrenaline 5 mg ; Passage en TV nécessitant un CEI à 200 joules , Apres 35 mn de réanimation, gasp, tracé plat , reanimation arrêtée. DC 14H19
Le 08/06/2016 à 13:45 nière modification le 08/06/2016 à 14:44	13h45 : badycardie hypotension début réanimationav AR, pse noradrénaline + pse dobutrex + 60 mg éphédrine + 5 x 1 mg adrénaline + massage cardiaque 35 minutes Choc électrique sur TV, 14h19 heure du décès tracé imprimé
Le 08/06/2016 à 13:40 nière modification le 08/06/2016 à 13:42	mis sous noradré 4mg ds 40cc V2 cf dr pibres
Le 08/06/2016 à 12:52 nière modification le 08/06/2016 à 13:17	Détresse respiratoire nécessitante VNI et diurétiques, encombrement majeur, épuisement-INTUBATION-aspirationes trachéales sales et abondantes ETT IAo 3/4, dysf. VG (40% de visu) et VD ECHO PL.: épanchement pl. bilat. avec dépôts de fibrine/septalisation+condensation pulmonaire et bronchogramme+ (à dt. 500-1000 ml et à gche 500-700 ml cca.) Admission en réa PDP, 2xHC Départ ATB pour pneumopathie tardive avec FDR+ Etat d'aggravation (défaillance multi-viscérale) signalé à sa fille par appel téléphonique à 13h15

12 days post operative
Massive Aortic insufficiency grade 4
Without therapeutic option…..

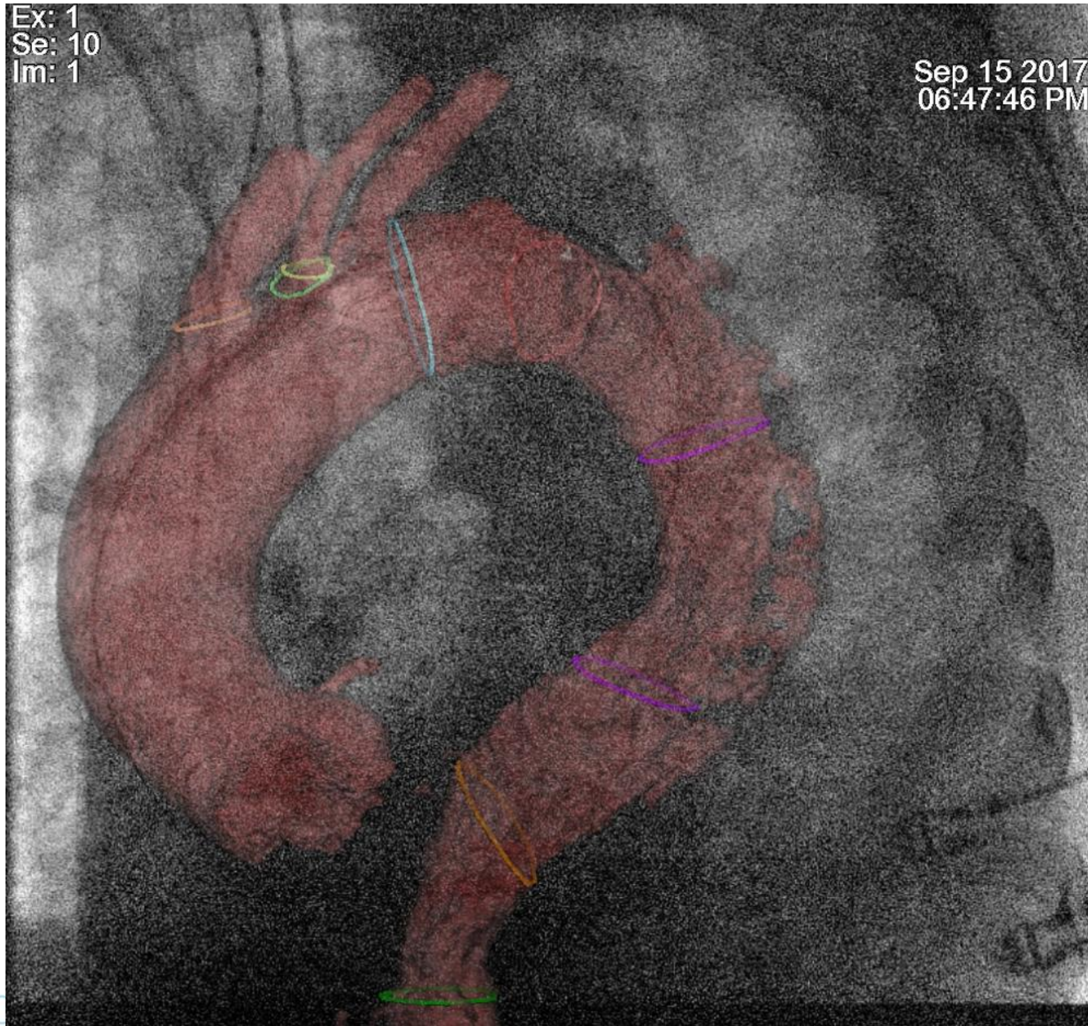
Take home message

1. Access is the major problem for endovascular treatment

2. Multi-disciplinary team is always the best option

3. Anticipated the endovascular material, extension, cuff….

4. Fusion imaging is very useful when you are in the dark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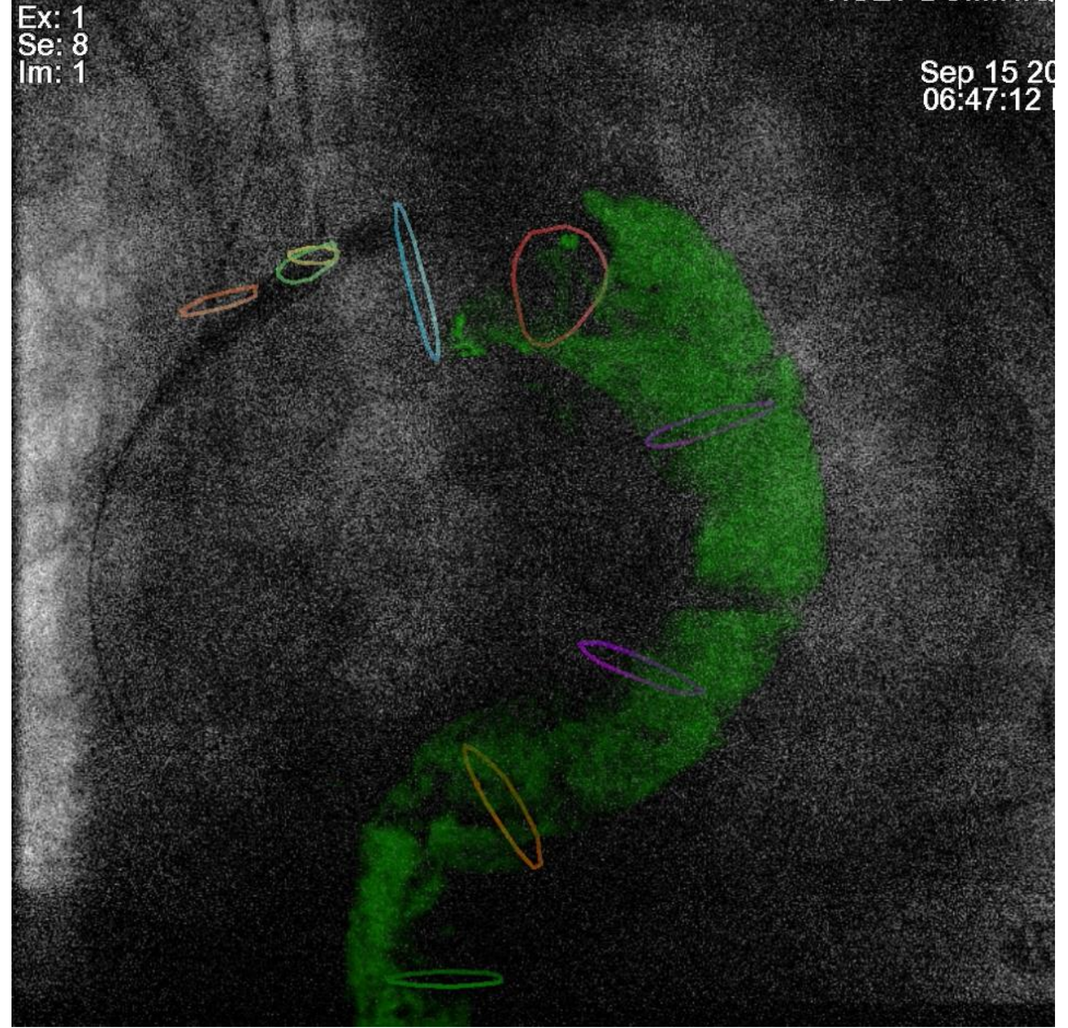
Ex: 1
Se: 8
Im: 1
Sep 15 20
06:47:12

NEVER GIVE UP