

Il n'est toujours pas raisonnable en 2024 de
traiter des sténoses veineuses ou un retard de
maturation sans rayons X. (Et ce ne le sera jamais....!)

Dr Marc-Antoine ARNOULD

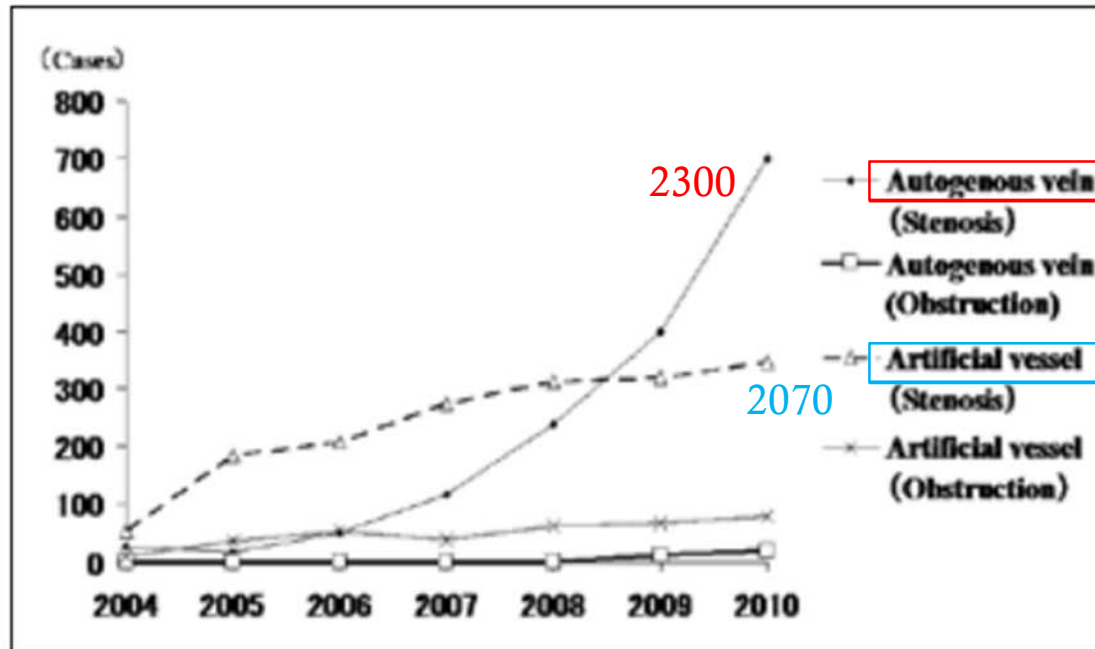
Institut cardiovasculaire Saint Gatien-NCT +. Tours



Conflits d'intérêts

◆ Aucun

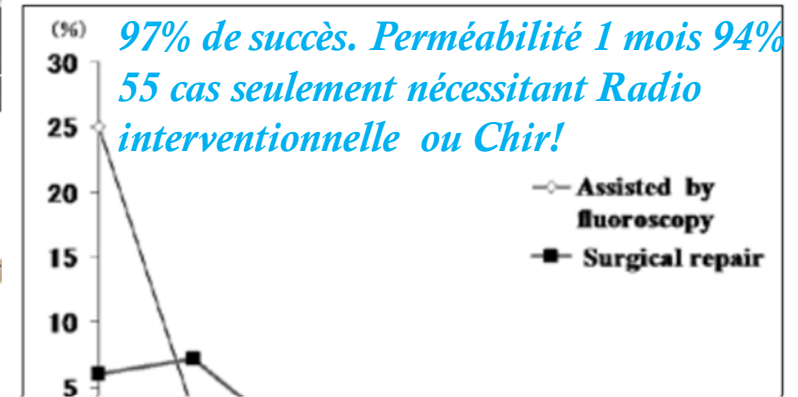
4370 dilatations sur 1011 patients



in our hospital for arteriovenous fistula malfunction in 4869 cases in assessed on the basis of early results. In cases where vascular interven ducted under ultrasound guidance as first option, with fluoroscopy and *Methods:* The ultrasound apparatus used was primarily the 11 MHz lin vian and brachiocephalic veins, the microconvex-type probe was used to obstruction cases, ultrasound-guided PTA was performed after superficial *Results:* In stenosis cases, early success (technical and clinical) was obt cases, early success was obtained in 443 cases and 91.9% for obstructio radiography was required in 55 cases, and surgical reconstruction was 1 in 12 of 4869 cases (0.2%).

Conclusions: Ultrasound-guided PTA for arteriovenous fistula malfunc guided PTA, and enables the use of safe and rapid intervention techni

Key words: Endovascular treatment, Ultrasound-guided PTA, Vascular a



Pas plus long. Pas plus de complications (0,2%)!



Fig. 3 - Change in the time required. The required time has shortened each year in both stenosis and obstruction cases.

Et 10 ans plus tard? Les gold standard à Wuhan!

Factors affecting the primary patency of native arteriovenous fistulas after ultrasound-guided percutaneous transluminal angioplasty

Xue Xing, Qing Li, Yi Yang, Yanan Wang, Xiaona Zhan, Cailin Zhang, Gang Xu* and Fan He* 

Department of Nephrology, Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China

2023

ABSTRACT

Objective: By analyzing the clinical history, laboratory test indexes, and intraoperative ultrasound

imaging data (UG-PTA) for the of autogenous i were investigate

Methods: A tot from June 2017 were included i and laboratory cumulative prim was performed predictors of pc

Results: The e ninety-nine pati (48.7%). The m Postintervention respectively. A level of parathy were identified

Conclusions: U AVF. Previously primary patency rate.

ARTICLE HISTORY

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ultrasonography, ultrasound-guided PTA (UG-PTA) has become the mainstay treatment for VA dysfunction [6]. UG-PTA can visualize the vascular structures without contrast medium and X-ray irradiation. Also, ultrasound is mobile and compact and can be operated in an office setting [7].

Je dois découvrir cette alternative si prometteuse!

- ◆ Je vais aller voir Antoine travailler dans son centre, et j'espère qu'il va accepter de me former!
- ◆ C'est très impoli de venir les mains vides...

◆ → je vais amener des patients!

Où trouver les patients des études...?

Factors affecting the primary patency of native arteriovenous fistulas after ultrasound-guided percutaneous transluminal angioplasty

Xue Xing, Qing Li, Yi Yang, Yanan Wang, Xiaona Zhan, Cailin Zhang, Gang Xu* and Fan He* 

Department of Nephrology, Tongji Medical College, Huashan Hospital, Science and Technology, Wuhan, China

199 patients en 2 ans

ABSTRACT

Objective: By analyzing the clinical history, laboratory test indexes, and intraoperative ultrasound imaging data of patients receiving ultrasound-guided percutaneous transluminal angioplasty (UG-PTA) for the first time, the application value of UG-PTA in the treatment of peripheral stenosis of autogenous arteriovenous fistula (AVF) and the related factors affecting postoperative patency were investigated.

Methods: A total of 381 patients with dysfunction of radio-cephalic AVF were treated with UG-PTA from June 2017 to September 2019. According to the inclusion and exclusion criteria, 199 patients were included in this study. Baseline characteristics of patients, including demographic, clinical, and laboratory data, were collected. Kaplan-Meier's survival curve was used to demonstrate the cumulative primary patency rate of UG-PTA. Univariate and multivariate Cox regression analysis was performed on clinical, anatomic, biochemical, and medication variables to identify the

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KEYWORDS

Arteriovenous fistula;
ultrasound; percutaneous
transluminal angioplasty;
peripheral stenosis;
primary patency

technical success rate of UG-PTA was 98.4% (375/381), with an average age of 52.9 years.

were identified as independent negative predictors of primary patency of UG-PTA.

Conclusions: UG-PTA is a safe and effective method for the treatment of peripheral stenosis of AVF. Previously failed AVF and elevated parathyroid hormone levels are associated with lower primary patency rate.

X-ray-guided and ultrasound-guided percutaneous transluminal angioplasty to treat arteriovenous fistula dysfunction in hemodialysis patients: A retrospective controlled study

Zhen Gan¹, Liang Zhou², Xian Wu³, Chun-Feng Gu³,
Xu He⁴ and Jin-He Guo¹ 

219 patients en 3 ans

To compare the safety and efficacy of X-ray-guided and ultrasound-guided percutaneous transluminal angioplasty in treating arteriovenous fistula dysfunction.

Results and methods: Data for 219 patients with arteriovenous fistula dysfunction between January 2016 and December 2018 were retrospectively analyzed. The primary endpoints were technical success, clinical success, and primary patency rates. The secondary endpoints were complications and secondary patency rates. Procedure outcomes and both endpoints were evaluated by propensity score analysis.

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Pourquoi si peu de patients inclus? (700/an dans notre centre)...???
Comment sont ils aussi performants avec si peu de patients...



→ Nombreux critères d'exclusion dans les études...

plasty had been performed in dialysis access. The exclusion criteria were: More than 30% stenosis in the central vein of the dialysis access; Dialysis access had been treated by stent implantation, surgical repair, or reconstruction before; Immature AVF caused by arteriovenous anastomosis stenosis; Patients with severe concomitant

VOILA POURQUOI!!!

Les sténoses centrales?

Ultrasound-guided percutaneous transluminal angioplasty for the treatment of cephalic arch stenosis in hemodialysis arteriovenous fistulas

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Abstract

Objectives: Cephalic arch stenosis (CAS) is a common cause that leads to the failure of hemodialysis arteriovenous fistulas (AVFs). Patients with CAS are primarily treated with fluoroscopy-guided angioplasty. Here, seven patients with de novo cephalic arch stenosis who underwent office-based UG-PTA were.

Methods: Retrospectively analyzed the total of 321 patients with AVF dysfunction in the nephrology department between July 2017 and October 2018. Among them, seven patients with de novo CAS were included in this study and followed up every 2 months for more than a year.

Results: No significant complications were seen from the operations, and the primary patency rates at 6 and 12 months were found to be 100% and 42.8%, respectively.

Conclusions: The office-based UG-PTA is probably safe, effective, and feasible in the management of CAS and can be used as a substitute for fluoroscopy-guided PTA.



However, not all patients with CAS in our institution underwent UG-PTA. To figure out if patients with CAS had central vein stenosis (CVS), CTV was scheduled. Patients with CVS underwent PTA under fluoroscopic guidance. Additionally, patients who had PTA due to CAS before had to undergo fluoroscopy-guided angioplasty because the

Les sténoses de la crosse céphalique?



Ultrasound-guided percutaneous transluminal angioplasty for the treatment of ce arteriovenous fistul

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Funding Information

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However, not all patients with CAS in our institution underwent UG-PTA. To figure out if patients with CAS had central vein stenosis (CVS), CTV was scheduled. Patients with CVS underwent PTA under fluoroscopic guidance. Additionally, patients who had PTA due to CAS before had to undergo fluoroscopy-guided angioplasty because the cephalic arch would become tortuous and/or have multi-stenotic lesions. Thus, performing UG-PTA was considered more complicated.

patency rates at 6 and 12 months were found to be 100% and 42.8%, respectively.

Conclusions: The office-based UG-PTA is probably safe, effective, and feasible in the management of CAS and can be used as a substitute for fluoroscopy-guided PTA.

Les sténoses complexes?

X-ray-guided and ultrasound-guided percutaneous transluminal angioplasty to treat arteriovenous fistula dysfunction in hemodialysis patients: A retrospective controlled study

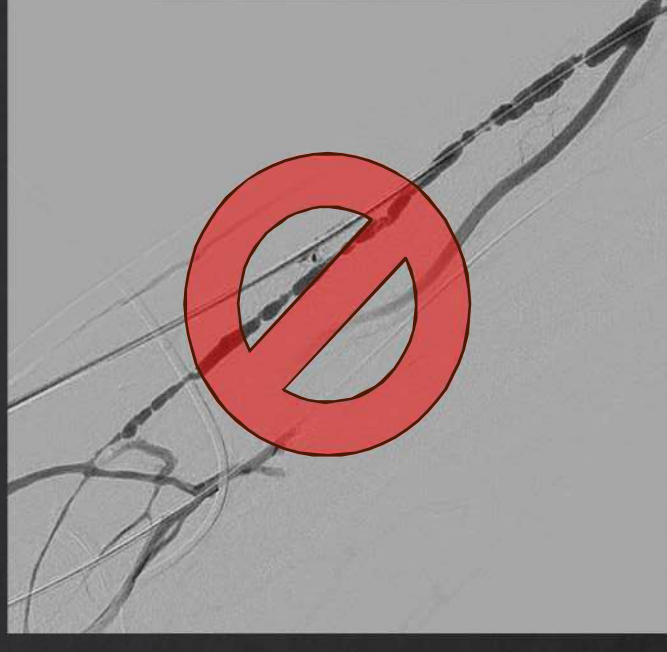
Zhen Gan¹, Liang Zhou², Xian Wu³, Chun-Feng Gu³, Xu He⁴ and Jin-He Guo¹ 

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Abstract

Purpose: To compare the safety and efficacy of X-ray-guided and ultrasound-guided percutaneous transluminal angioplasty in treating arteriovenous fistula dysfunction.

Materials and methods: Data for 219 patients with arteriovenous fistula dysfunction between January 2016 and December 2018 were retrospectively analyzed. The primary endpoints were technical success, clinical success, and primary patency rates. The secondary endpoints were complications and secondary patency rates. Procedure outcomes and both endpoints were evaluated by propensity score analysis.



X-ray revealed the overall images. Moreover, DSA devices could display the morphology of dialysis access through the multi-angle projection and roadmap functions, which was helpful for complicated lesions. Therefore, the XG method was better when treating complicated cases, such as giant venous aneurysms, vein distortion, and outflow vein occlusion. Previous studies showed that the success rate with UG PTA was lower than that with XG PTA when treating these rare cases.¹⁰ In our study, the number of complicated cases was limited. Although XG PTA showed higher recanalization rate than UG PTA for occlusive lesions, the difference had no significant difference.

As the XG and UG PTA may deliver comparable safety



Les sténoses complexes?

Ultrasound guided interventional procedures on arteriovenous fistulae

Marcello Napoli¹ , Giuseppe Bacchini², Luisa Scarpati²,
Giuliana Loizzo³  and Anna Zito¹ 

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Abstract
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KDO

88% for post-anastomotic ones. The failures are related to the difficulty in negotiating the stenosis. Of 12 failures, six were referred to the FG, six to the surgical treatment. In some complex cases, characterized by the presence of multiple collateral vessels, the combined use of UG and FG permitted us to successfully complete the procedure.

Et si le « truc » d'Antoine c'était les stents?

Ultrasound guided interventional procedures on arteriovenous fistulae

Marcello Napoli¹ , Giuseppe Bacchini², Luisa Scarpati²,
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Abstract

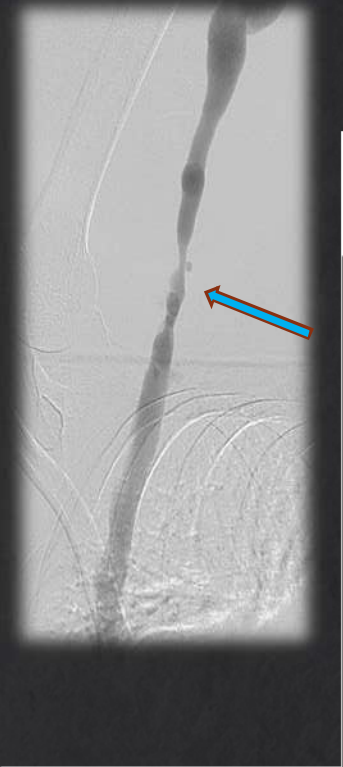
Autogenous (AVF) and prosthetic (AVG) arteriovenous fistulas (AVF) are preferred to their improved patency, reduced cost. In an effort to maximize the number of primary patency, several new techniques of indwelling catheters, several new techniques designed to optimize access care.

This approach includes: (a) Primary Intraoperative small-sized or altered by pre-existing lesions; stenosis, performed under ultrasonographic (US) guidance. We report the experience of two Centers in the adoption of these techniques may avail to KDOQI and, thereby, expand the duration and

the use of fluoroscopy seems to be preferred in the case of stenting. In the experience of both Lecce and Wakabayashi et al.,⁷ most of the stents were positioned thanks to fluoroscopic aid. The US guide should be preferred in the case of venous stenoses in which it is easy to place the angioplasty balloon in the site of the stenosis or in case of reported allergy to the contrast medium.

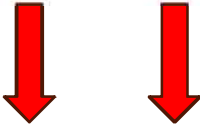
Reste les lésions simples sur le retour veineux?

X-ray-guided and ultrasound-guided percutaneous transluminal angioplasty to treat arteriovenous fistula dysfunction in hemodialysis patients: A retrospective controlled study



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SAGE

Characteristics	Group XG (n=73)	Group UG (n=73)	p Value
Zh			
Xi			
Ab			
Pu			
ang			
Ma			
De			
pri			
anc			
Lesion feature			
Single	36 (49.3)	32 (43.8)	0.281
Multiple	29 (39.7)	37 (50.7)	
Occusive	8 (11.0)	4 (5.5)	
AVF lesion location			
Anastomosis	14 (41.2)	15 (44.1)	
Outflow vein	27 (79.4)	30 (88.2)	
Cephalic vein arch	4 (11.8)	5 (14.7)	
AVG lesion location			
Graft vein anastomosis	28 (71.8)	30 (76.9)	
Outflow vein	17 (43.5)	21 (53.8)	
Puncture site	3 (7.7)	8 (20.5)	
Artery graft anastomosis	7 (17.9)	3 (7.7)	
Balloon pressure (atm)	21.2 ± 1.7	21.5 ± 2.5	0.564
Reference diameter (mm)	5.8 ± 1.0	5.9 ± 0.7	0.437

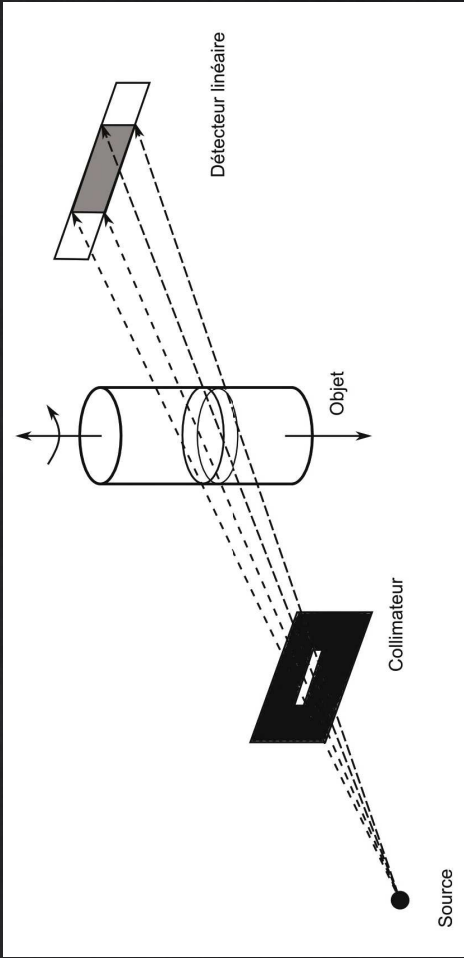
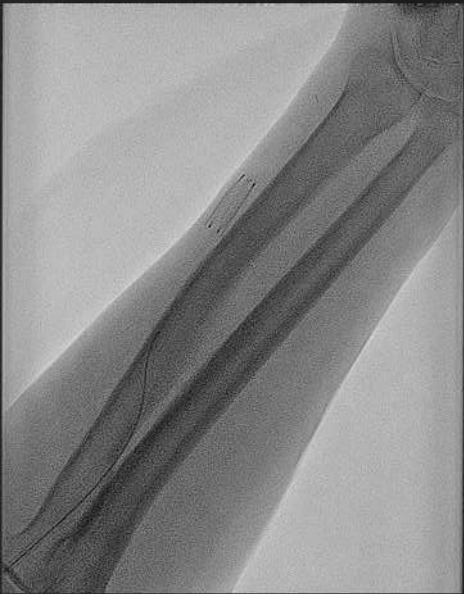
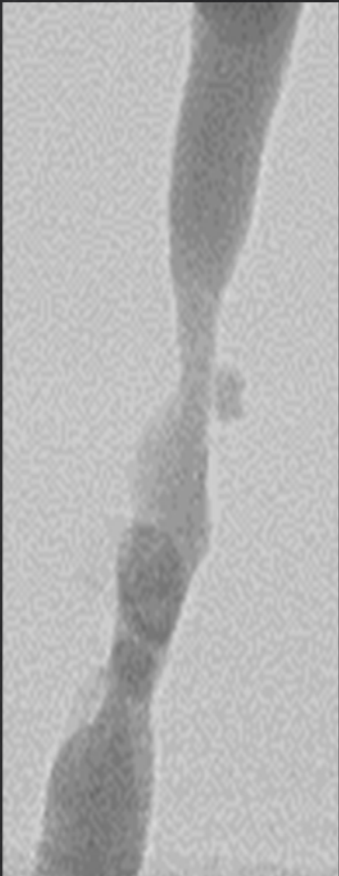


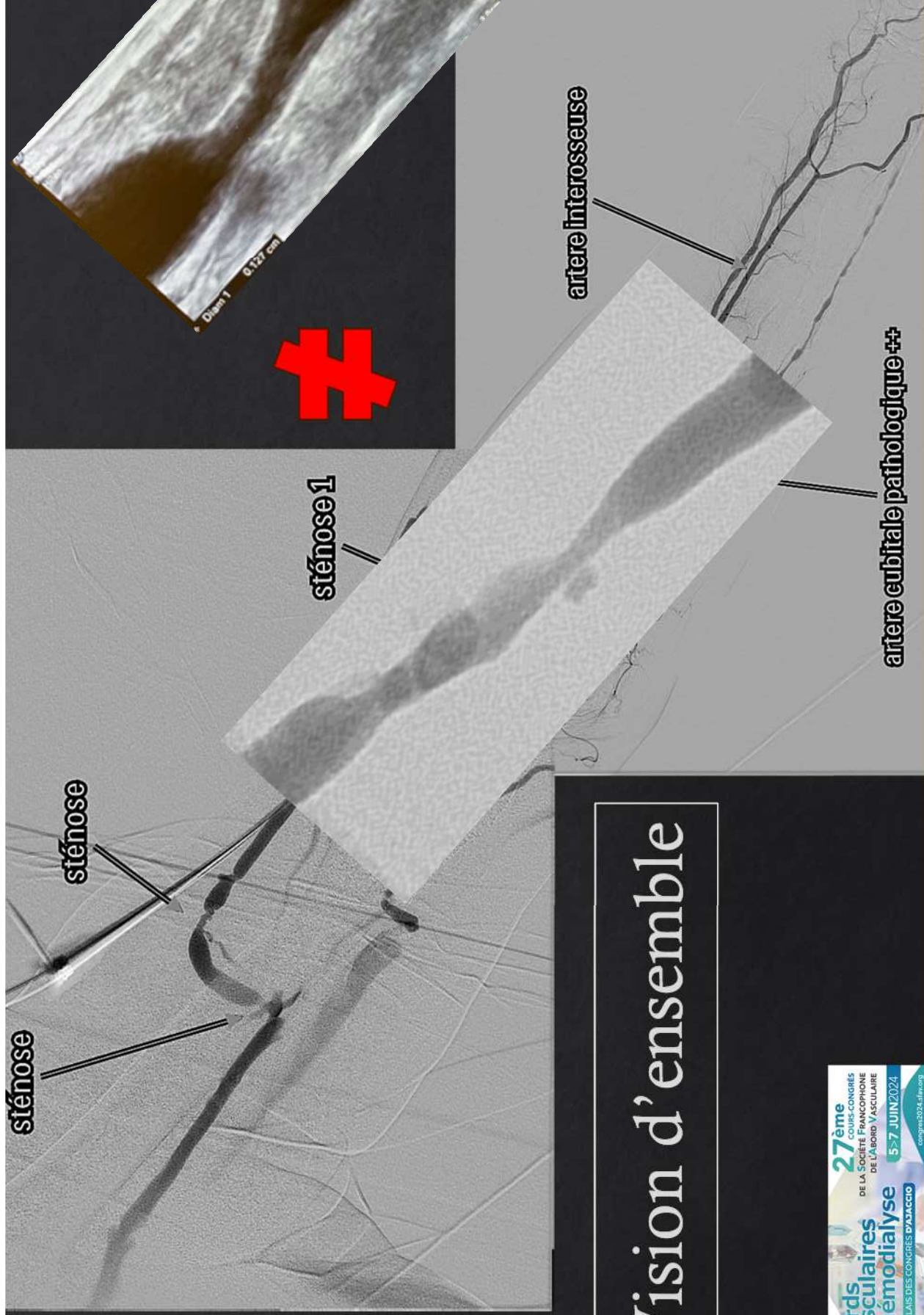
5-7 JUN 2024
PALAIS DES CONGRES DALACCO
pour hemodialyse
congres2024@wong

De nombreuses limites avec l'échographie?

- ◇ Pas de vision d'ensemble
 - ◇ Stratégie
 - ◇ Lésion longue?
- ◇ Franchissement des lésions?
- ◇ Contrôle du matériel en dehors du champ d'exploration?
- ◇ Si besoin de mettre en place un stent (longueur parfois approximative? Peu stable au largage)
- ◇ Gestion de la vraie complication...

Vision d'ensemble





Vision d'ensemble

Anatomie complexe

PRONATION

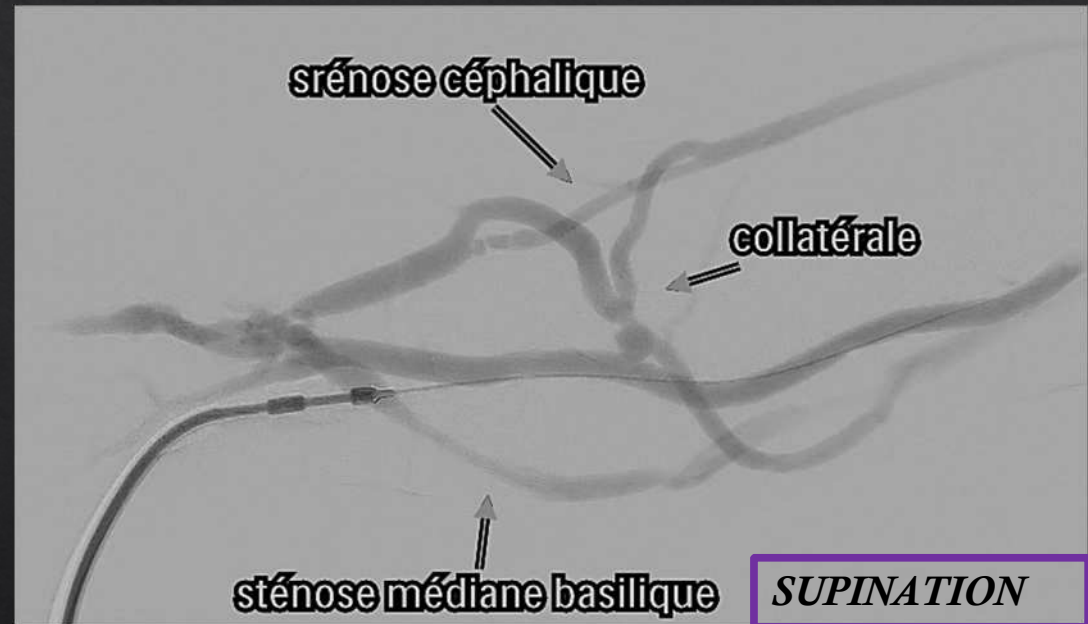
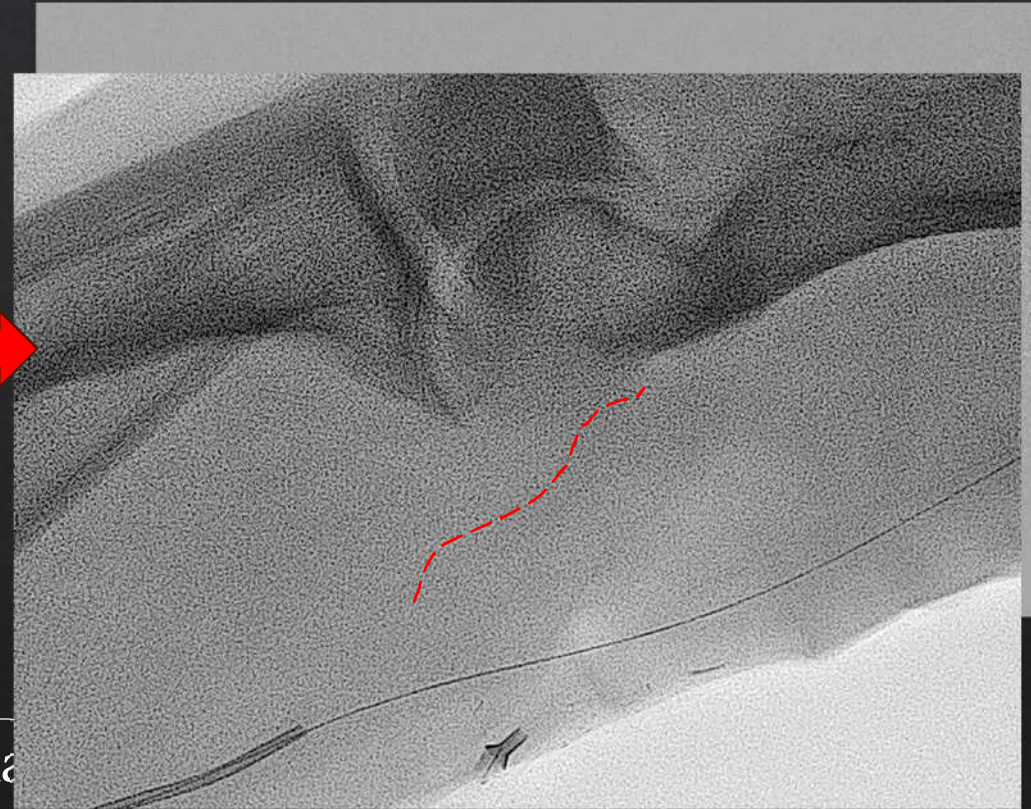
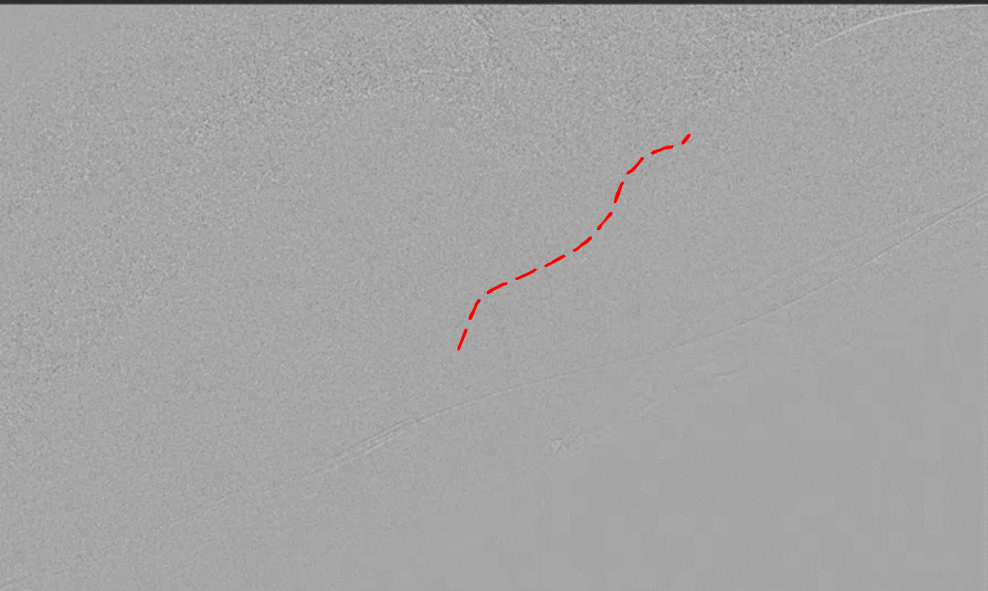
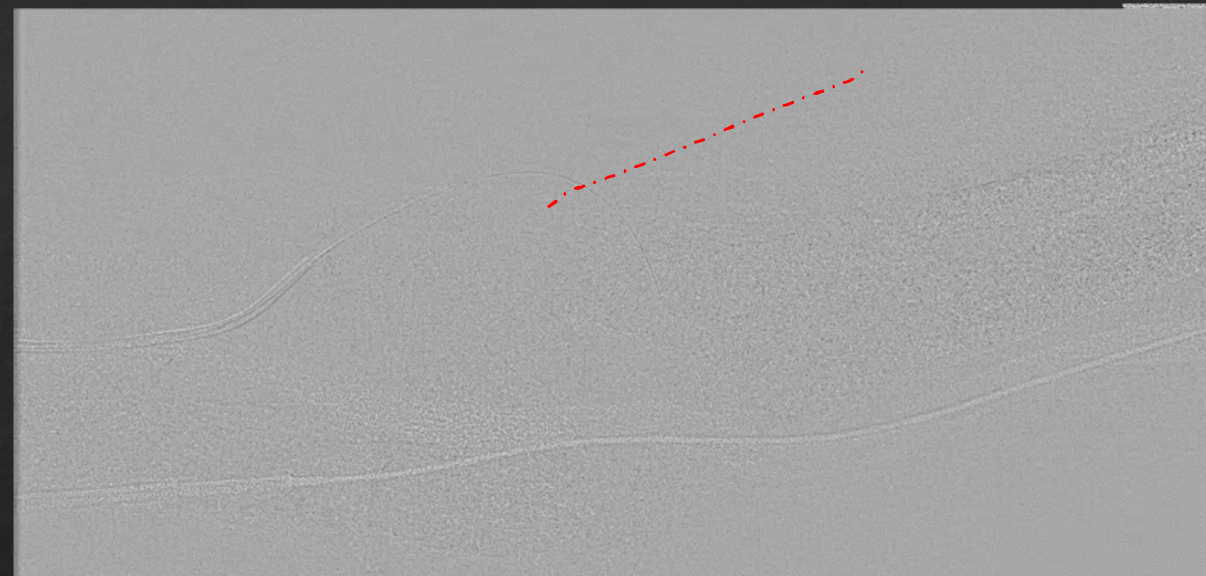


Image de référence. Changement incidence. Microguide/ cathéter



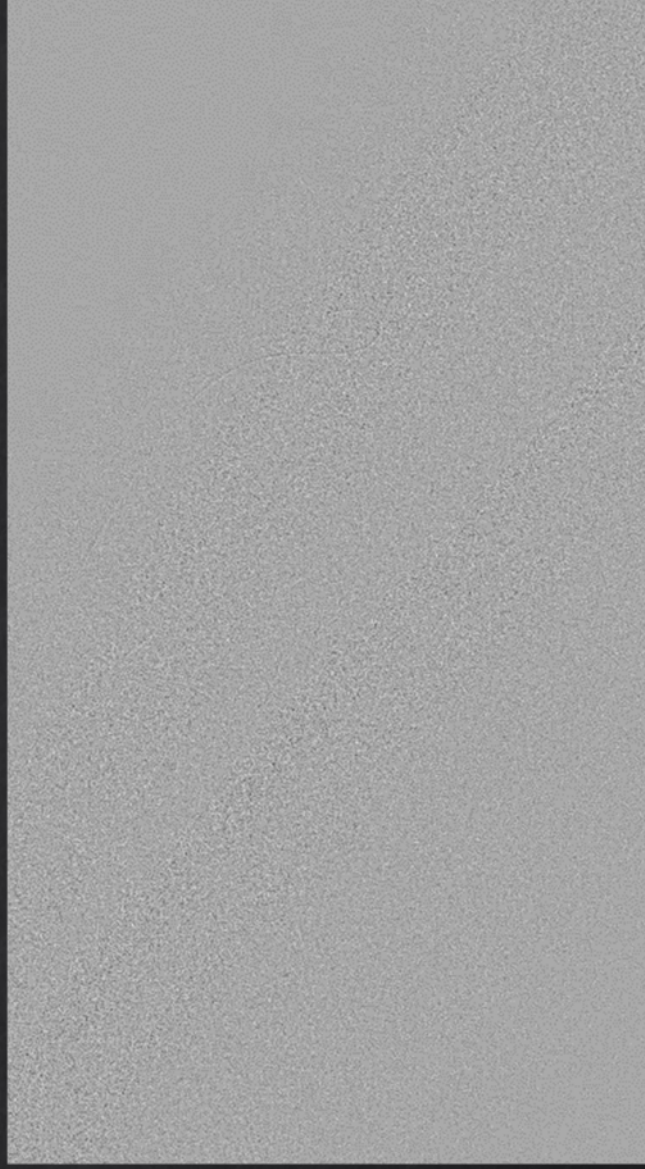
Supina
→ Nous sommes en direction de la médiane
basilique



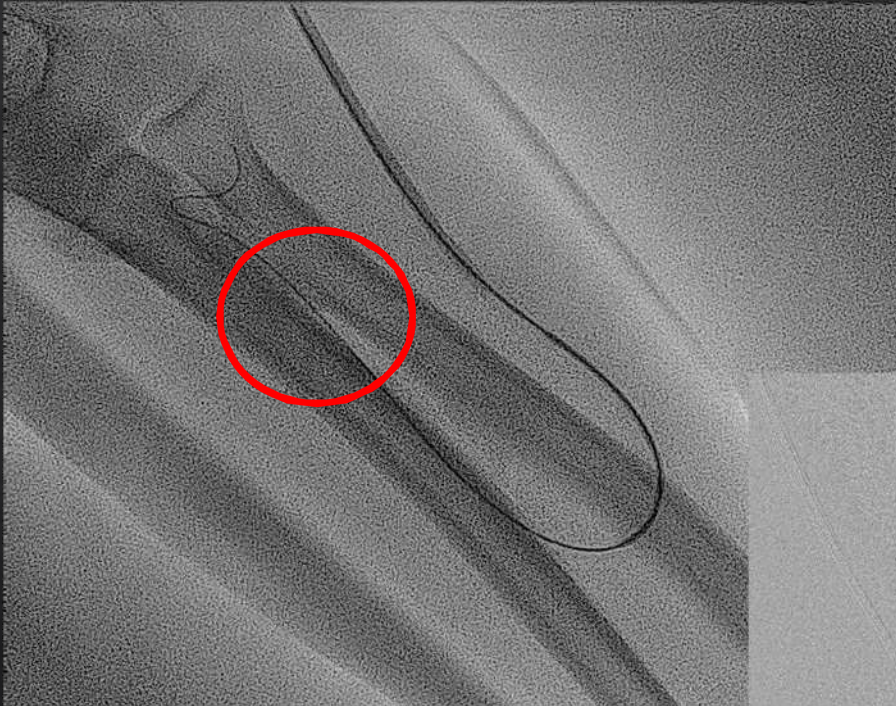
PRE DILAT

Nouveau contrôle
→ Nous sommes d

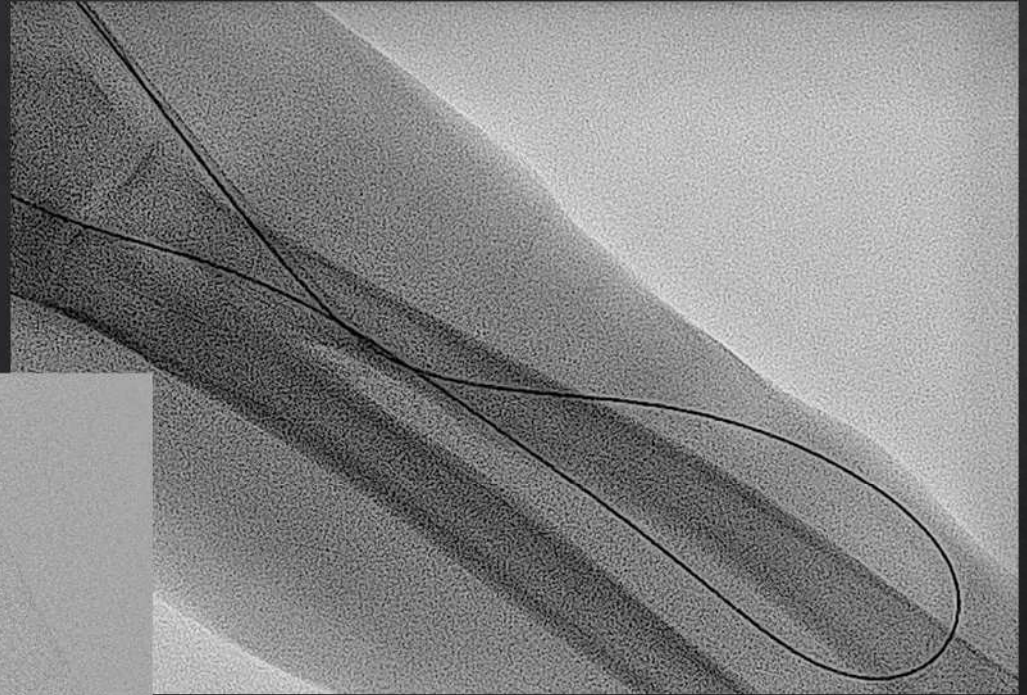
Franchissement des lésions complexes: C'est
l'extrémité du guide qu'il faut voir!



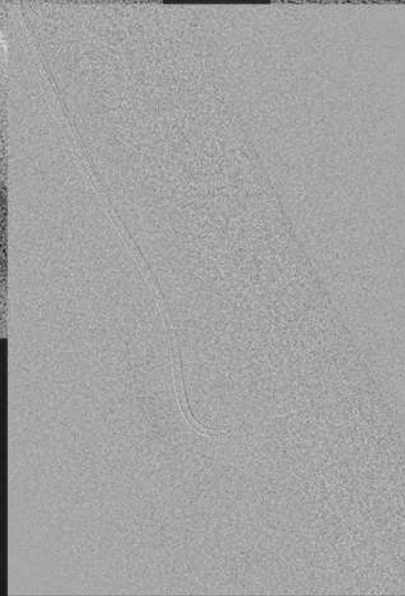
Le piège peut se trouver très à distance de la zone d'intérêt...



Guide dans branche artérielle



Guide dans collatérale veineuse

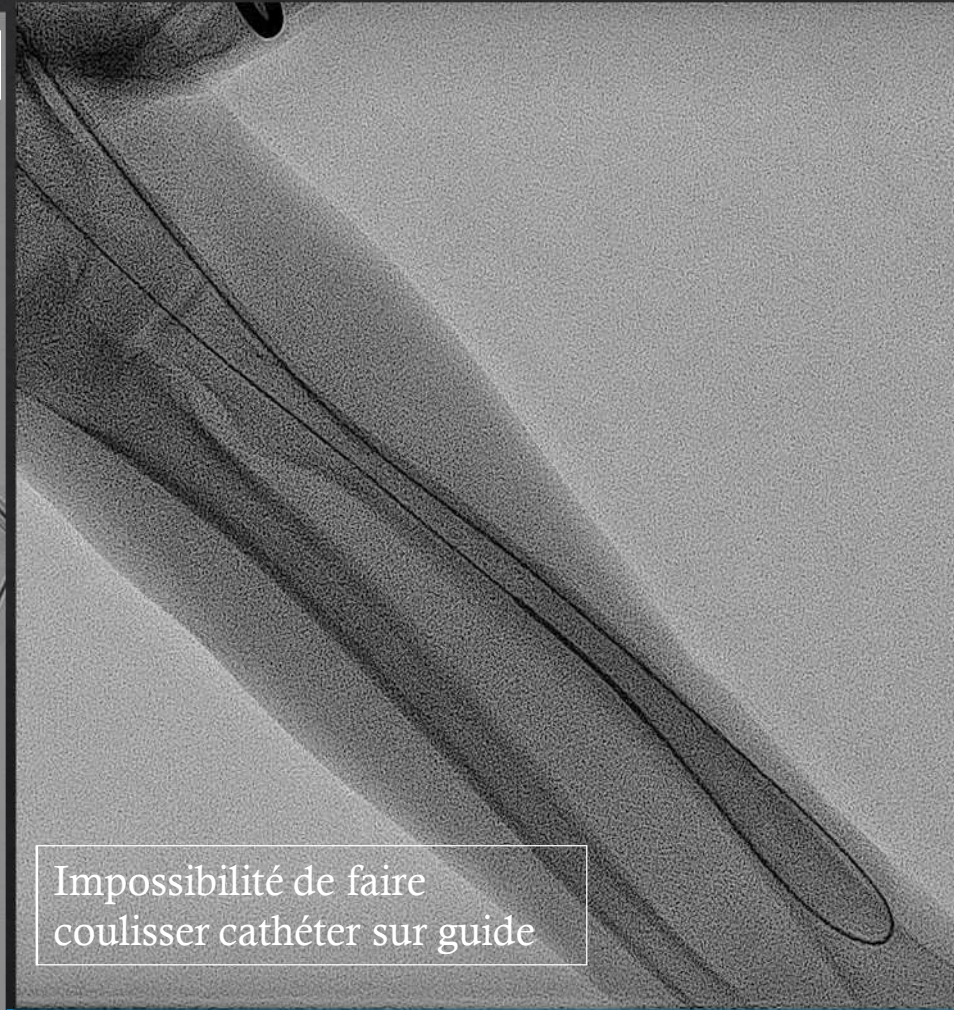


Le piège peut venir du matériel

Guide abimé



Impossibilité de faire
coulisser cathéter sur guide



Sonde plicaturée



Le piège peut être à distance...

sténose

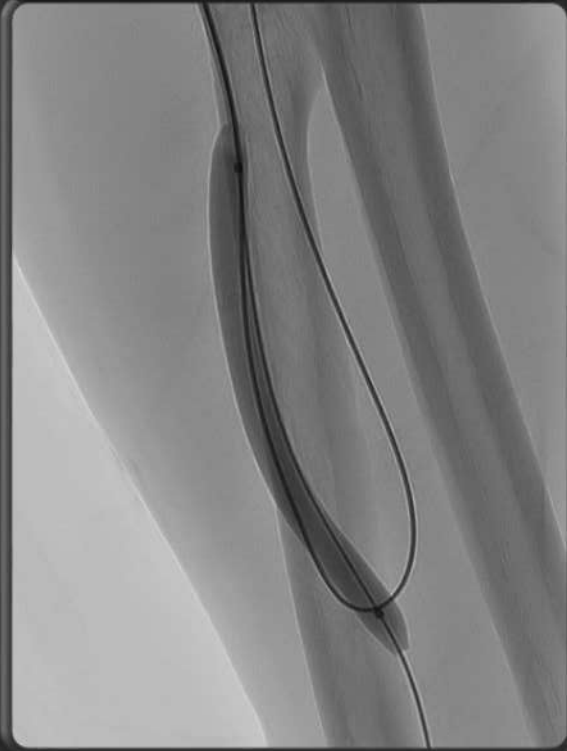


sténose



spasme





Des points positifs pour l'échoguidage...?

- ◆ S'affranchir du produit de contraste / Néphrotoxicité
- ◆ Eviter l'irradiation
- ◆ Pour s'affranchir d'un équipement lourd et démocratiser la technique...

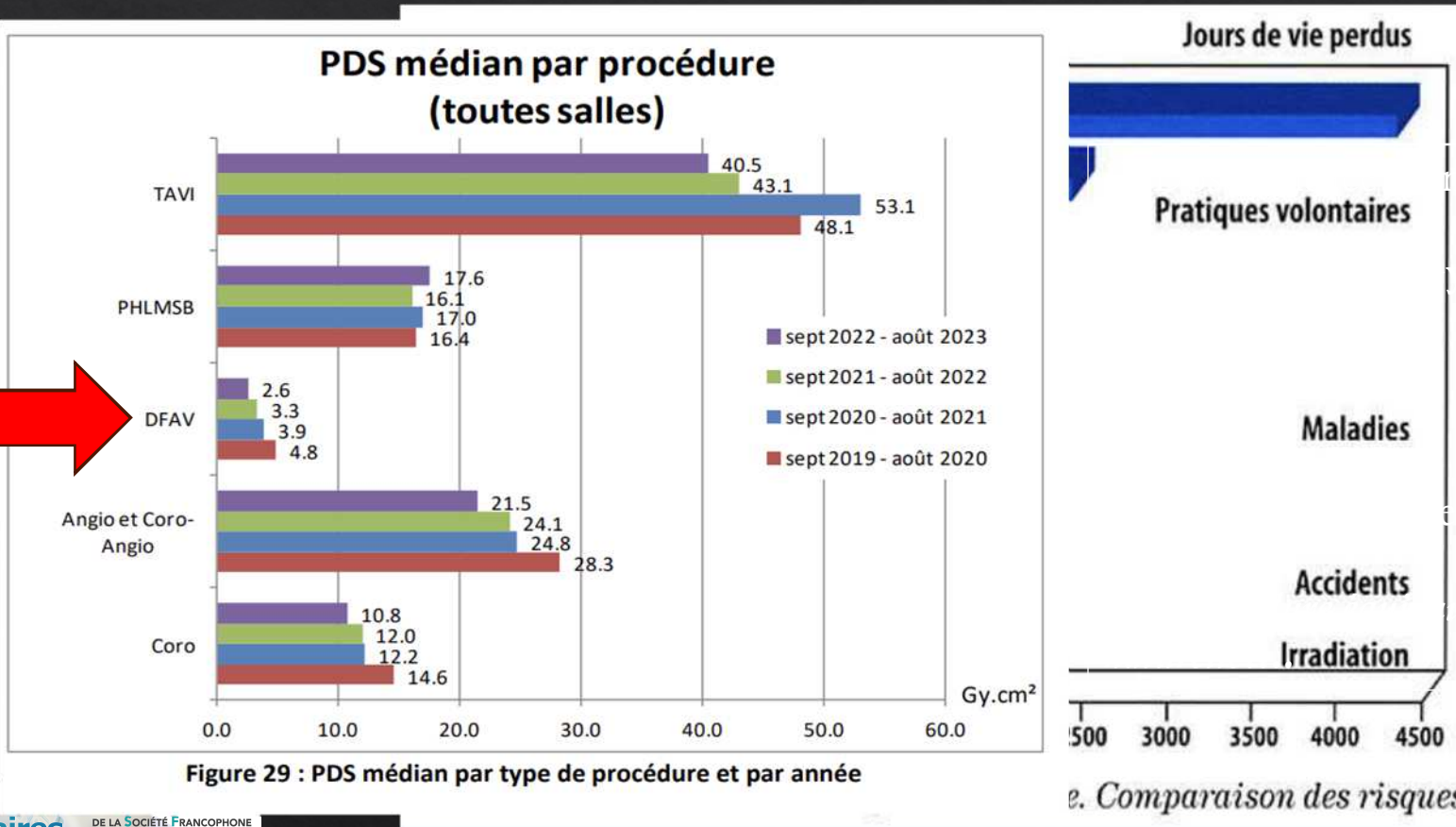
L'iode?

- ◆ Faux problème
- ◆ Les patients sont par définition dans une filière de dialyse ou pré dialyse
- ◆ Contraste dilué si besoin
- ◆ L'allergie vraie à l'iode est rarissime et n'est jamais un problème pour les autres examens injectés en cas de besoin... (scanner/ coronarographie...)





L'irradiation des patients en centre



munication)

cm²)

annuelle en France 2 msv)

à 6 semaines d'exposition

Les ressources humaines...

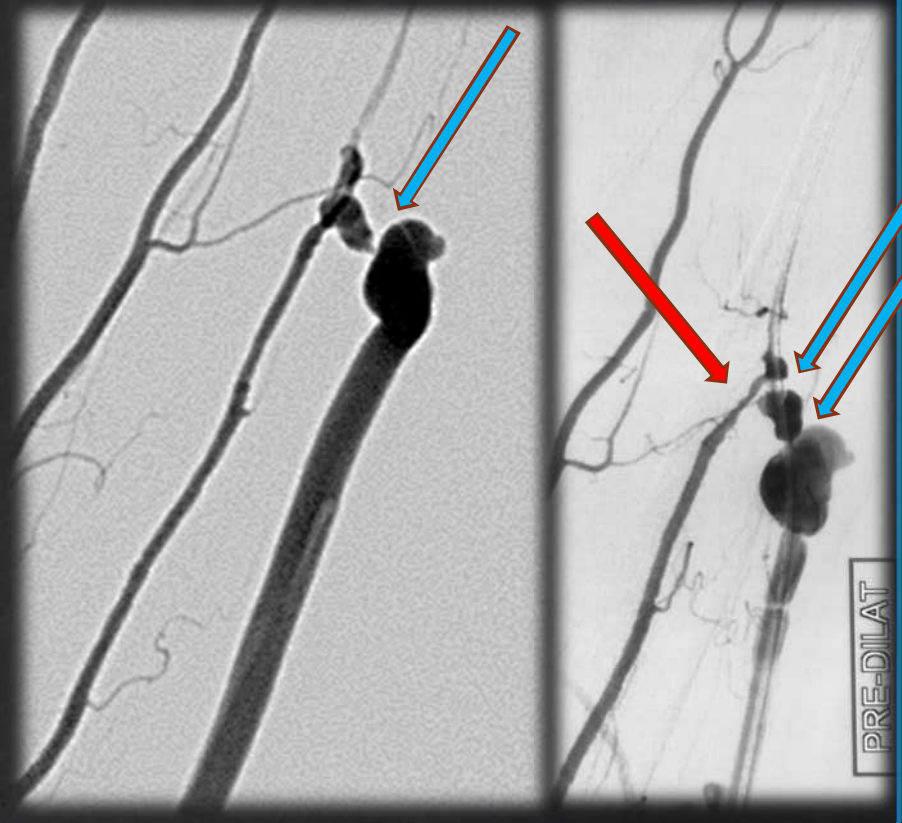
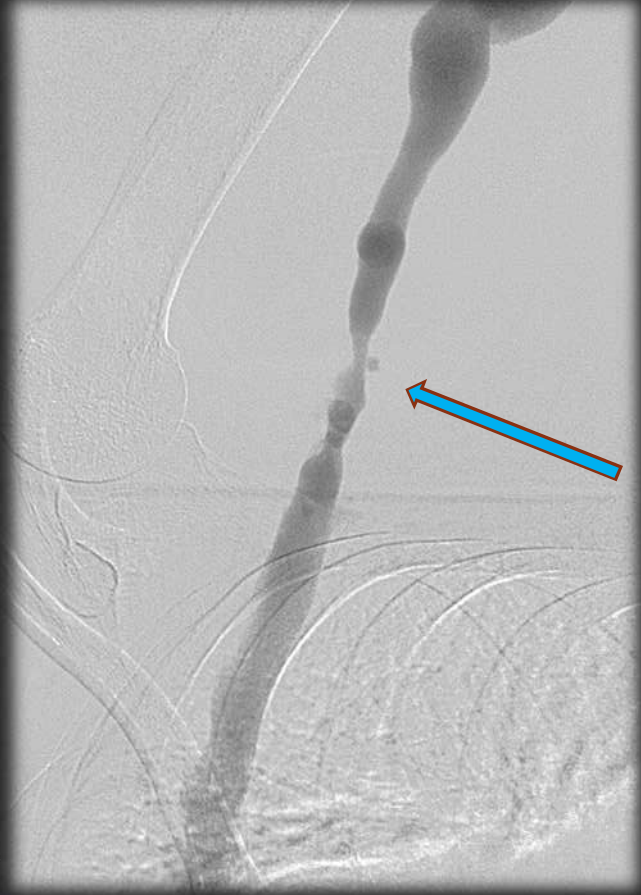


Avec l'autorisation du Dr DESROUSSEaux, Guyanne

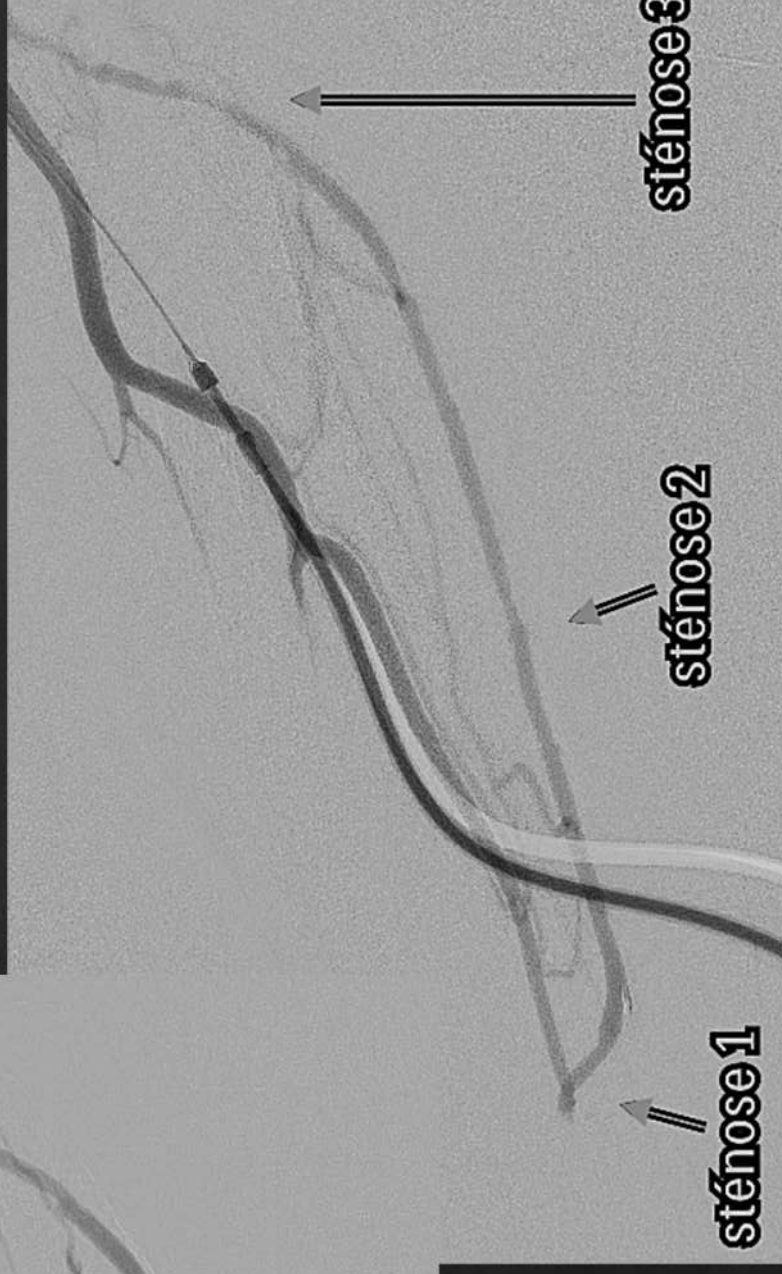
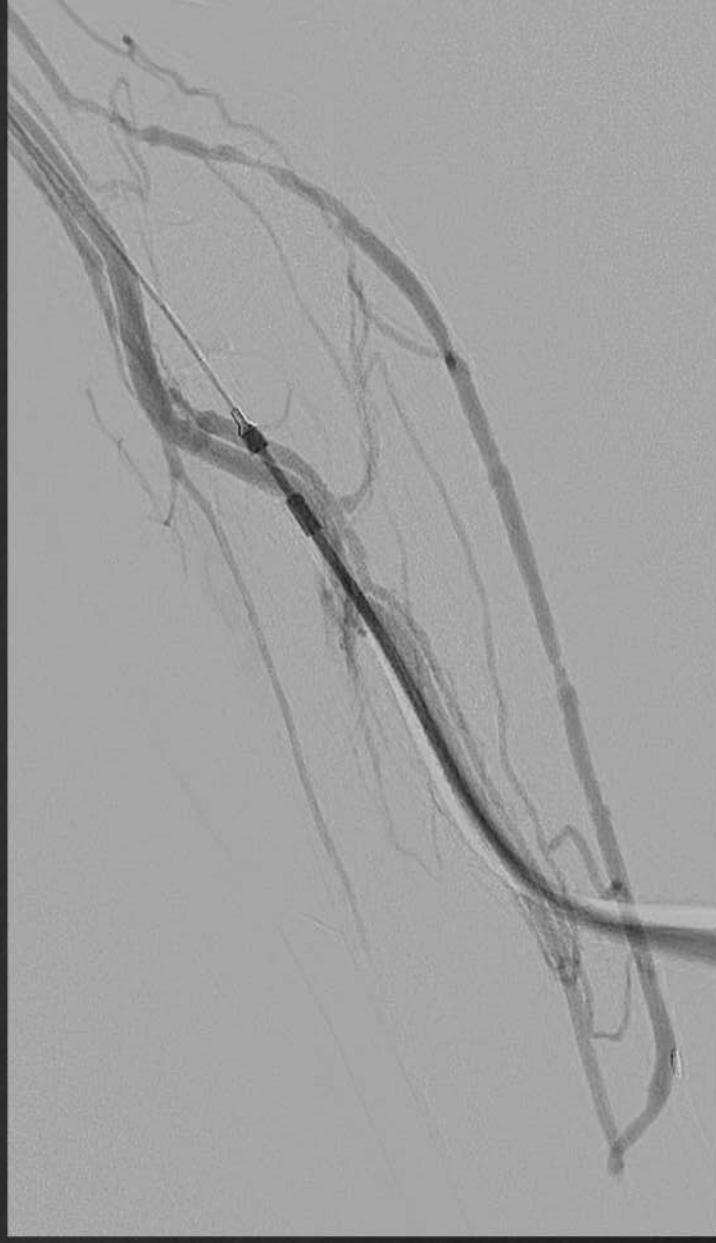
Conclusion

Echo? (A priori)
Simple...

Rayons X Complexe...



Dilatation simple?





Post dilatation

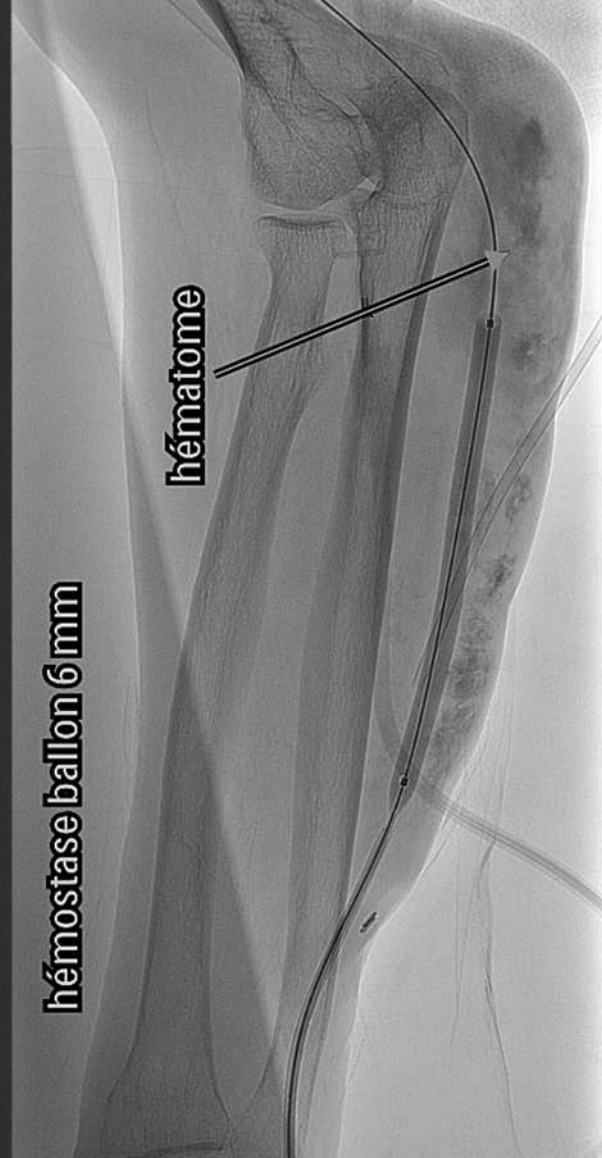
dissection...

rupture

stent couve 8x100 mm

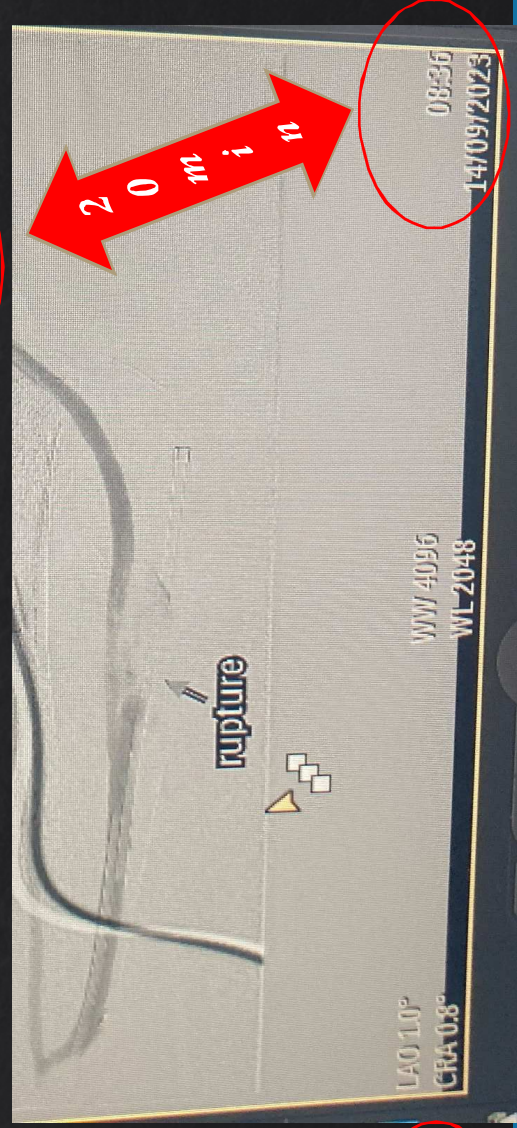
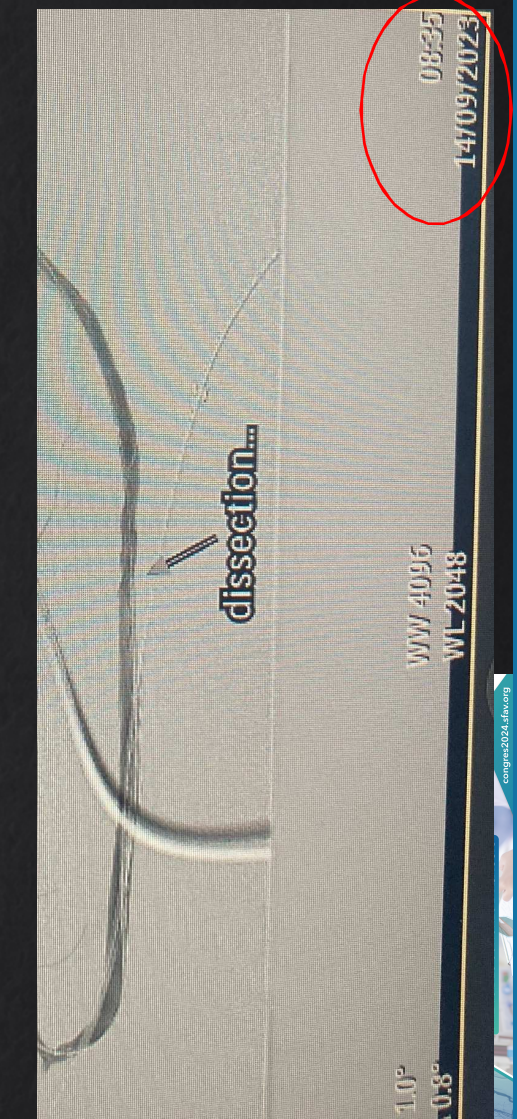
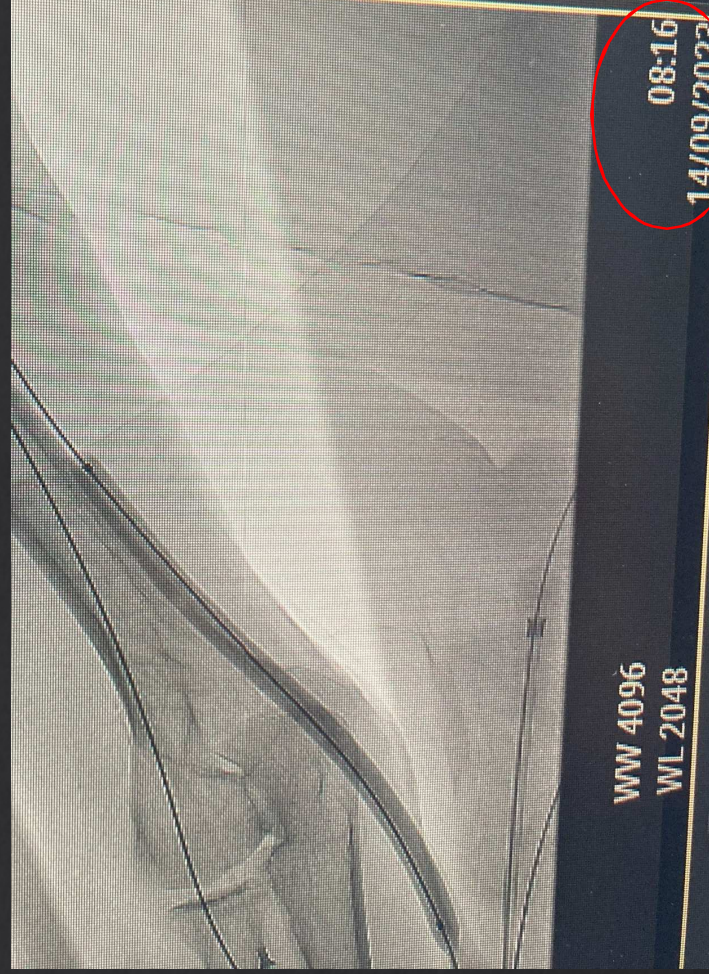
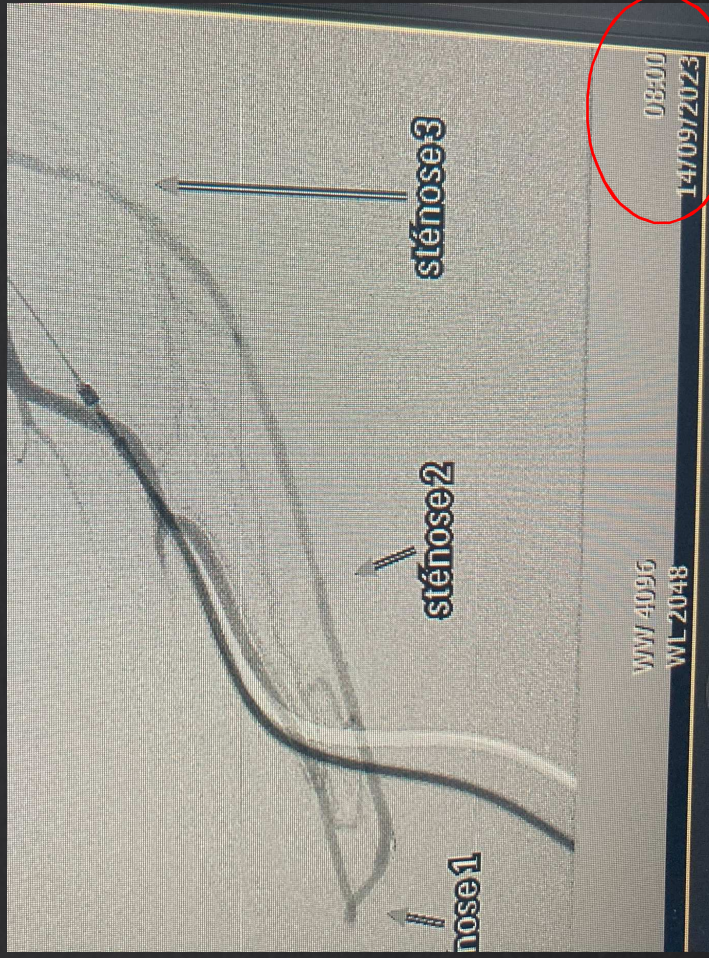


hématome



hémostase ballon 6 mm







Conclusion

- ◆ On peut effectivement dilater une lésion veineuse simple sous contrôle échoguidé.
- ◆ C'est quoi une lésion simple....?
- ◆ Quel est l'intérêt pour l'opérateur de se limiter aux lésions simples...?
- ◆ Pas adaptée pour les lésions complexes.
- ◆ Les patients sont de plus en plus complexes...(Donc leurs abords vasculaires aussi...)
- ◆ → Inadaptée à la pratique du quotidien et c'est une perte de chance quand l'alternative radiologique existe.
- ◆ Faisons une étude randomisée et que le meilleur gagne.....
- ◆ Inadaptée dans le contexte actuel tendu de RH