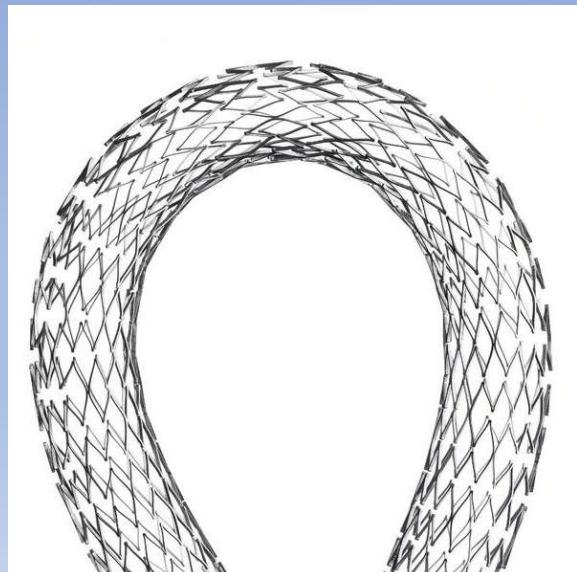


STENOSSES RECALCITRANTES. stent couvert ou stent nu ?

KDOQI considers it reasonable to avoid the use of bare metal stents for the treatment of clinically and/or angiographically significant AVG and AVF stenotic lesions (Expert Opinion)



Luc Turmel

Clinique St-Gatien NCT+, St Cyr-sur Loire (Tours)

Clinique Ambroise Paré, Neuilly-sur-Seine

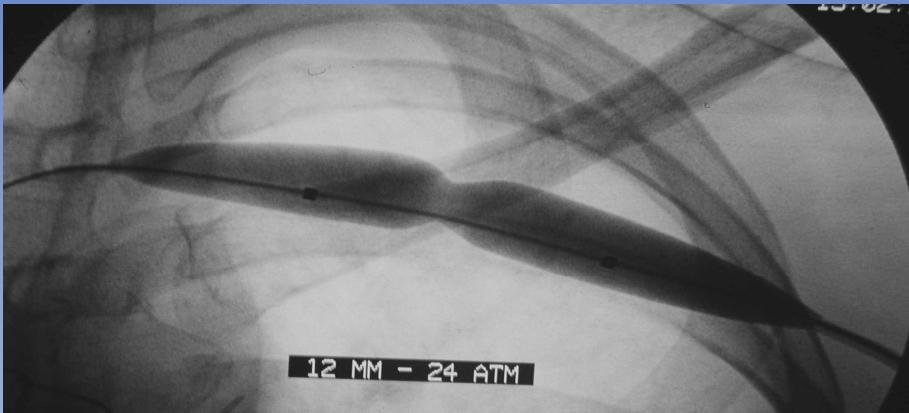
luc.turmel@wanadoo.fr



Récalcitrant= qui résiste avec entêtement

- sténose qu'on n'arrive pas à vaincre
- Sténose résiduelle immédiate
- Resténose itérative à intervalles courts (< 4 mois)



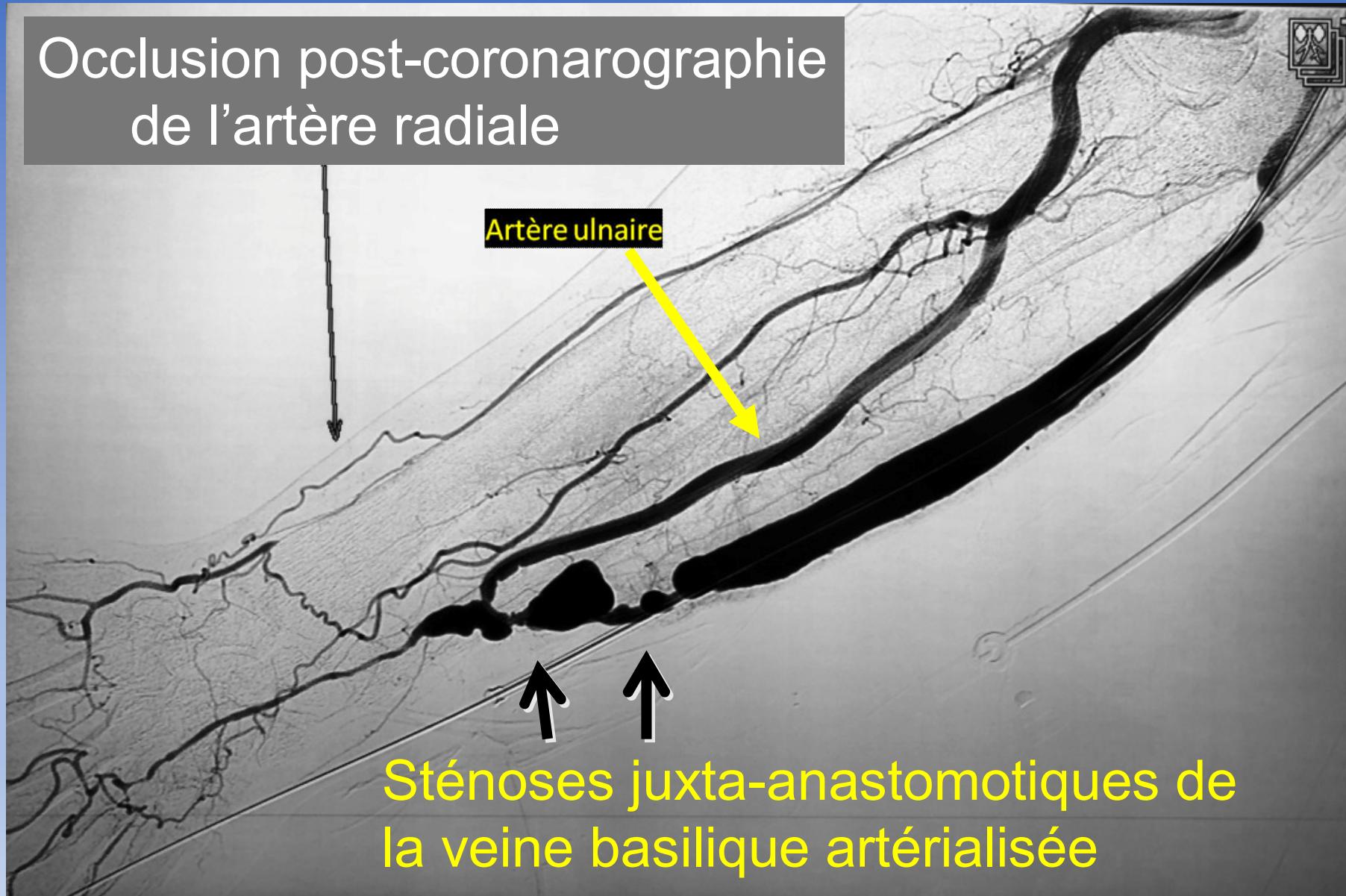


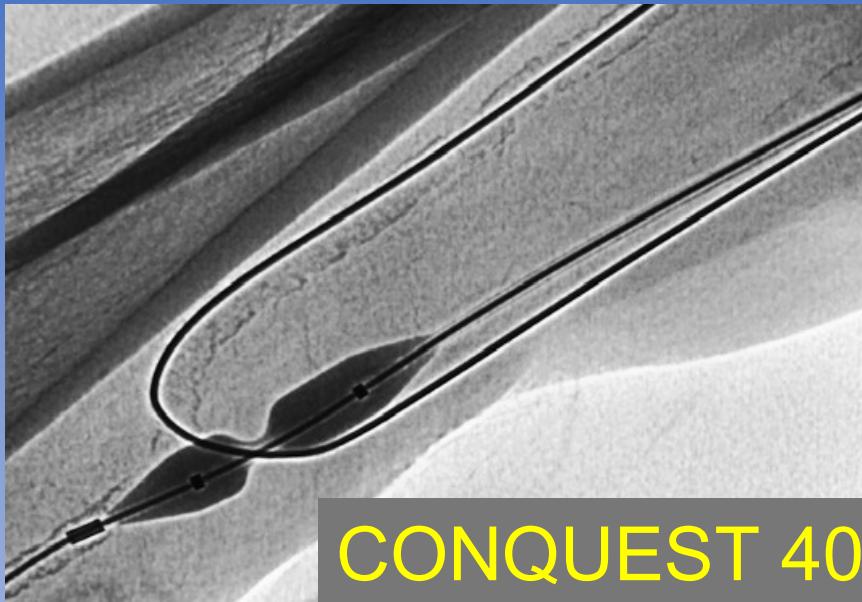
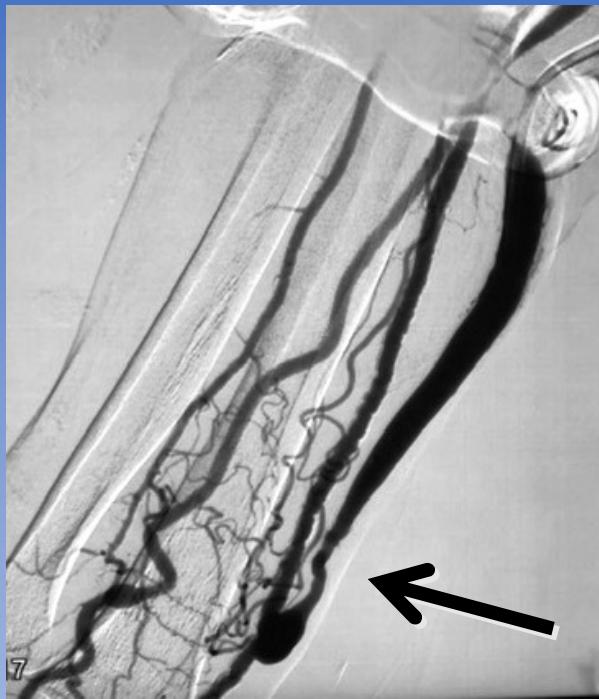
Cas datant de 2001
Période pré-Conquest



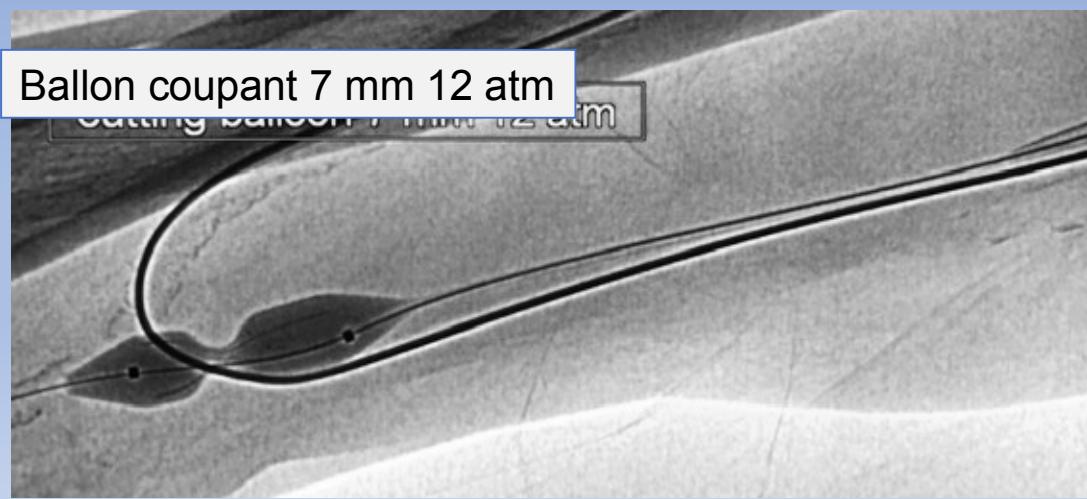
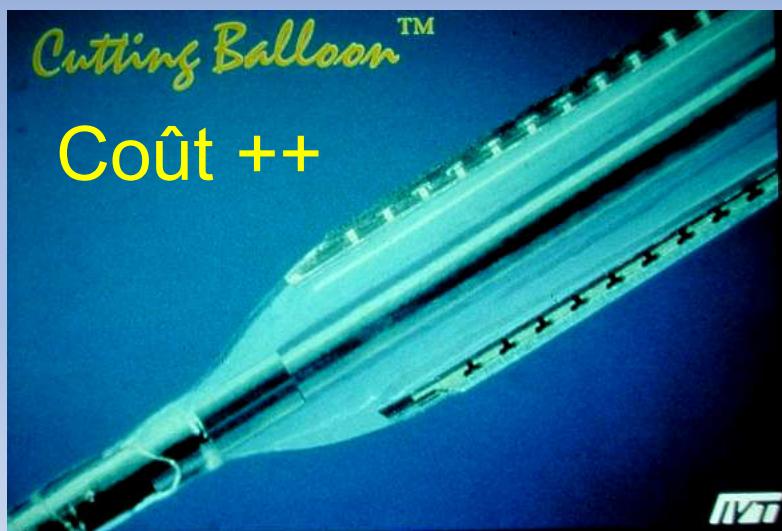
Stent sans intérêt !

Occlusion post-coronarographie de l'artère radiale

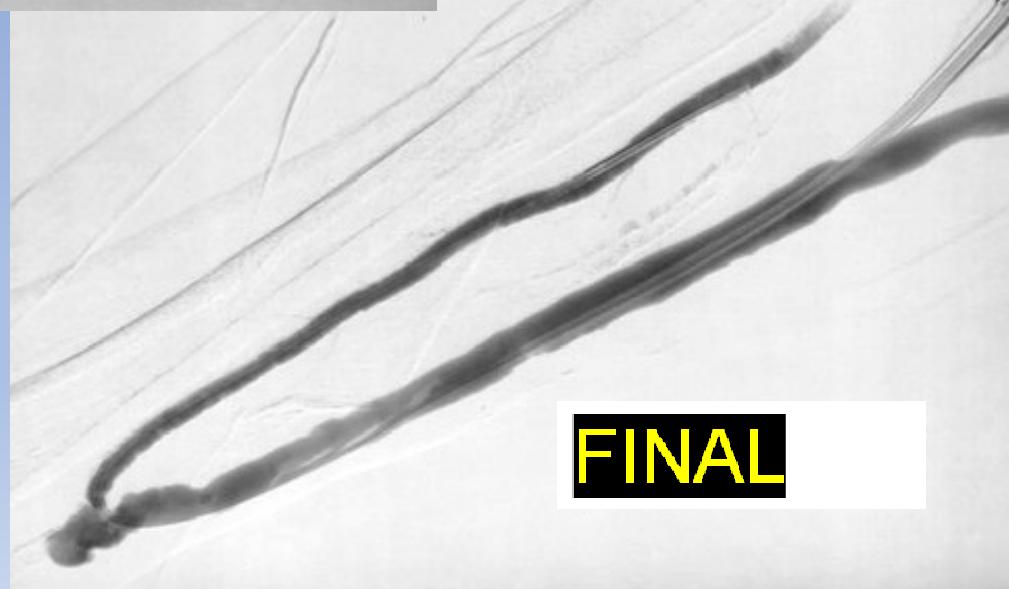
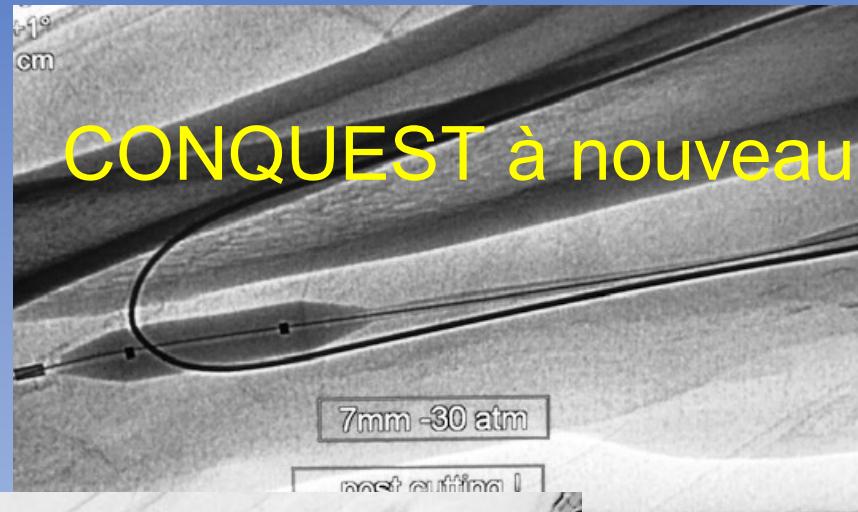
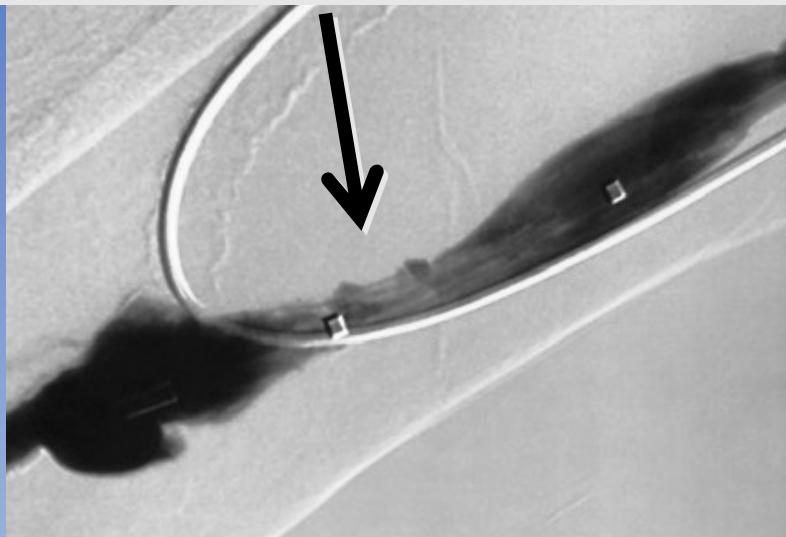




CONQUEST 40 atm



Après BALLON COUPANT



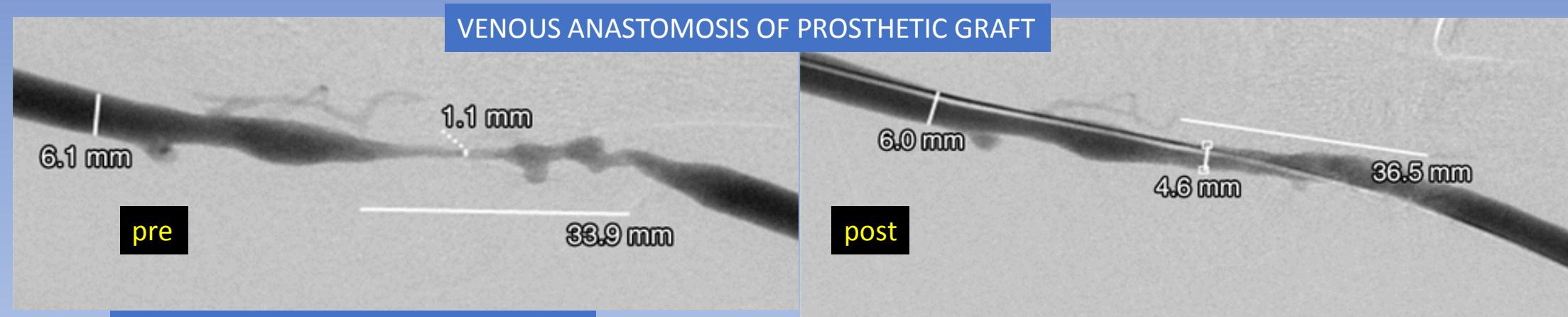
Récalcitrant= qui résiste avec entêtement

- sténose qu'on n'arrive pas à vaincre
- Sténose résiduelle immédiate= recoil
- Resténose itérative à intervalles courts (< 4 mois)



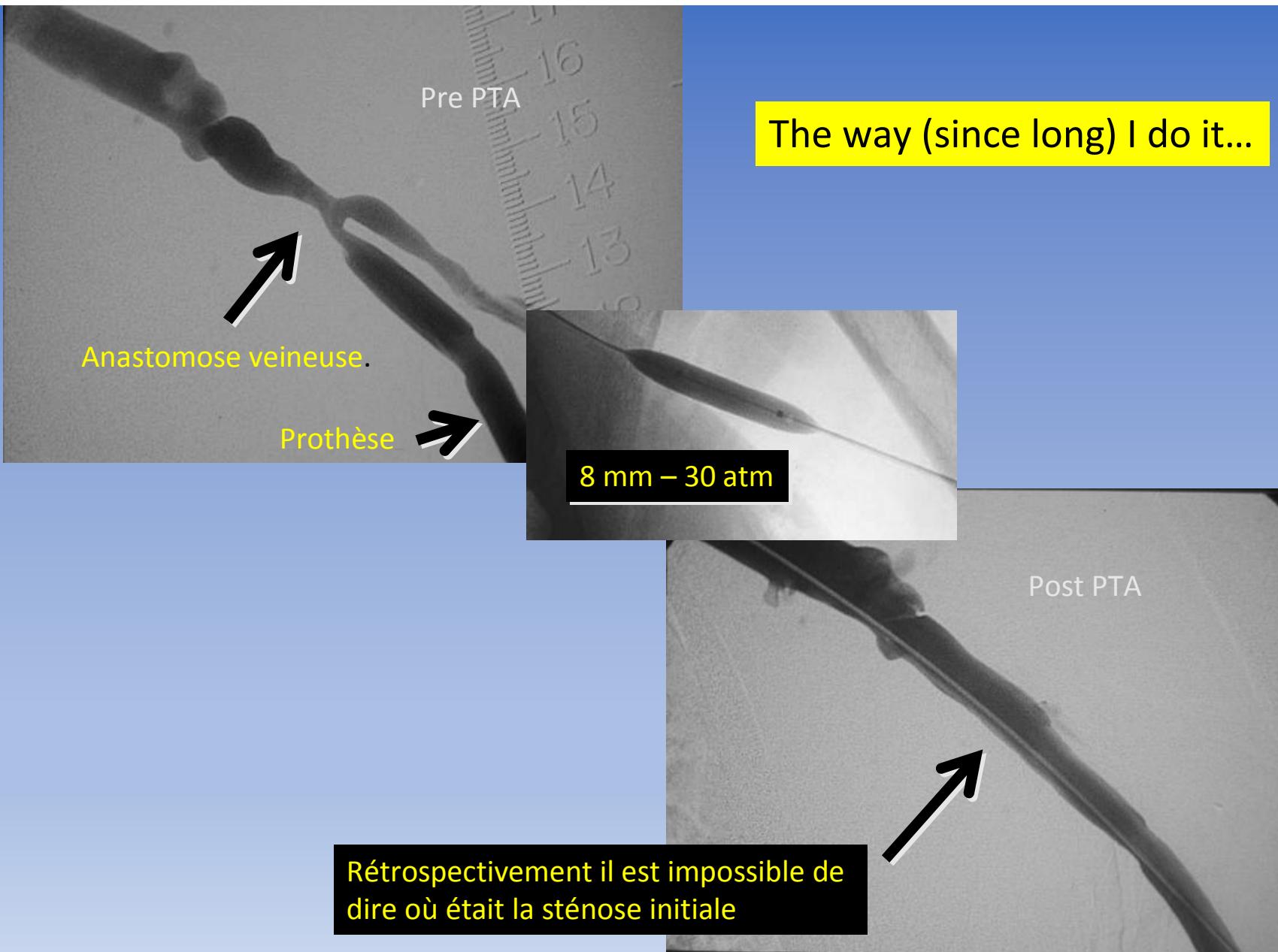
FORCE EST DE CONSTATER QUE LA DéFINITION DU SUCCÈS D'UNE DILATATION PERCUTANÉE ET LA DéFINITION D'UNE STÉNOSE RÉSIDUELLE ACCEPTABLE SONT LOIN DE FAIRE L'UNANIMITé

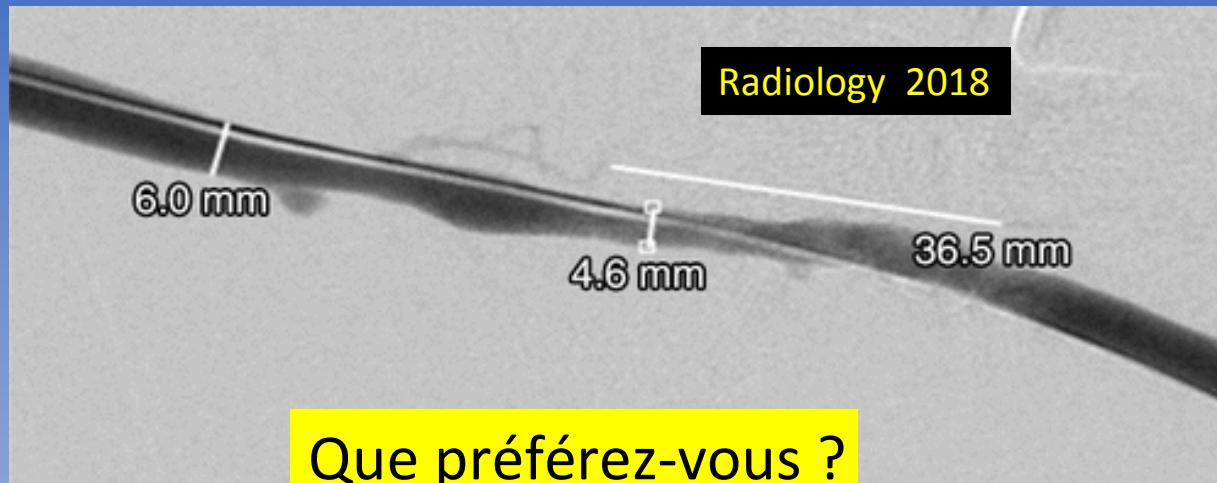
Hemodialysis arteriovenous fistula and graft stenoses: randomized trial comparing drug-eluting balloon angioplasty with conventional angioplasty (Radiology 2018)



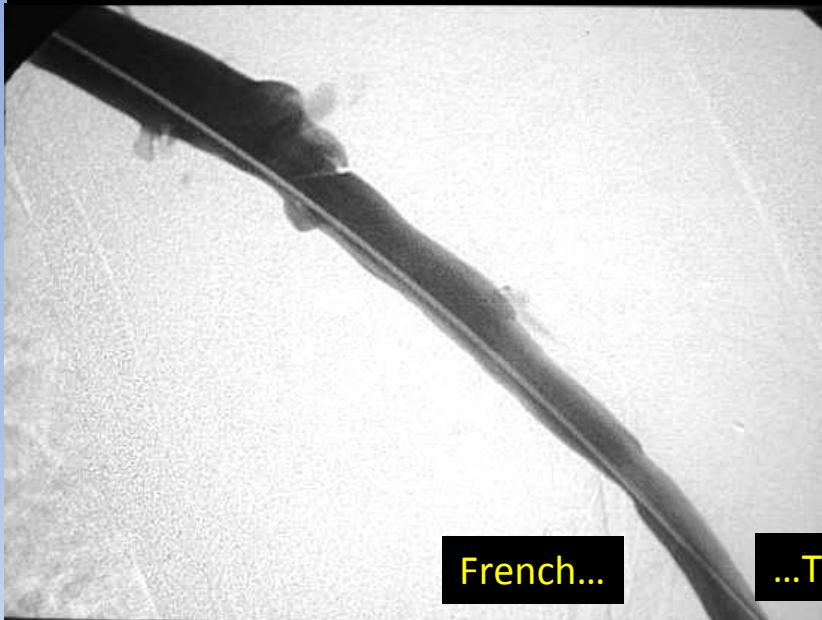
Graftogram shows an 81% stenosis of the graft venous anastomosis and subjacent vein that is 3.9 cm long. The target lesion was crossed and angioplasty was performed with a **7x40mm conventional balloon for 2 min at 20 atm**

Postangioplasty
angiogram shows a patent graft with **good results** and 23% residual stenosis



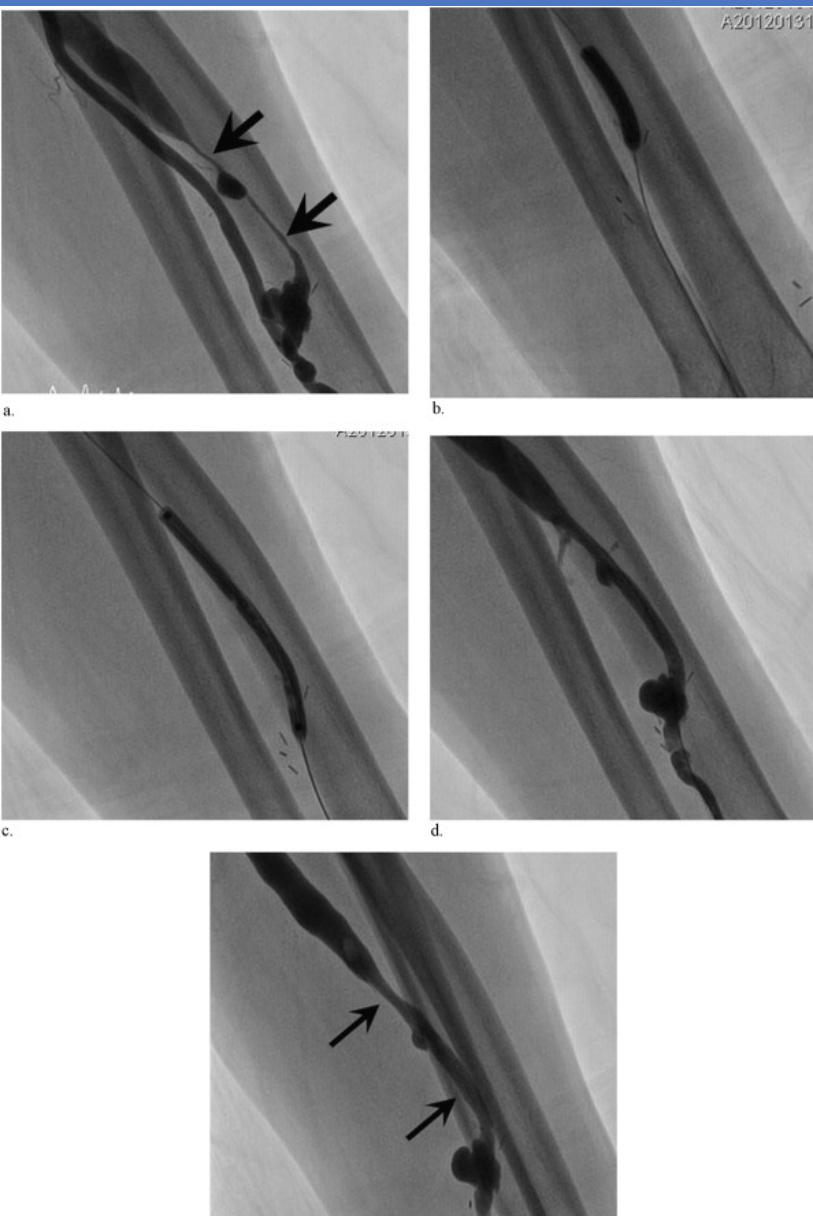


Laquelle de ces 2 dilatations donnera le résultat le plus durable?



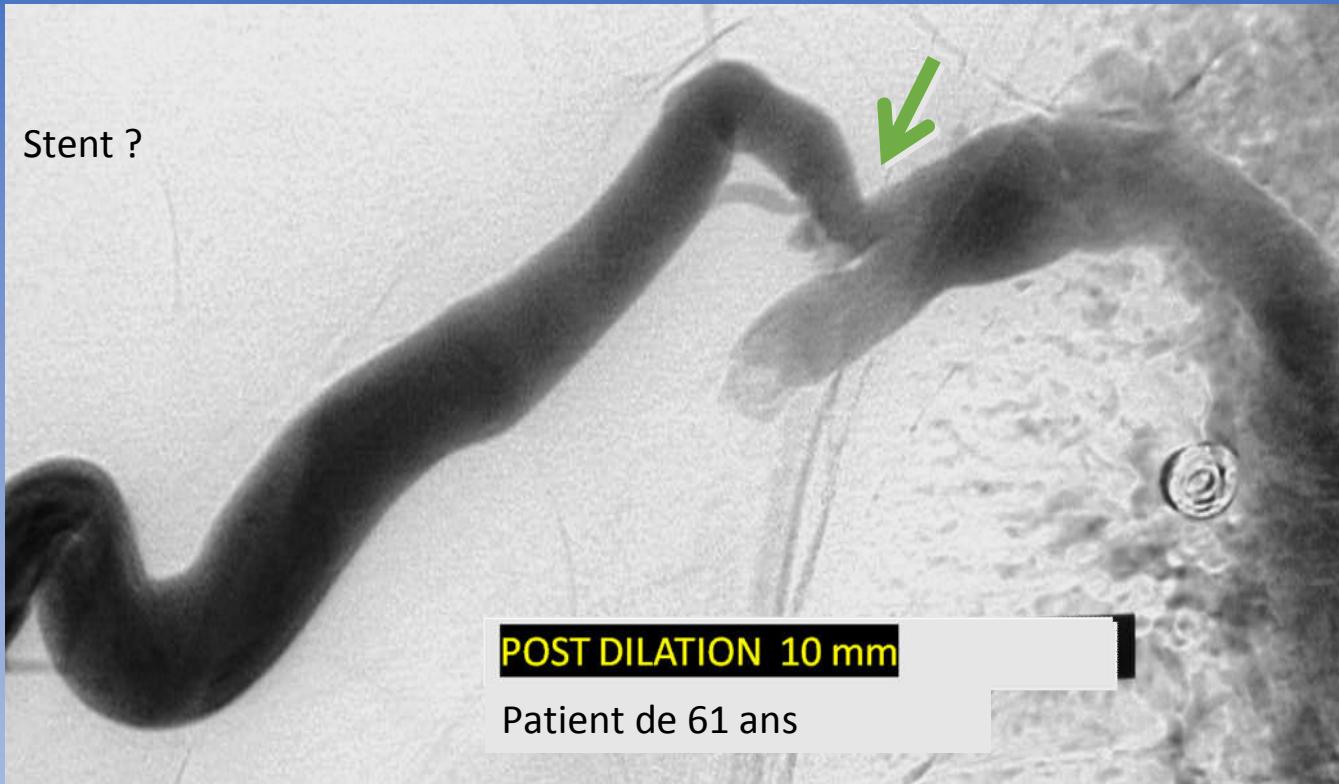
...Trublion





Lai et al, JVIR 2014

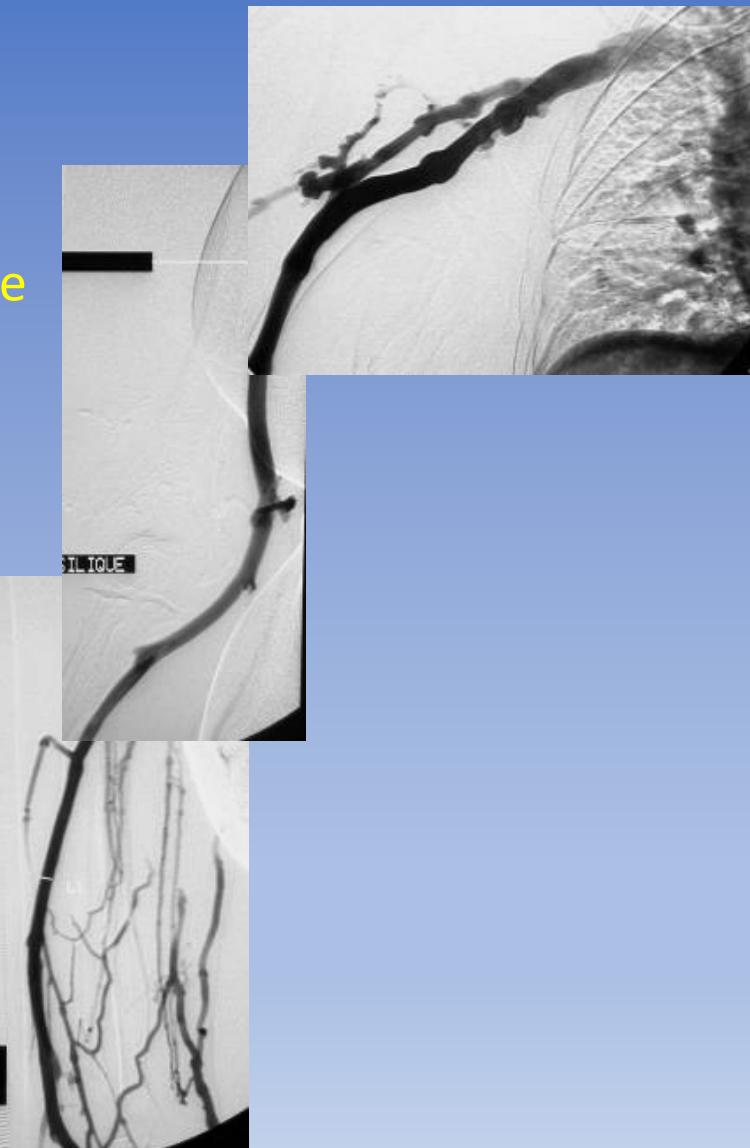
- a) Serial figures depict the study procedures in an actual case with two RCAFV inflow lesions
- b) After selecting a distal lesion (lower arrow) for dilation by PCB (Paclitaxel Coated Balloon)
- c) The proximal lesion (upper arrow) and distal lesion were simultaneously treated with PTA-Plain Balloon (size, 5.0 mm; length, 6cm)
- d) Final angiographic result is satisfactory !
- e) Repeat intervention at 2 months demonstrates proximal lesion restenosis after PTA-PB (upper arrow) but no distal lesion restenosis after PTA-PCB (lower arrow) (e).



Toutes les VRAIES sténoses résiduelles ne sont pas de bonnes indications à un stent



Phlébographie homolatérale par ponction d'une veine du dos de la main



**Superbe veine céphalique à l'avant-bras,
donc FAV radiocéphalique distale envisageable**

STENTS COUVERTS SEULS CONSEILLÉS selon certaines recommandations étrangères MAIS....

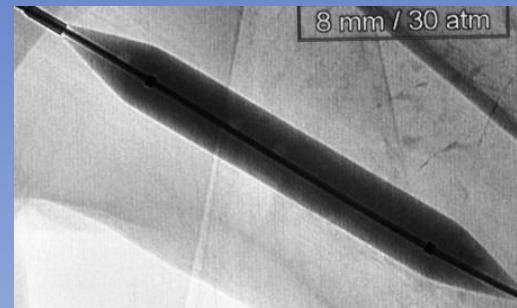
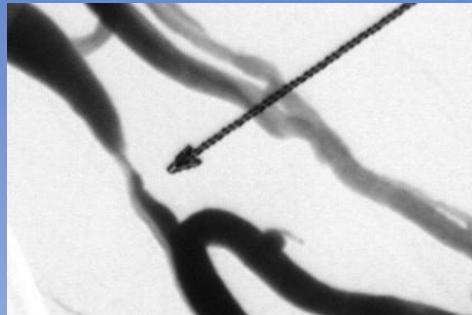
1- **thrombogènes**: limiter la longueur et à ne mettre que dans les fistules à débit élevé (donc pas dans les retards de maturation)

2- **gros introducteurs** requis pour Fluency et Covera

3- **suppriment le flux de et vers les autres veines dans le segment recouvert**
(branches potentiellement importantes stratégiquement à terme sur les confluentes veineux)

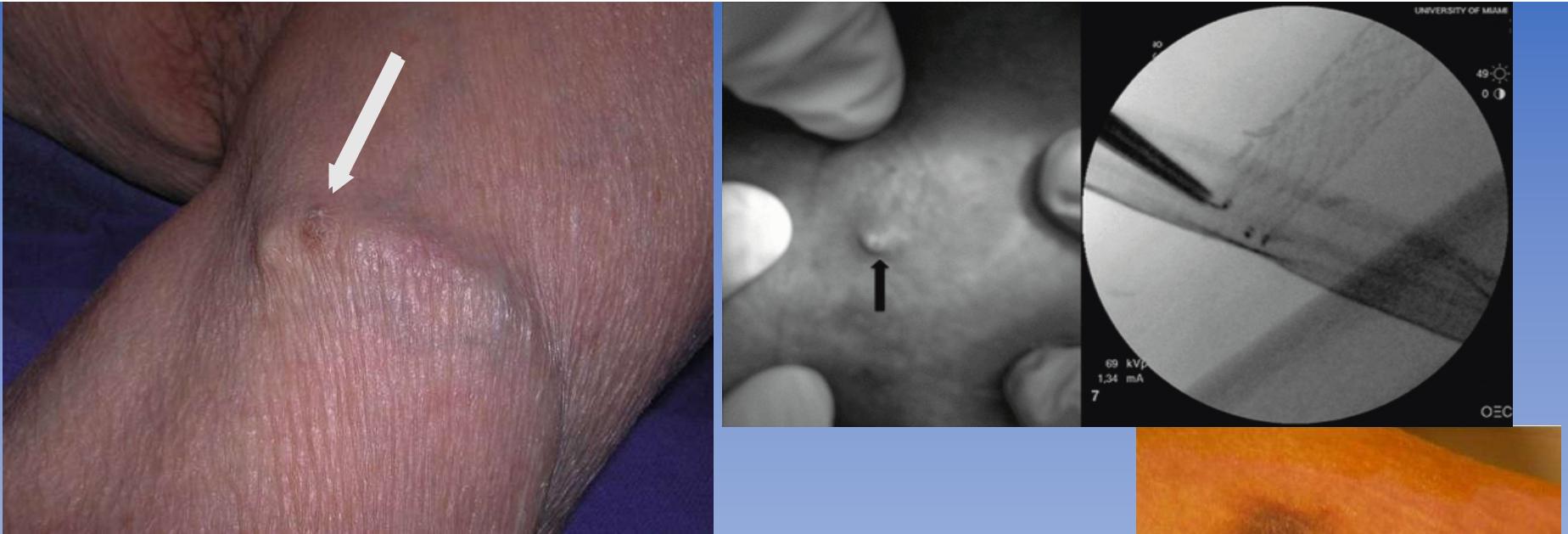
Stent Graft versus Balloon Angioplasty for Failing Dialysis-Access Grafts

Haskal Z, Trerotola S et al, N Engl J Med 2010;362:494-503.



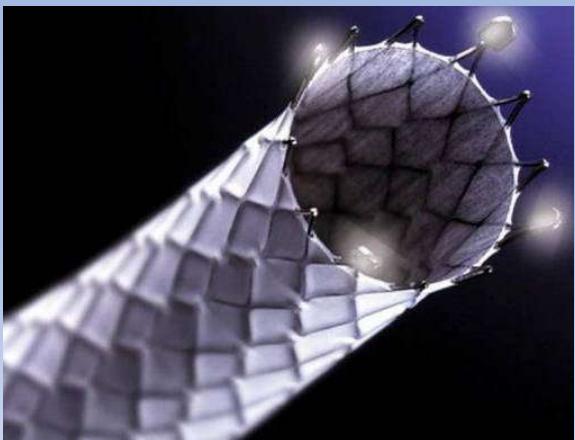
	Stent Graft	Balloon Angioplasty	p Value
at 6 months			
Infection	6/95 (6)	2/90 (2)	0.28
Thrombotic occlusion	31/95 (33%)	19/90 (21%)	0.10
Restenosis	38/95 (40%)	69/90 (77%)	<0.001

Stent grafts appear to provide longer-term and superior patency
and freedom from repeat interventions than standard balloon angioplasty



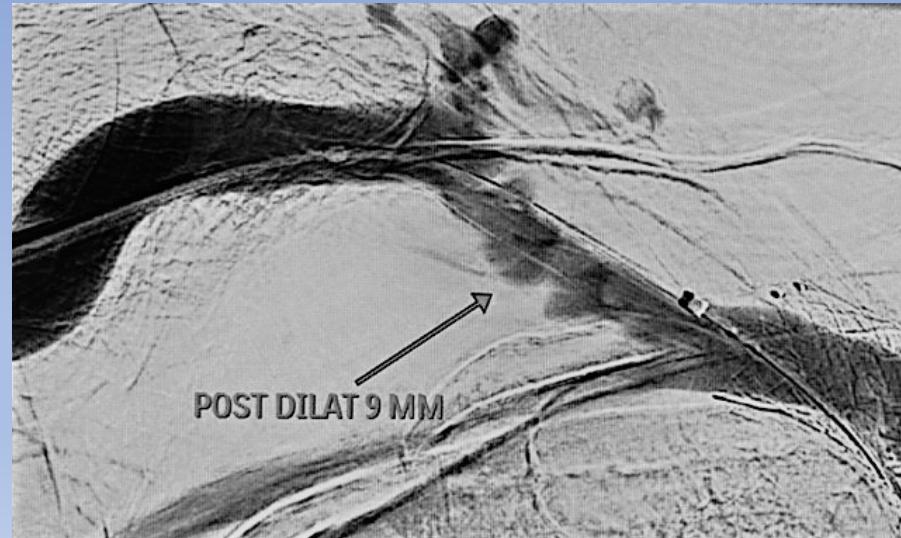
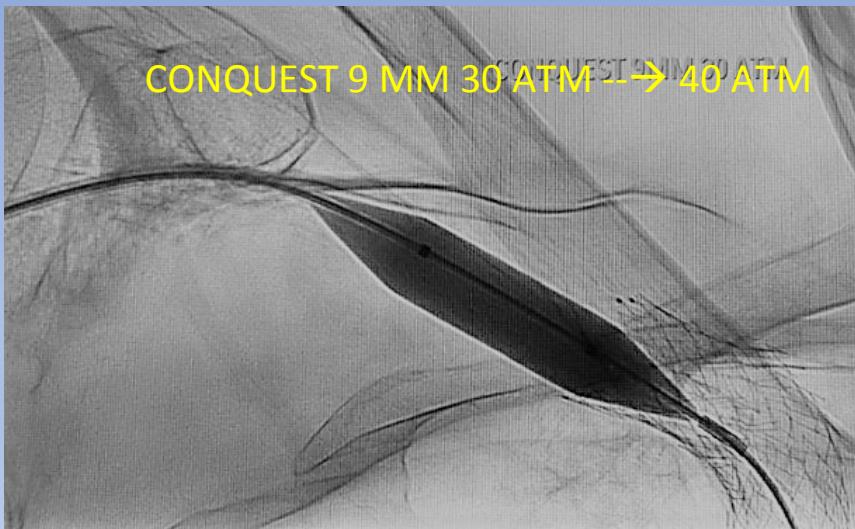
Stent Graft Infection and Protrusion Through the Skin: Clinical Considerations and Potential Medico - Legal Ramifications

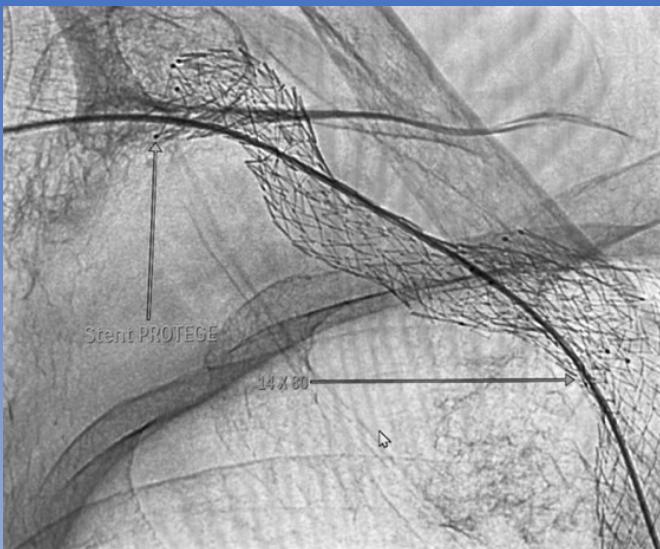
Asif A, Semin Dial 2013



Certains stent peuvent
s'ulcérer à la peau
et s'infecter ...

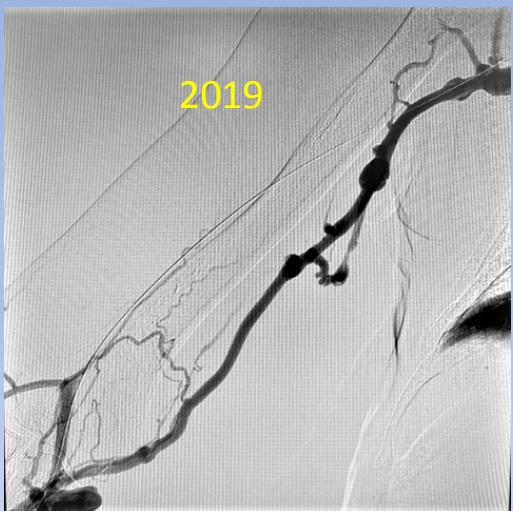
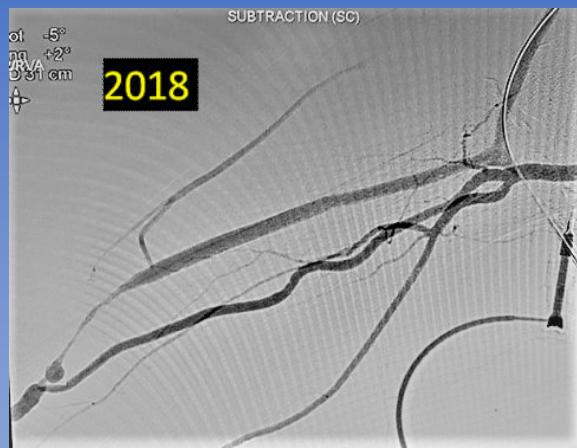


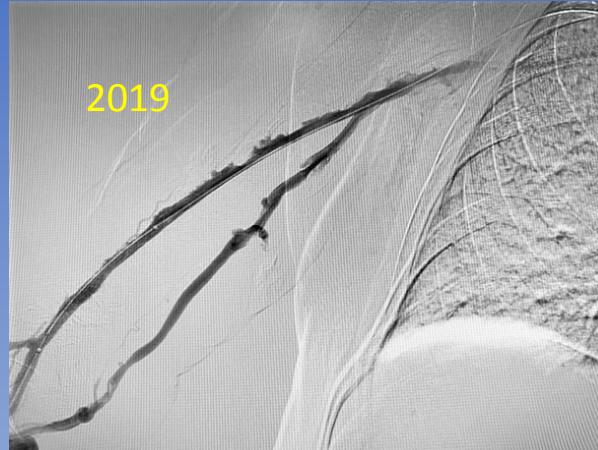




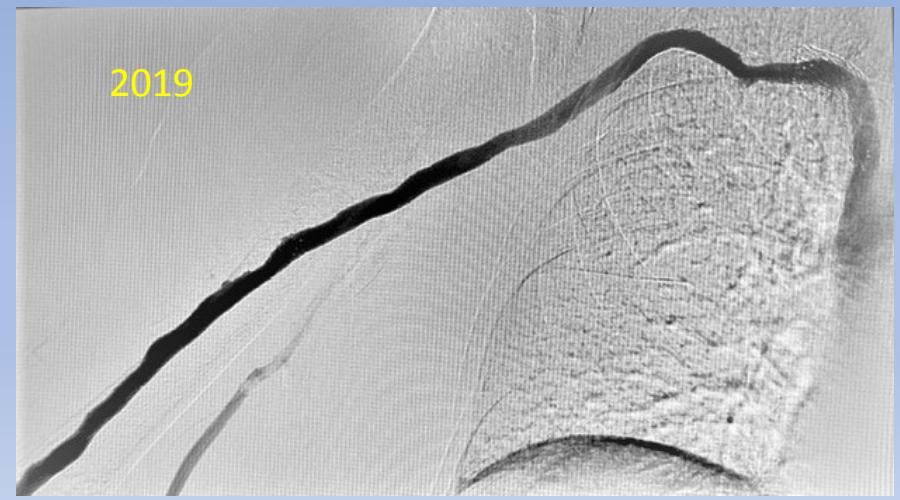
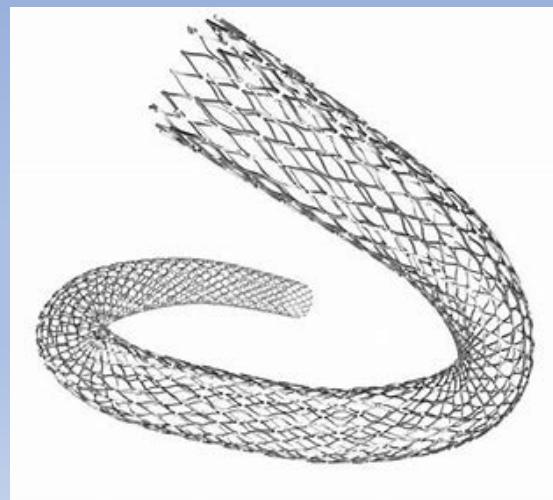
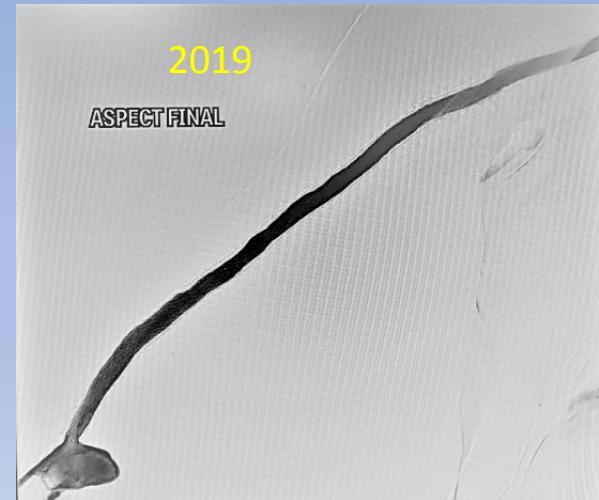
Stent nu 12 x 60 mm







2 stents nus de 8 mm x 200 mm (Protégé ©)



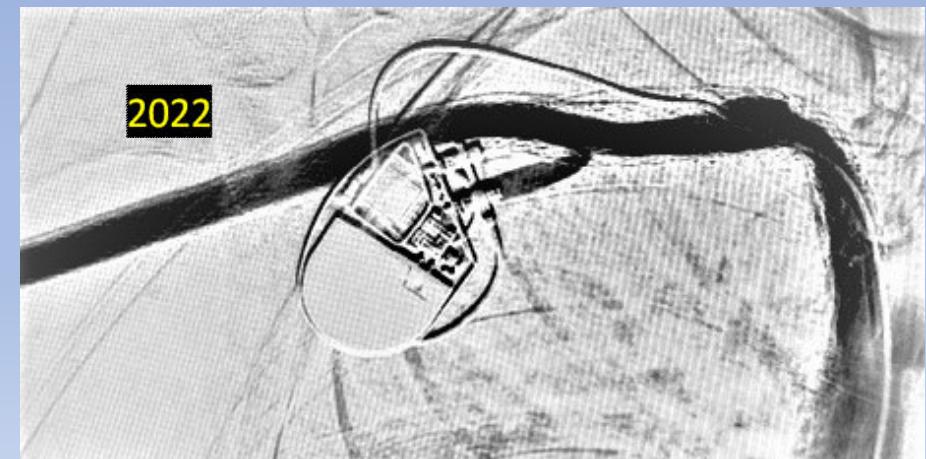


2020



2021

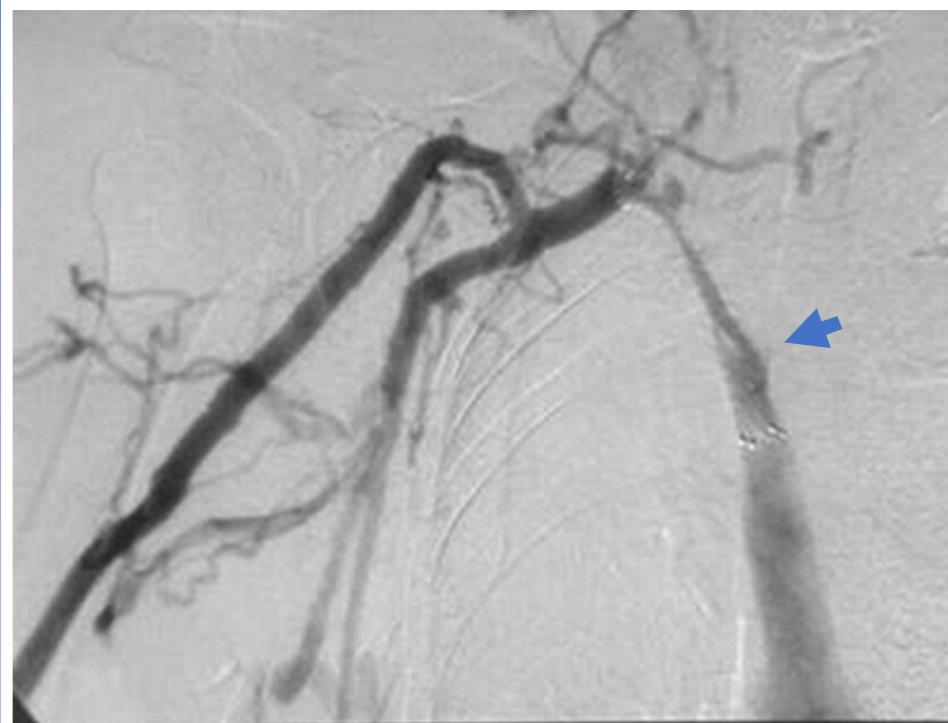
OCCCLUSION SUR PM RECENT...



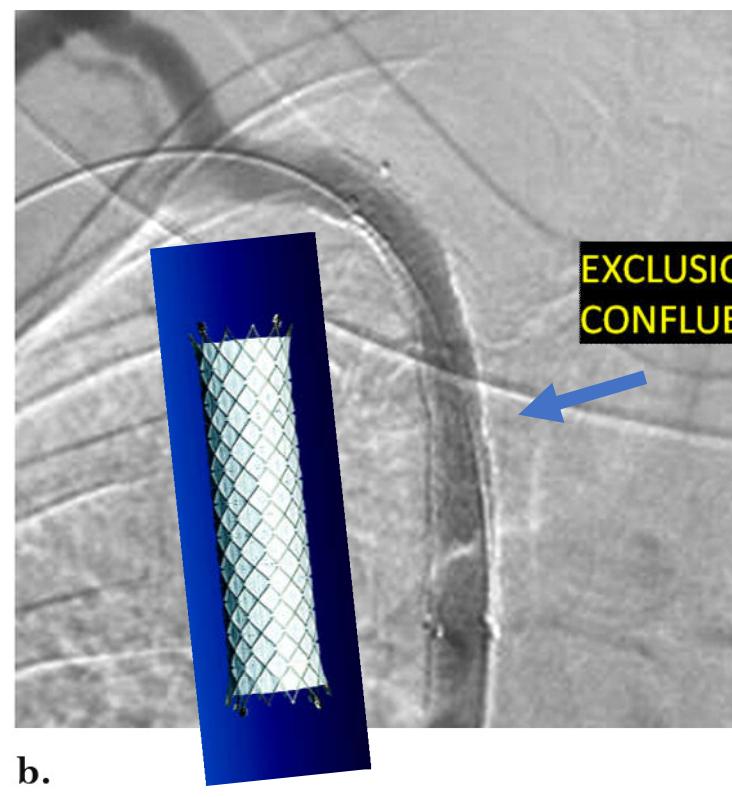
2022

Long-term Results of Stent-graft Placement to Treat Central Venous Stenosis and Occlusion in Hemodialysis Patients with Arteriovenous Fistulas

Jones. JVIR 2011 . Verstandig. JVIR 2013



a.



b.

KDOQI considers it reasonable to first consider the consequences of placement of a stent-graft on future AV access options according to the patient's Life-Plan

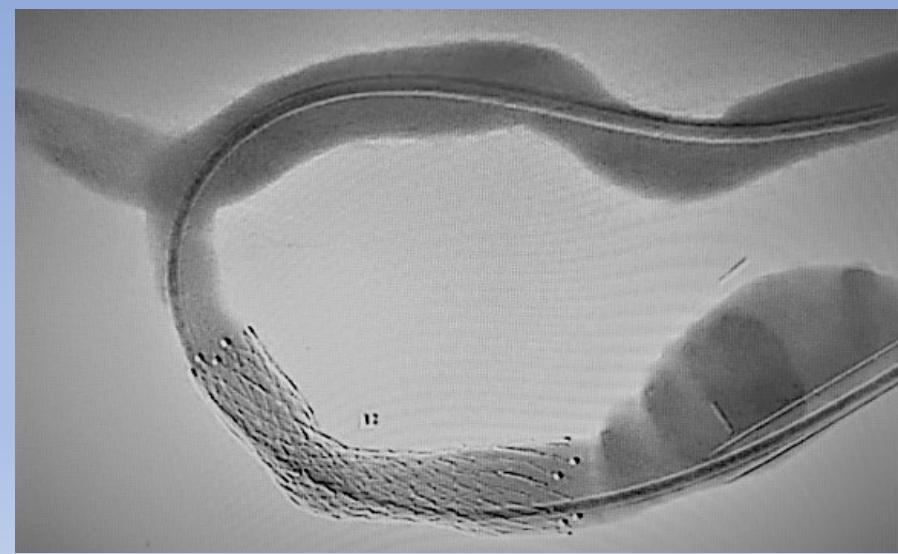
ASPECT INITIAL



7MM 30ATM



POST DILAT 7 MM



Récalcitrant= qui résiste avec entêtement

- sténose qu'on n'arrive pas à vaincre
- Sténose résiduelle immédiate
- Resténose itérative à intervalles courts (< 4 mois)
= RECOIL et/ou HYPERPLASIE Néo-INTIMALE



Intervals between reinterventions
(Turmel-Rodrigues et al. Nephrol Dial Transplant 2000;15:2029-2036)

	before stent	after stent
Forearm native fistulas	4,1 months (x 2,4)	9,7 months
Upper arm native fistulas	2,3 months (x 1,9)	4,2 months
Prosthetic grafts	2,5 months (x 2,1)	5,3 months

Angioplasty with stent graft versus bare stent for recurrent cephalic arch stenosis in autogenous arteriovenous access for hemodialysis: A prospective randomized clinical trial

David Shemesh, MD,^a Ilya Goldin, MD,^a Ibrahim Zaghal, MD,^b Daniel Berlowitz MB, BChir,^b
David Raveh, MD,^c and Oded Olsha, MB, BS,^a Jerusalem, Israel

J Vasc Surg 2008;48:1524-31

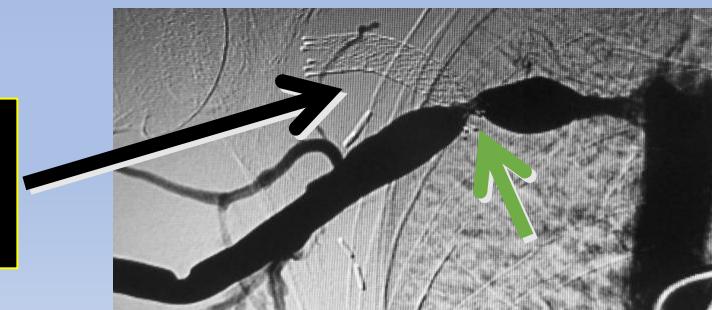
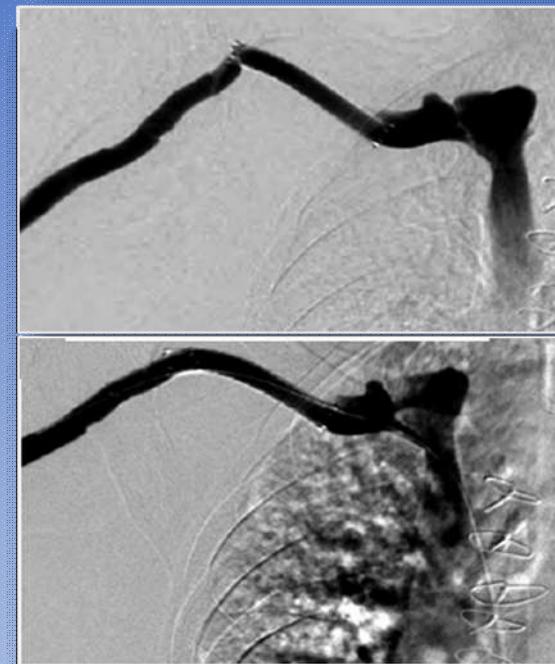
Stent Graft Bare metal stent p value

Restenosis >50% 18% (2/11) 70% (7/10) p=0.024
at 3 months

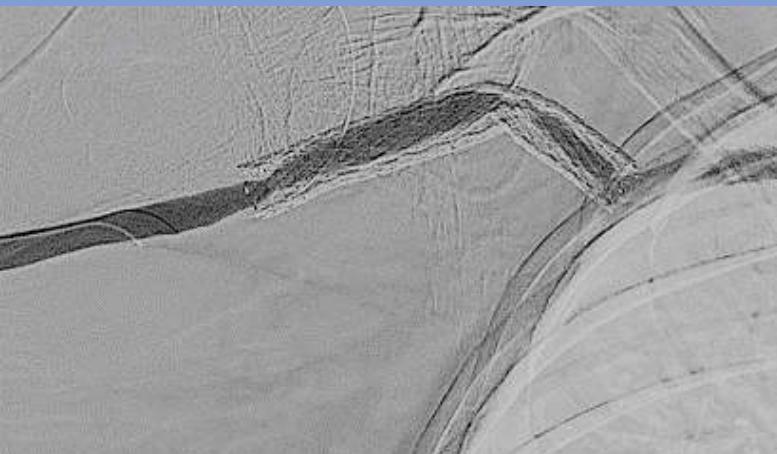
Pr Pat (3 mo)	82%	39%
(6 mo)	82%	39%
(12 mo)	52%	0%

p=0.0023

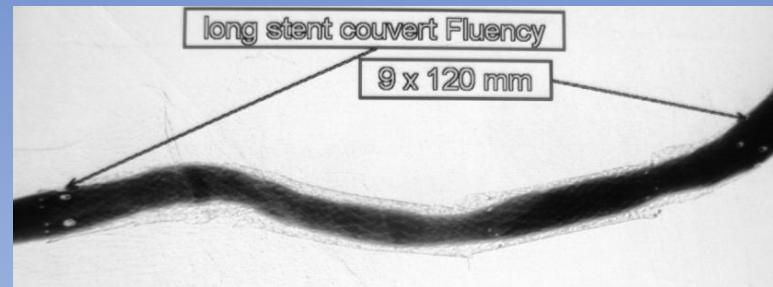
KDOQI considers it reasonable to first consider the consequences of placement of a stent-graft on future AV access options according to the patient's Life-Plan



INTERET Évident des stents couverts pour les resténoses dans les stents nus



KDOQI suggests that the use of an appropriately placed stent-graft is preferred to angioplasty alone for the treatment of in-stent restenosis in AVG and AVF



Intérêt des stents couverts dans les resténoses à l'intérieur des stents nus

Légère plicature au pli du coude

KDOQI suggests that the use of an appropriately placed stent-graft is preferred to angioplasty alone for the treatment of in-stent restenosis in AVG and AVF

Récalcitrant= qui résiste avec entêtement



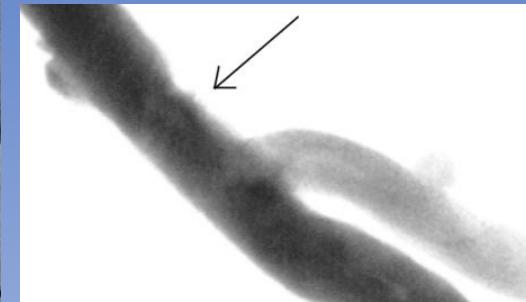
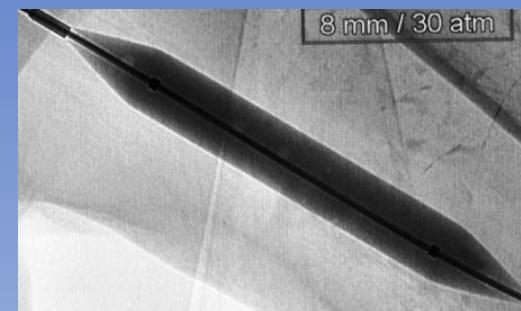
- sténose qu'on n'arrive pas à vaincre
- Sténose résiduelle immédiate
- Resténose itérative à intervalles courts (< 4 mois)

DES INDICATIONS AU STENT COUVERT SYSTEMATIQUE ?

KDOQI suggests the appropriate use of self-expanding stent-grafts in preference to angioplasty alone to treat clinically significant graft-vein anastomotic stenosis in AVG...

Stent Graft versus Balloon Angioplasty for Failing Dialysis-Access Grafts

Haskal Z, Trerotola S et al, N Engl J Med 2010;362:494-503.



	Stent Graft	Balloon Angioplasty	p Value
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Restenosis	38/95 (40%)	69/90 (77%)	<0.001

Stent grafts appear to provide longer-term and superior patency
and freedom from repeat interventions than standard balloon angioplasty

We think that routine deployment of stent grafts for stenosed arteriovenous grafts is expensive and cannot be recommended in the absence of a proven benefit with respect to clinically meaningful end points, such as graft thrombosis and longevity.

NEJM Letter

Michael Allon, M.D.
University of Alabama

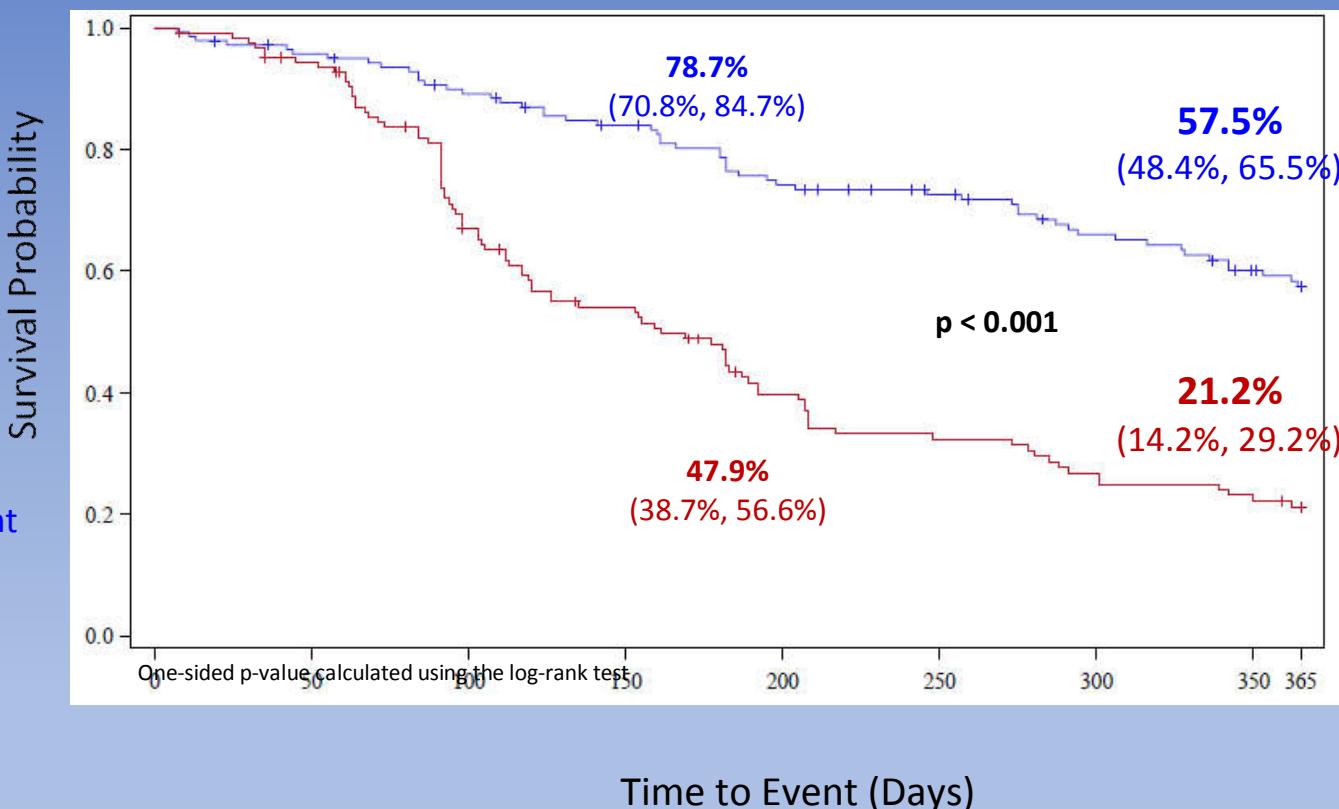
KDOQI suggests the appropriate use of self-expanding stent-grafts in preference to angioplasty alone to treat clinically significant graft-vein anastomotic stenosis in AVG...

AVeNE W

- RCT n=240 @ 24 US/Int sites
- Arm AVF, “outflow” (anything from anastomosis to cephalic arch)
- 5-9 mm veins/6-10 mm devices
- Primary endpoints
 - 30 day safety
 - 6 month TLPP



Target Lesion Primary Patency



EN CONCLUSION

En tout premier lieu, dilater oui mais surtout dilater correctement...

Les indications des stents couverts ou nus sont à moduler selon:

- La localisation, la longueur, l'évolutivité des lésions**
- Le débit de la fistule**
- Les alternatives chirurgicales raisonnables et acceptées**
- L'historique des abords vasculaires du malade et son espérance de vie**