
CJV
WORLD
CHALLENGES & INNOVATIONS IN VASCULAR WORLD
31 MARS
1ER AVRIL 2026
MÉRIDIEN ÉTOILE
PARIS

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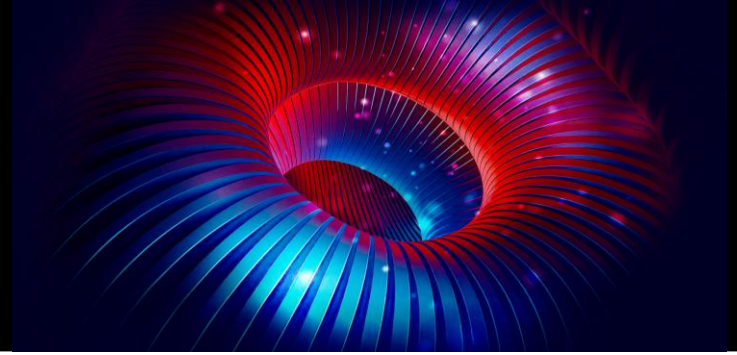

IVUS for aorto-iliac procedures

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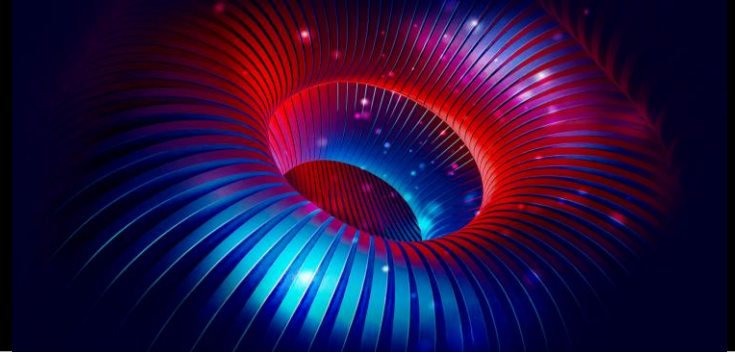
CHALLENGES & INNOVATIONS IN VASCULAR WORLD

Disclosure Statement



☒ I do not have any potential conflict of interest

☐ I currently have, or have had over the last two years, an affiliation or financial interests or interests of any order with the following companies or I receive compensation or fees or research grants with the following companies:

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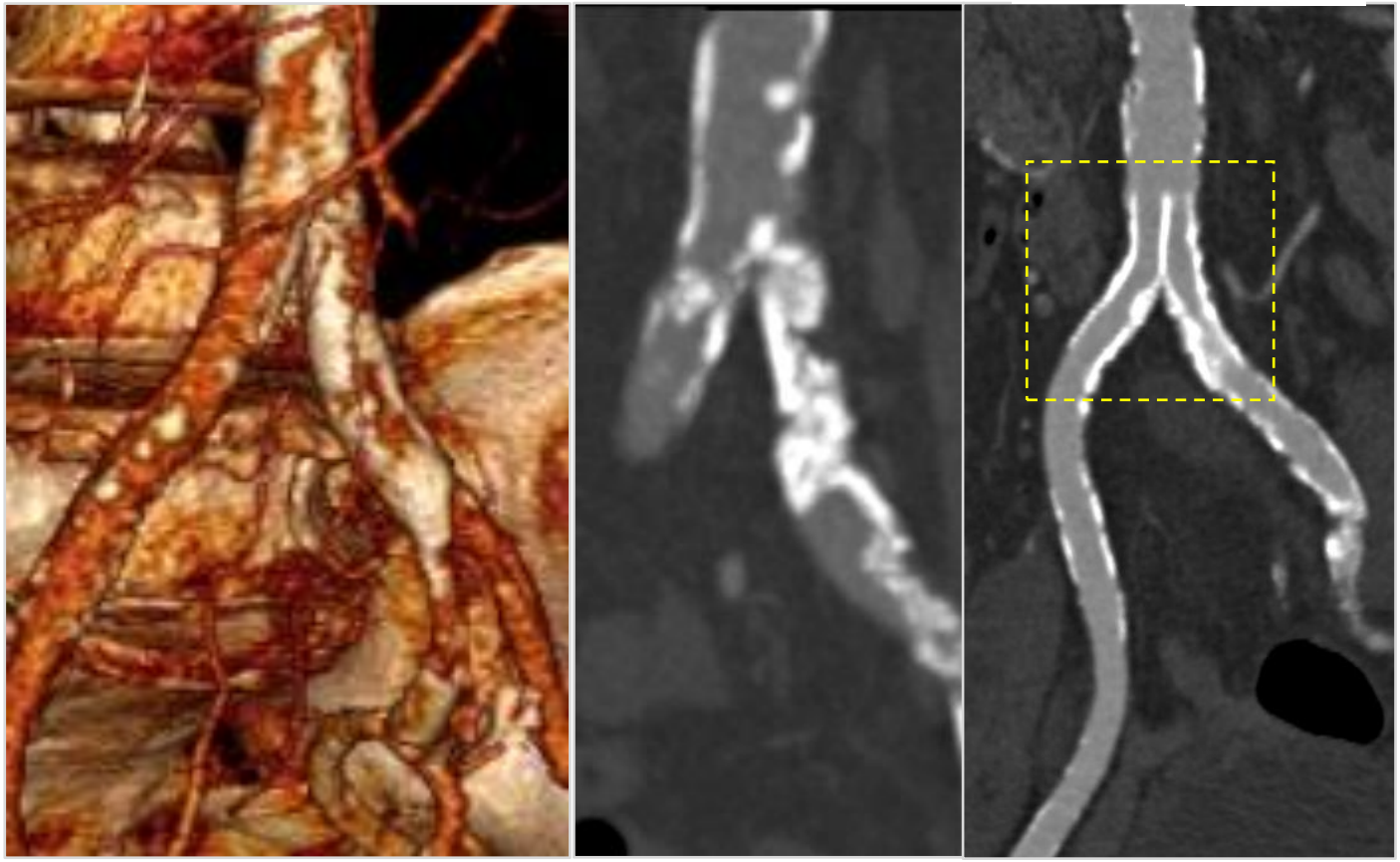
BACKGROUND

THE KISSING TECHNIQUE



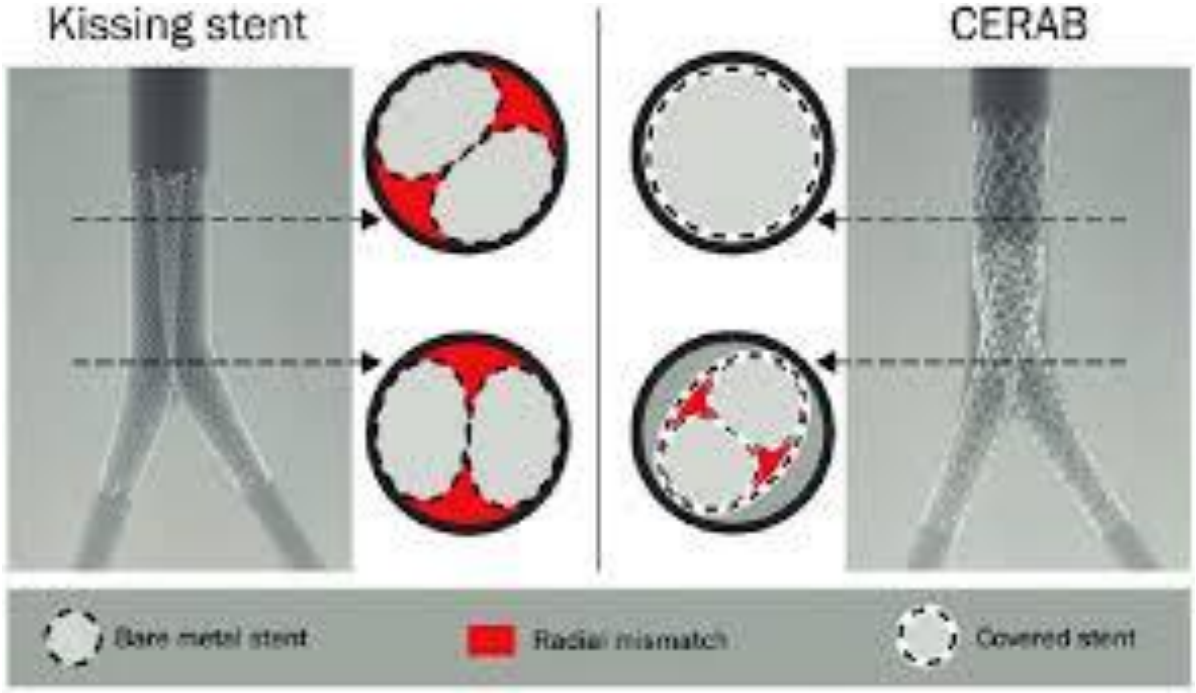
CERAB

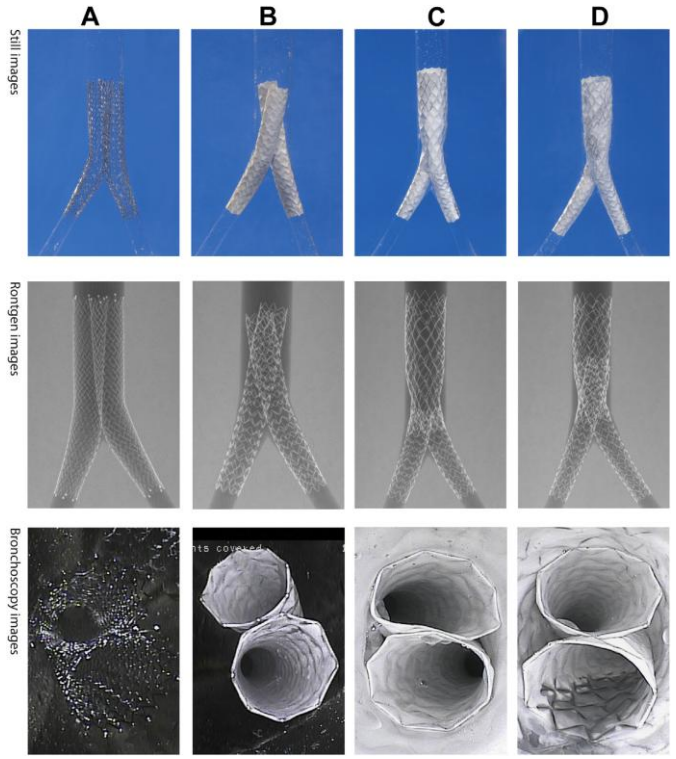
BACKGROUND

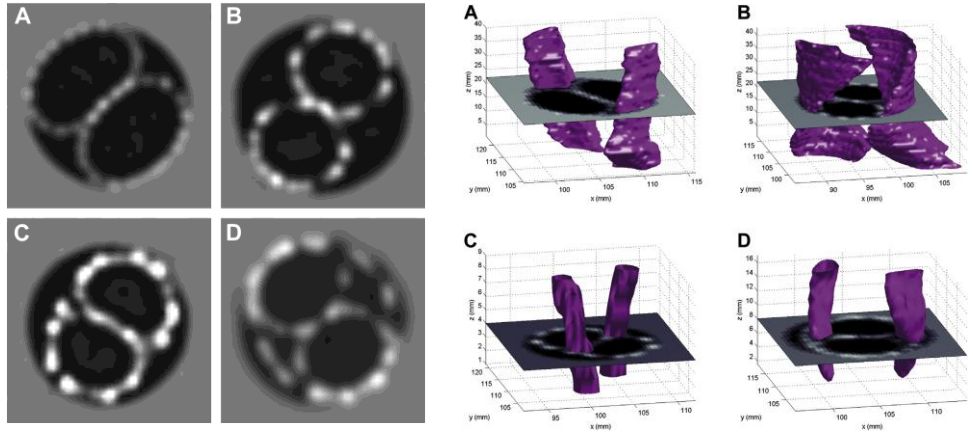
Geometrical consequences of kissing stents and the Covered Endovascular Reconstruction of the Aortic Bifurcation configuration in an in vitro model for endovascular reconstruction of aortic bifurcation

Erik Groot Jebbink, MSc,[a,c] Frederike A. B. Grimme, MD,[a] Peter C. J. M. Goverde, MD,[d] Jacques A. van Oostayen, MD,[b] Cornelis H. Slump, PhD,[c] and Michel M. P. J. Reijnen, MD, PhD,[a]
Arnhem and Enschede, The Netherlands; and Antwerp, Belgium

J Vasc Surg 2015



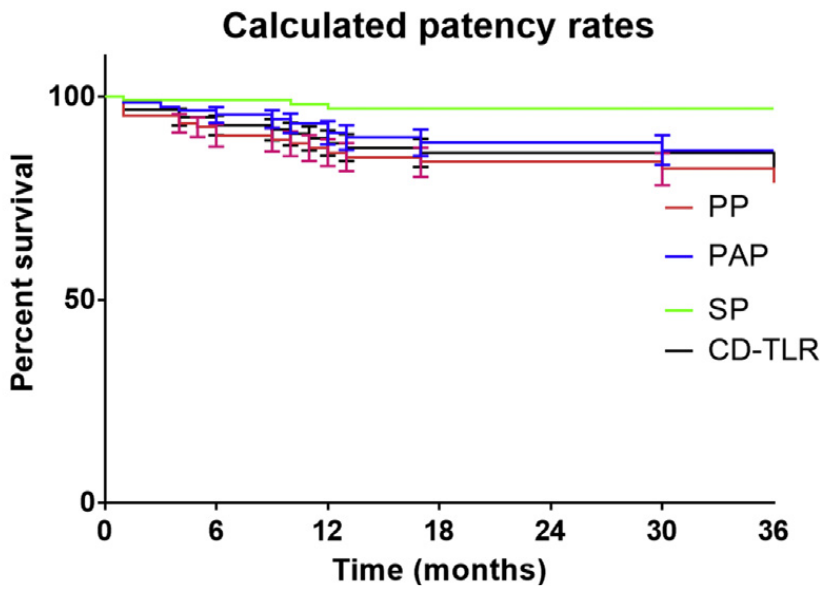


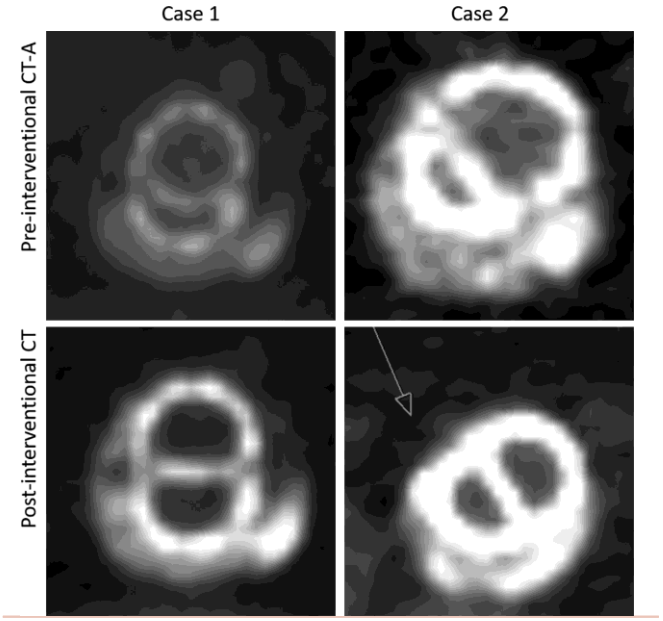


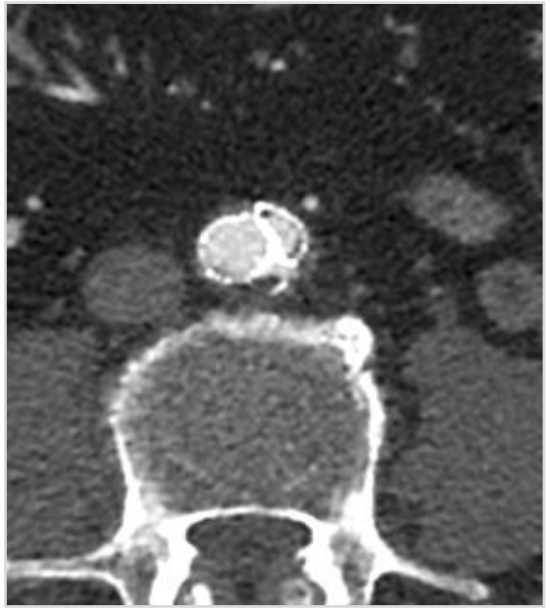
BACKGROUND

Three-year outcome of the covered endovascular reconstruction of the aortic bifurcation technique for aortoiliac occlusive disease

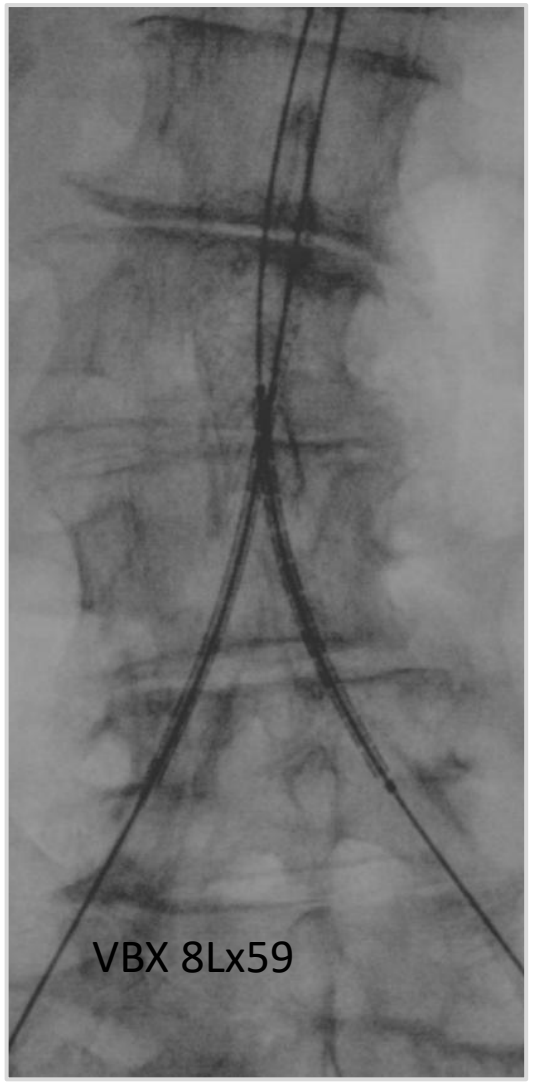
Kim Taeymans, MD,[a] Erik Groot Jebbink, MSc,[b,c] Suzanne Holewijn, PhD,[b] Jasper M. Martens, MD,[d] Michel Versluis, PhD,[c] Peter C. J. M. Goverde, MD,[a] *and* Michel M. P. J. Reijnen, MD, PhD,[b] *Antwerp, Belgium; and Arnhem and Enschede, The Netherlands*

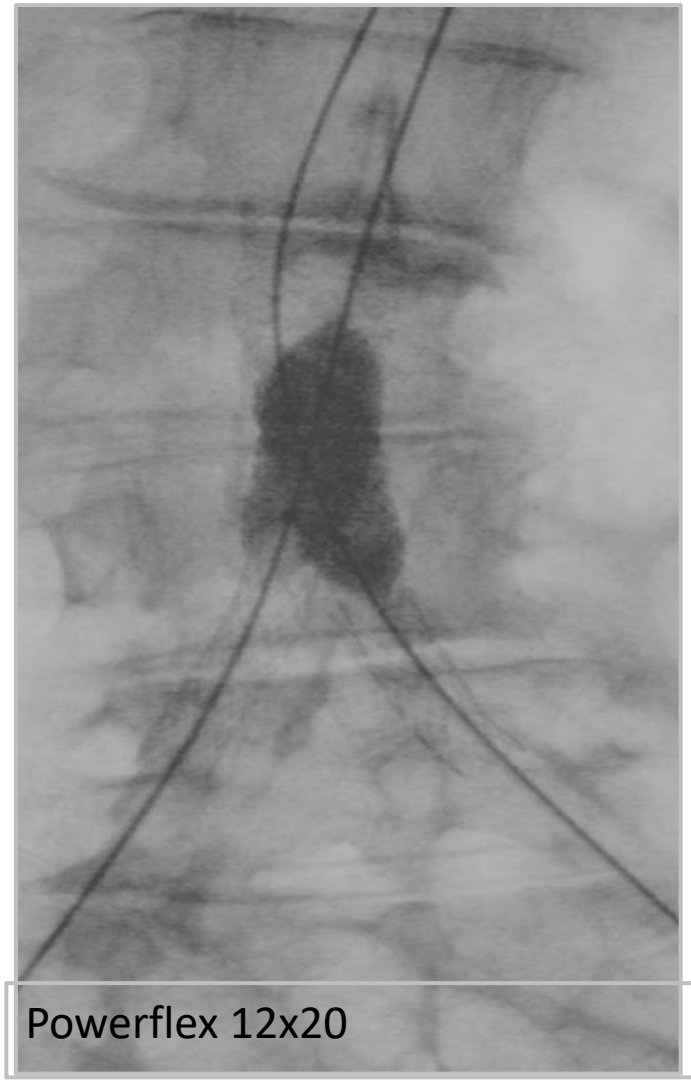


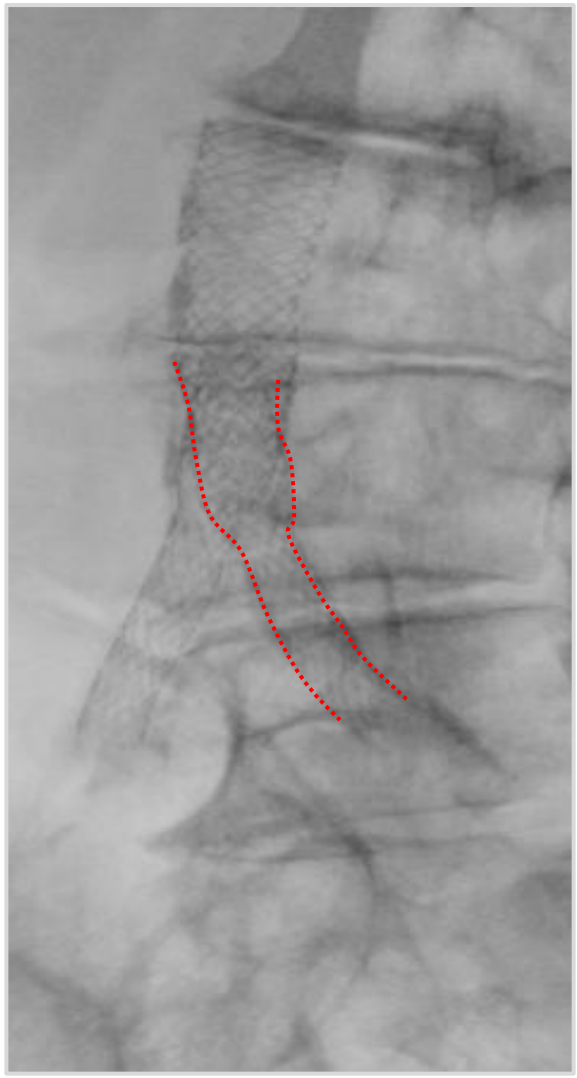


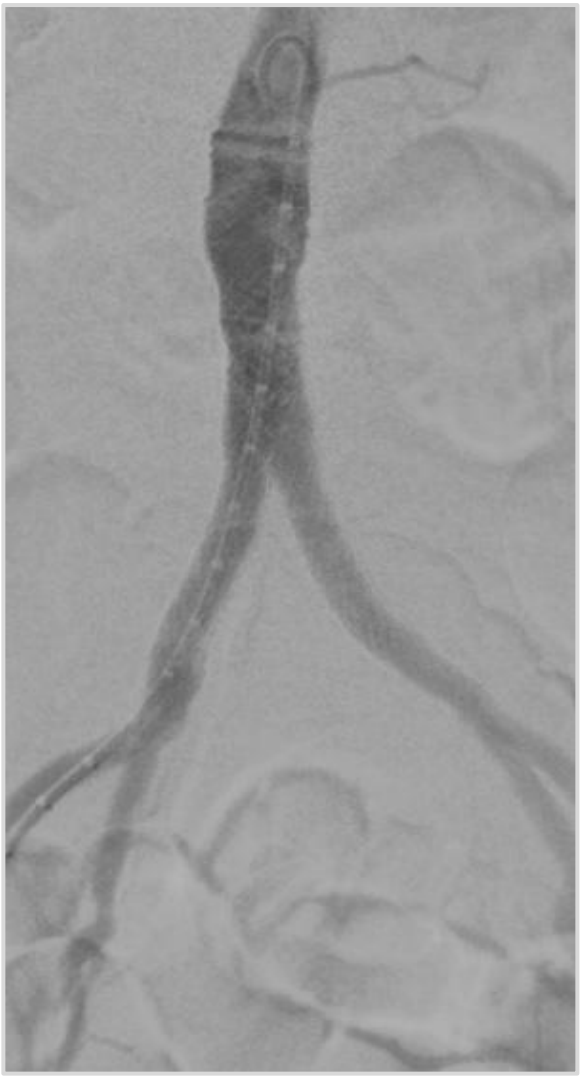


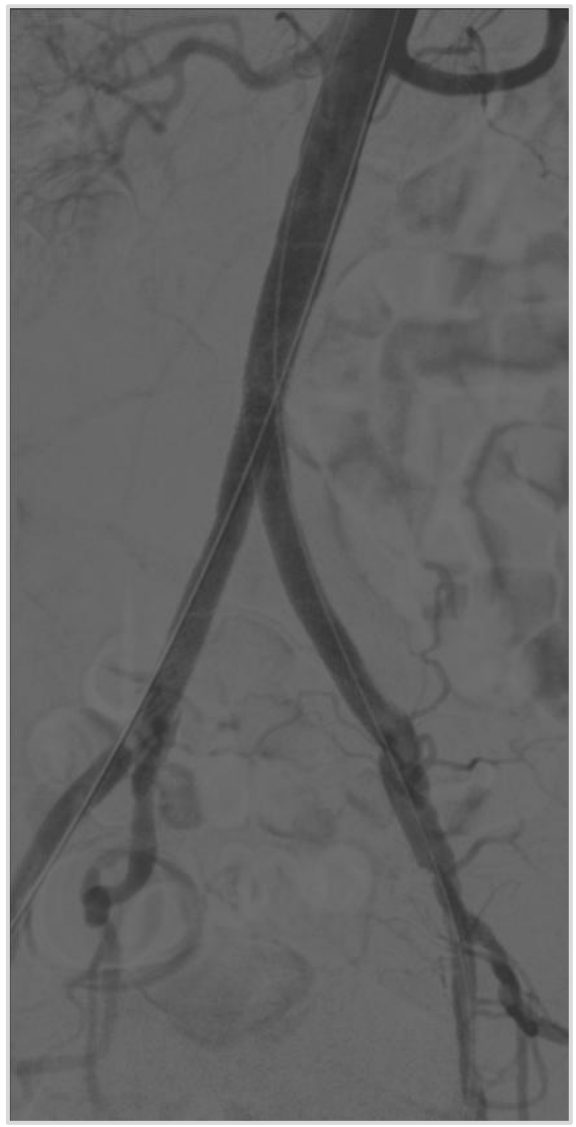
TECHNIQUE



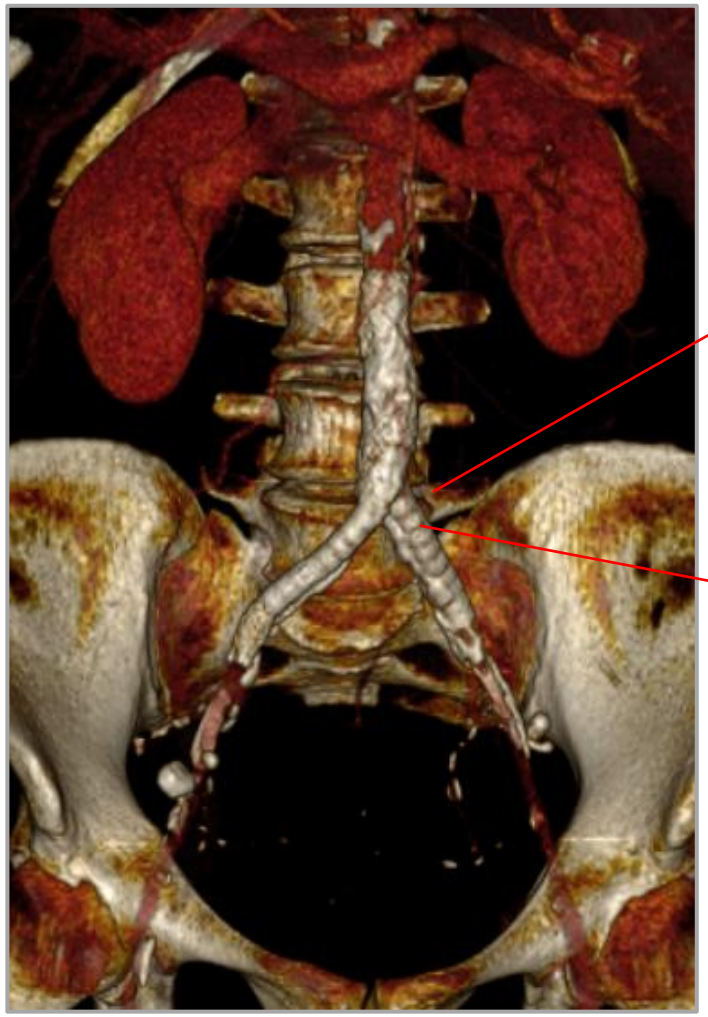


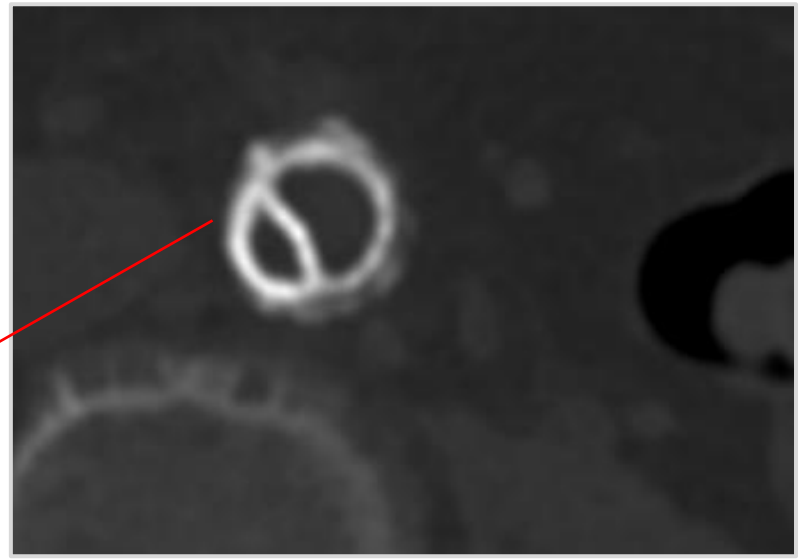


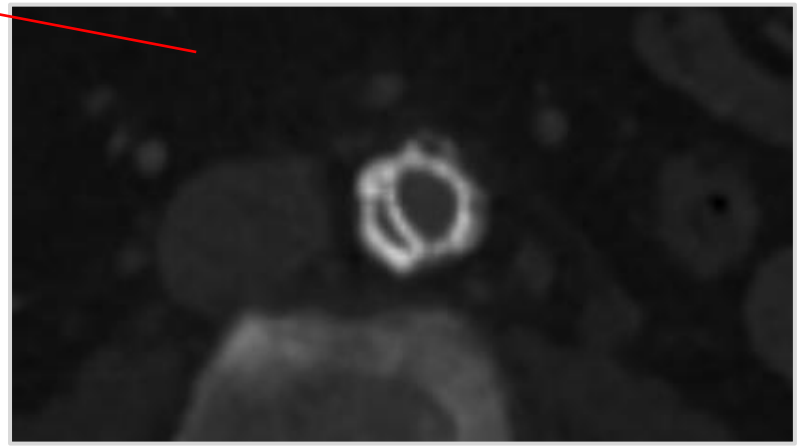


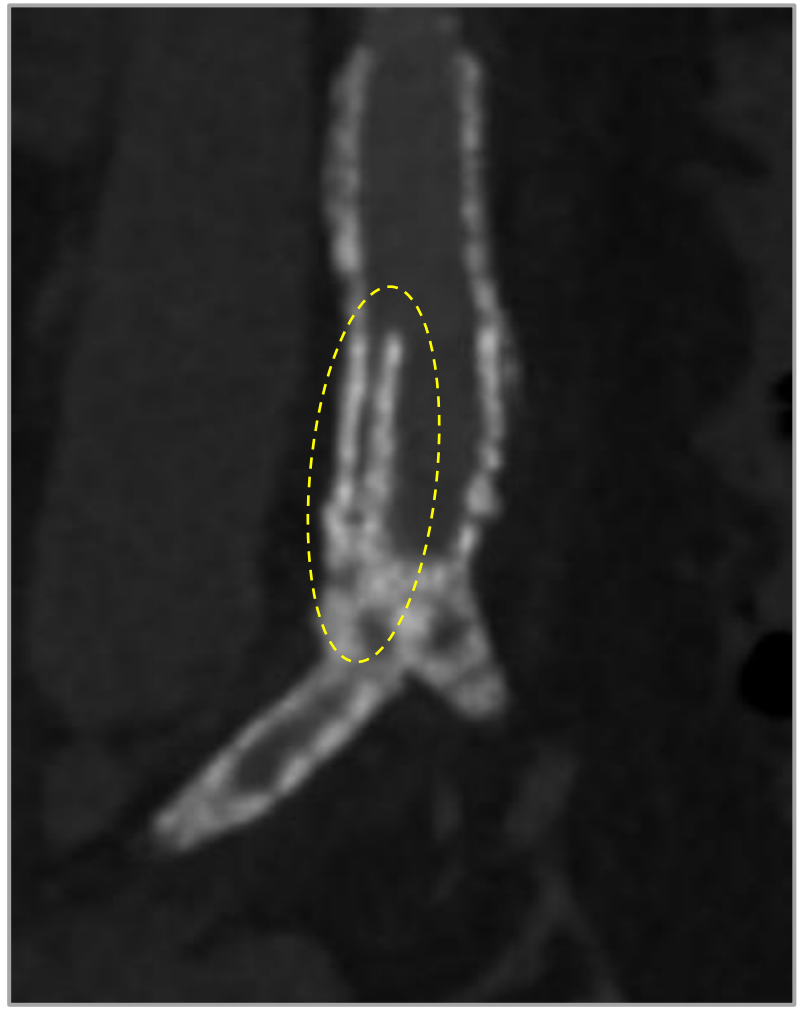


VERAB IN CALCIFIED AORTA







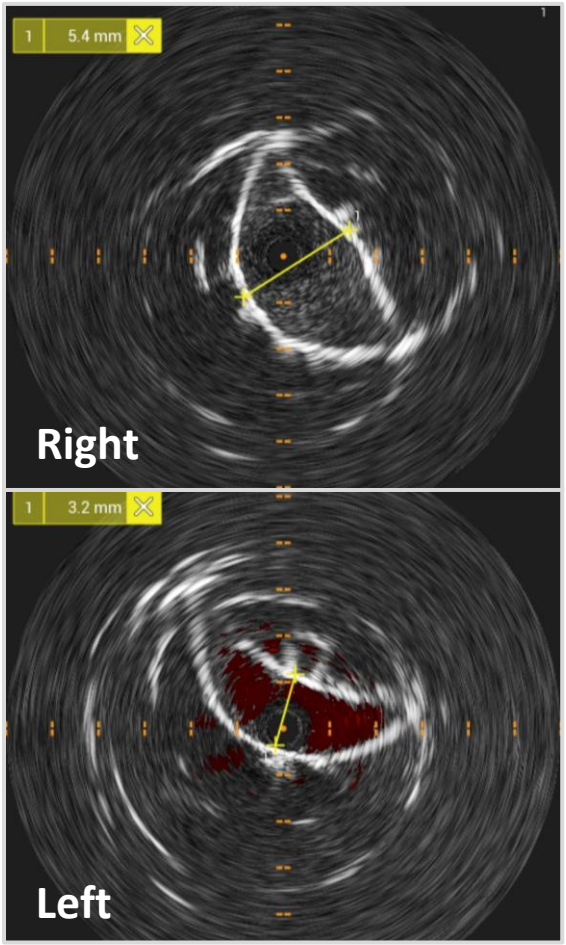


CBCT role

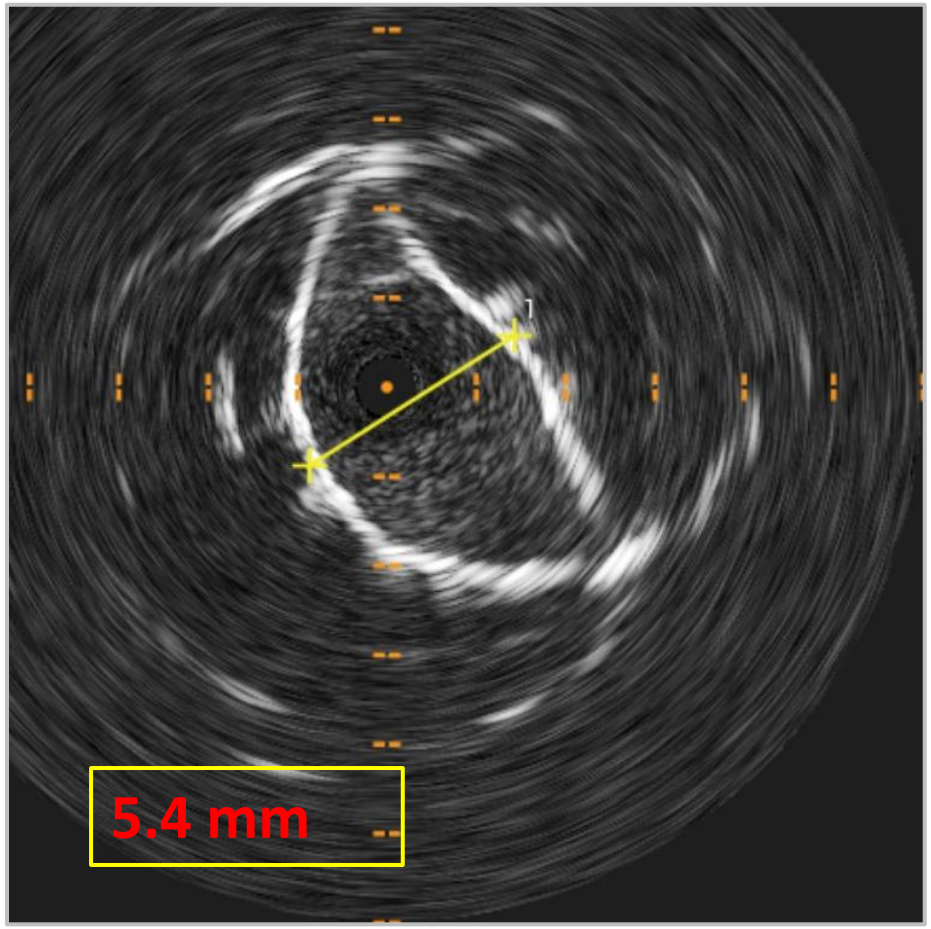
- Effective in quality control
- Cumbersome reintervene
- Do not allow multiple check
- Radiation exposure increase

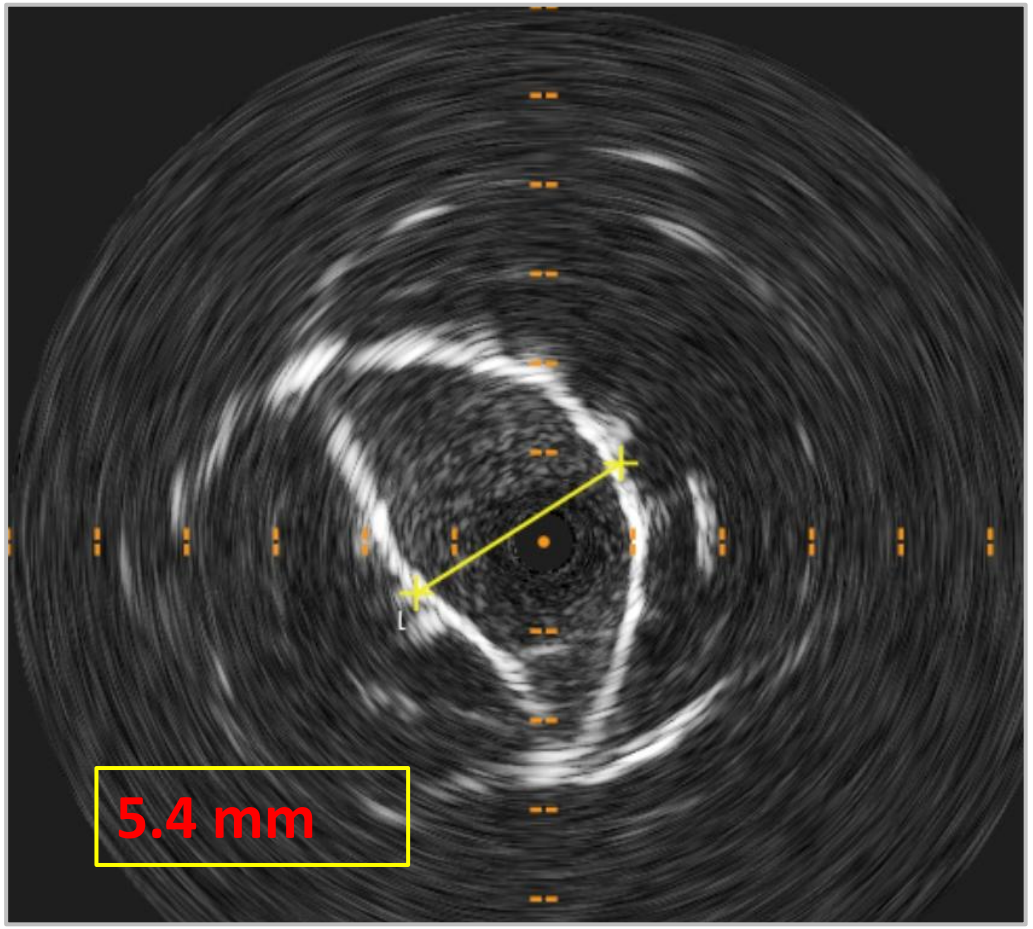
IVUS IMAGING

IVUS “D-shape” Imaging

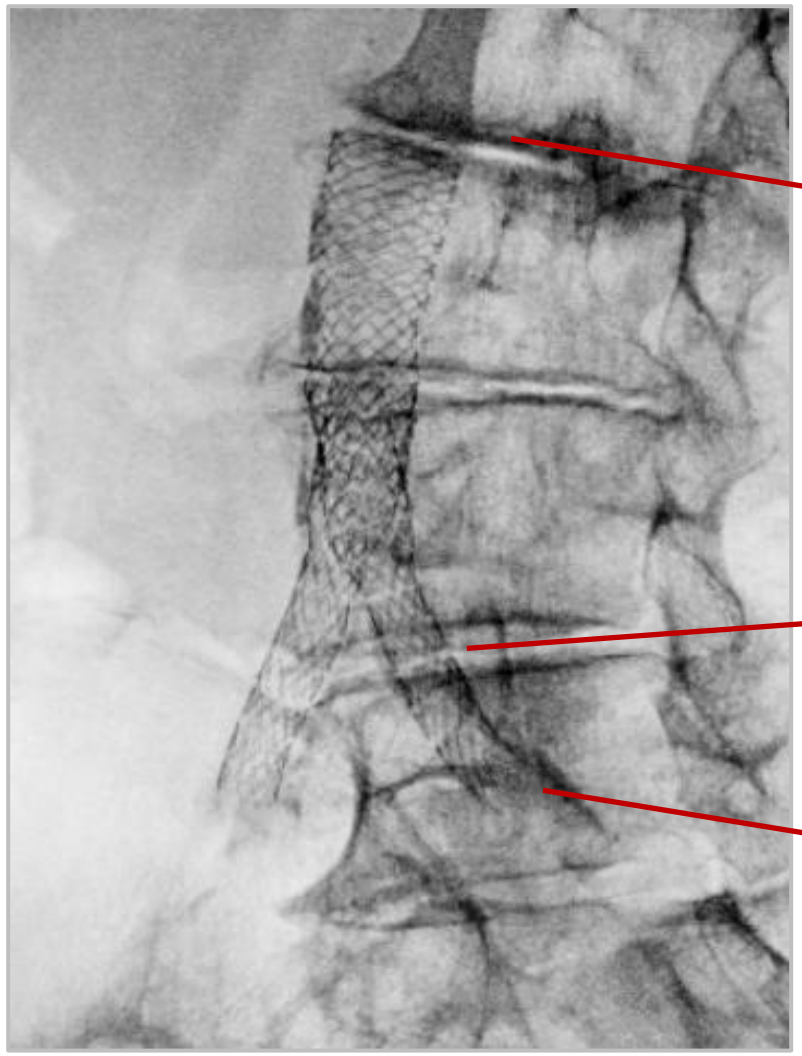


IVUS “D-shape” Imaging

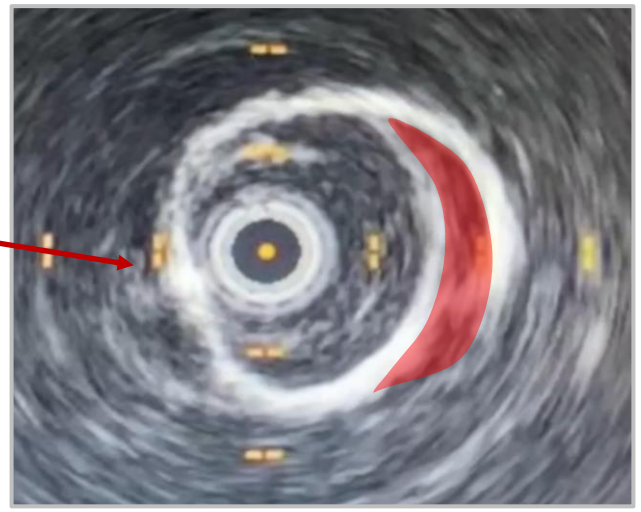


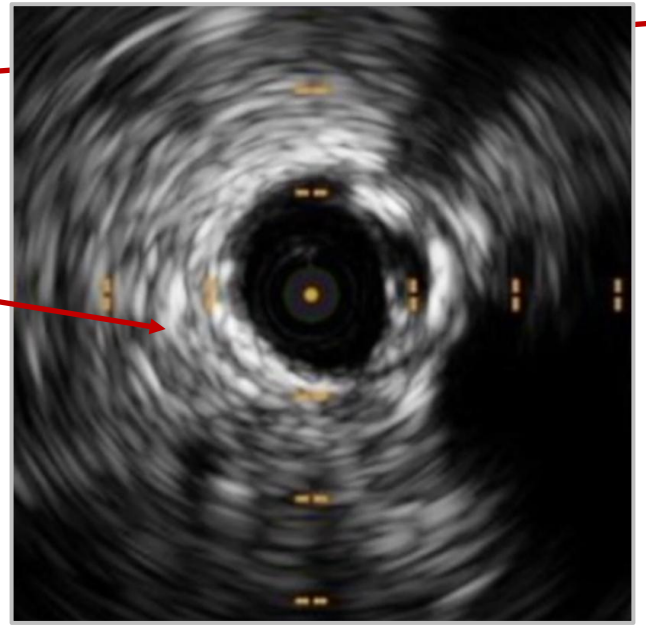


IVUS additional Imaging

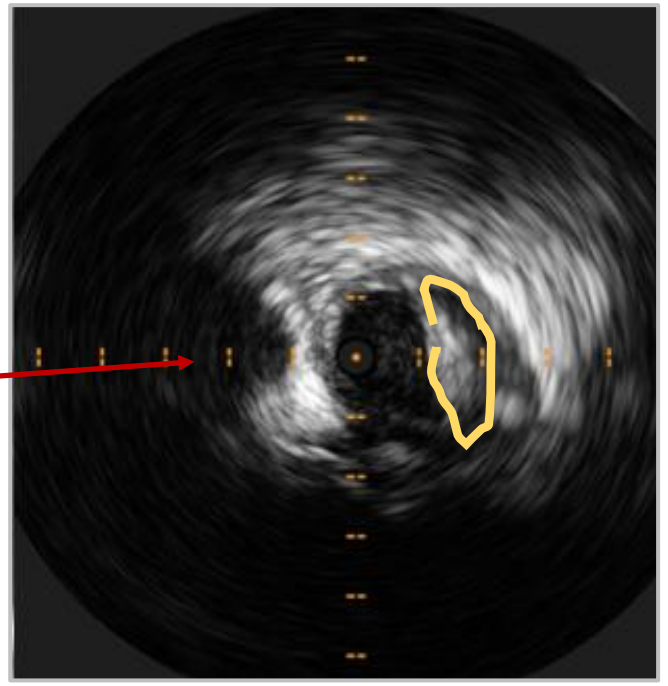


Inadequate wall apposition





Residual stenosis /kinking



From the Society for Vascular Surgery

JVS Journal of Vascular Surgery

Role of intravascular ultrasound for the technical assessment of endovascular reconstruction of the aortic bifurcation

Michele Antonello, MD, PhD, Michele Piazza, MD, Sabrina Menara, MD, Elda Chiara Colacchio, MD, Franco Grego, MD, Mirko Menegolo, MD, *and* Francesco Squizzato, MD, *Padua, Italy*

	Total	KS	CERAB	
	N = 204 limbs	n = 114 limbs	n = 90 limbs	
KSs				.999
VBX stents	93 (92)	52 (91)	41 (91)	
Other balloon-expandable stent	9 (8)	5 (9)	4 (9)	
Iliac length of coverage, cm	6.3±3.4	5.5±3.9	6.9±4.1	.861
Associated IVL	22 (22)	12 (21)	10 (22)	.999
Associated CFA endarterectomy	76 (37)	42 (37)	34 (38)	.999
	N = 102 patients	n = 57 patients	n = 45 patients	
IVUS- guided intraoperative revision	25 (25)	14 (25)	11 (24)	.999
Aortic stent	0 (0)	–	0 (0)	–
KSs	12 (12)	5 (9)	7 (15)	.359
External iliac stent	11 (11)	7 (12)	4 (9)	.751
Proximal or distal landing site	6 (6)	4 (7)	2 (4)	.691

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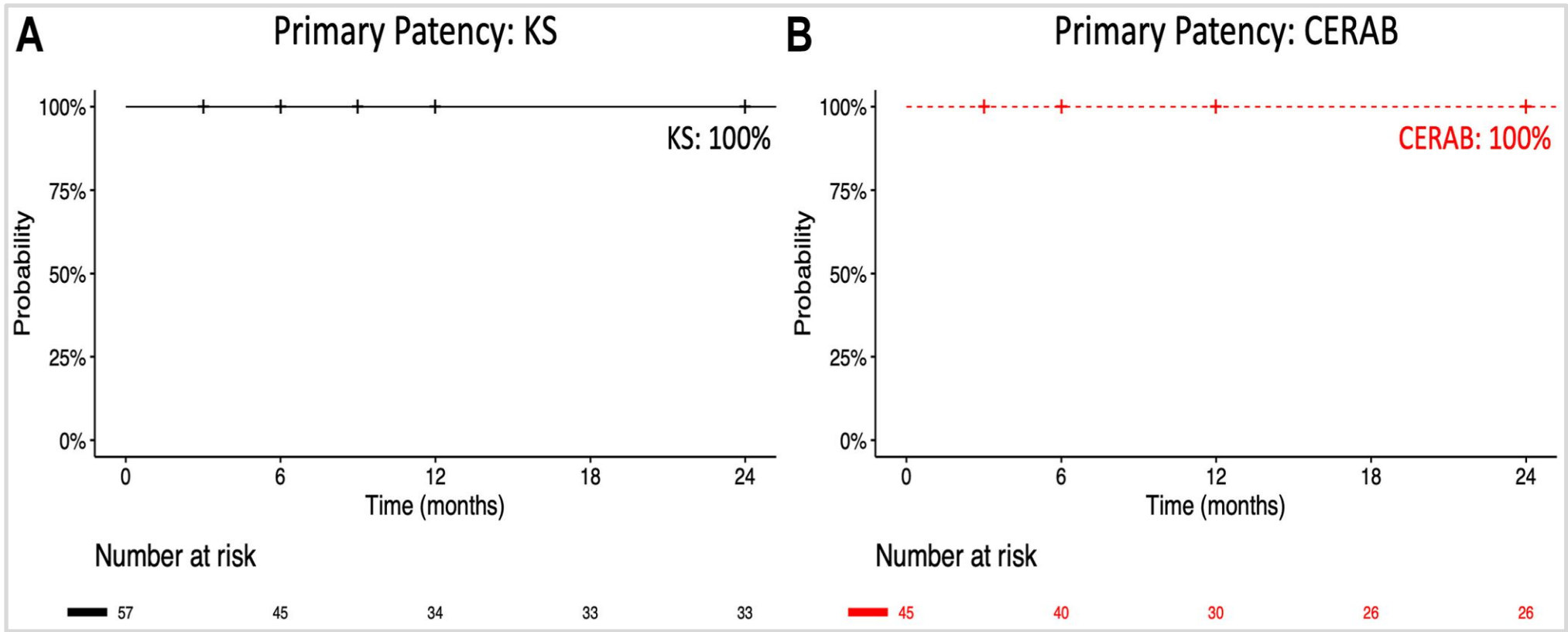
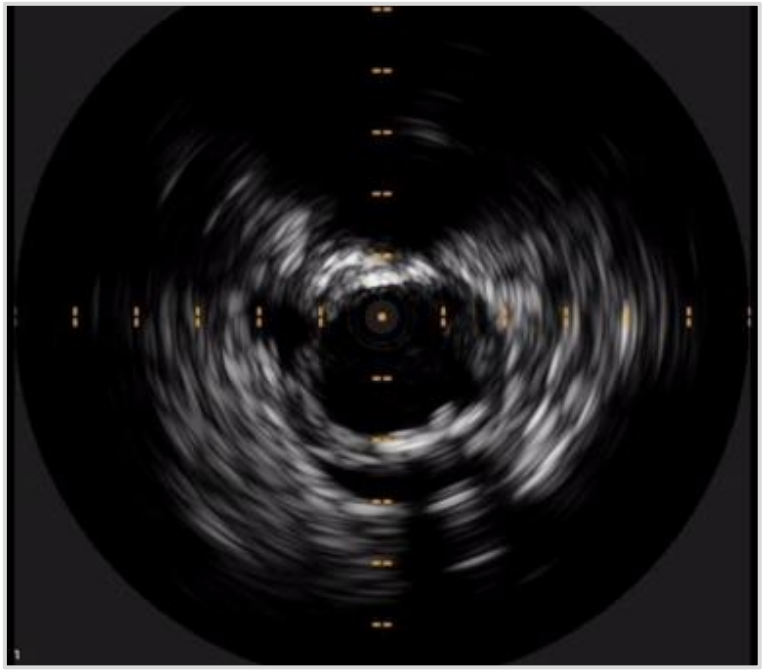


Multivariate analysis

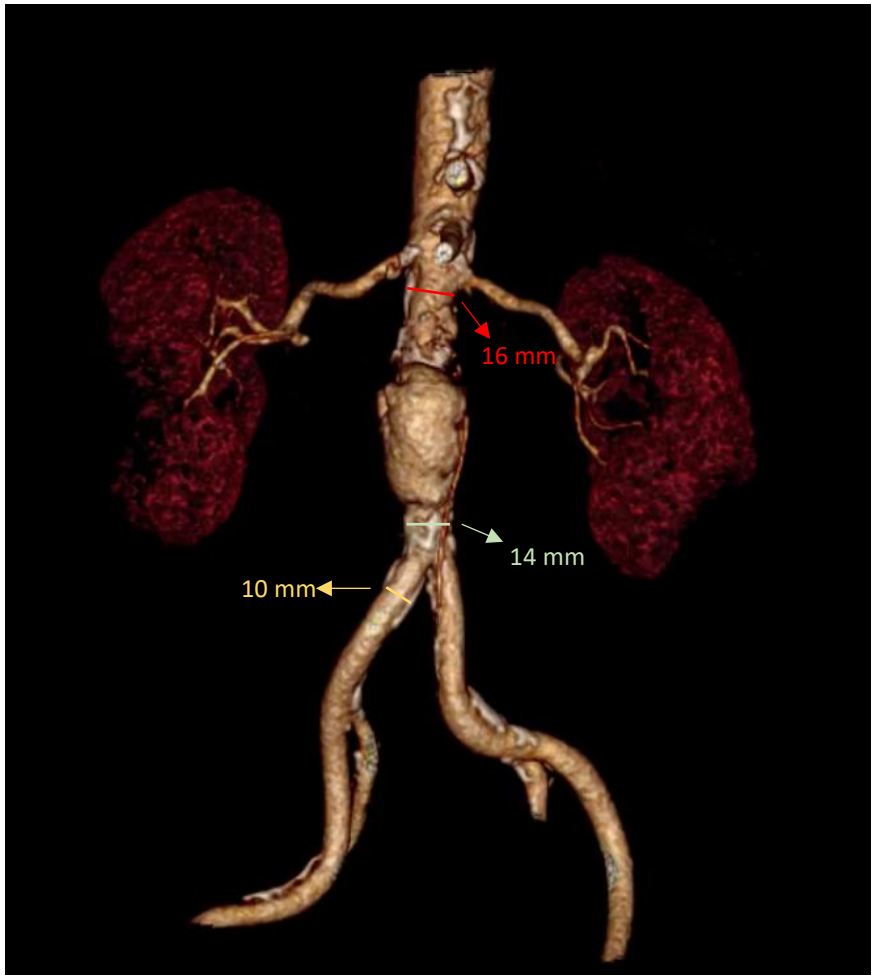
Table IV. Univariate and multivariable logistic regression for intravascular ultrasound (IVUS)-guided intraoperative revision

	Univariate		Multivariable	
Covariate	**OR (95% CI)**	***P***	**OR (95% CI)**	***P***
Age, years	1.07 (0.38-3.12)	.893	–	–
Male sex	0.78 (0.21-2.75)	.635	–	–
TASC D	1.12 (0.91-1.99)	.508	–	–
Aortic bifurcation diameter, mm	0.32 (0.21-1.34)	.093	–	–
Aortic bifurcation diameter <12 mm	3.11 (0.99-5.13)	.050[a]	2.56 (0.95-6.83)	.142
Common iliac artery diameter	1.09 (0.34-3.20)	.873	–	–
Chronic total occlusion	2.16 (0.41-5.50)	.785	–	–
Chronic total occlusion location				
Common iliac	Ref.		–	–
Aorta	1.23 (0.87-3.15)	.131	–	–
External iliac	2.94 (1.02-6.15)	.021[a]	–	–
Severe calcification	4.09 (0.94-38.4)	.062	3.00 (0.89-40.11)	.321
Severe calcification + total occlusion	–	–	1.85 (1.01-5.27)	.044[a]
Severe calcification + narrow aortic bifurcation <12 mm	–	–	2.34 (1.10-8.64)	.032[a]
Technique				
KSs	Ref.		–	–
CERAB	0.78 (0.19-1.29)	.101	–	–

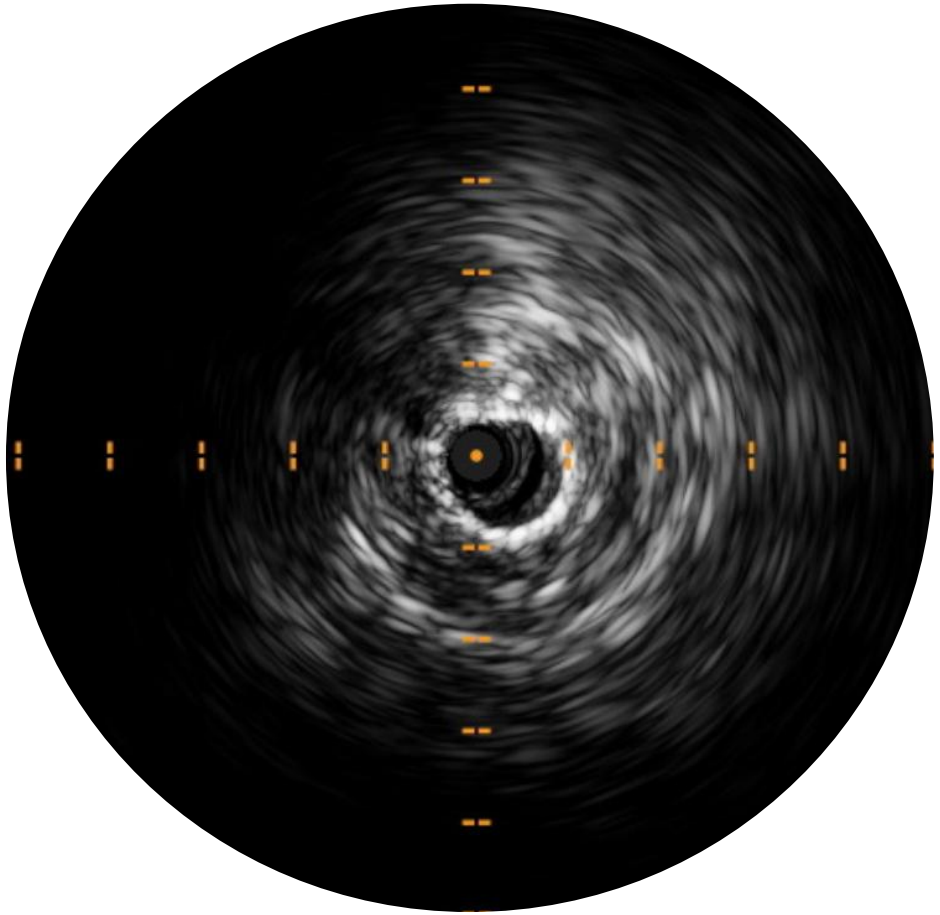
CERAB, Covered endovascular reconstruction of the aortic bifurcation; *CI*, confidence interval; *KS*, kissing stent; *OR*, odds ratio; *Ref*, reference; *TASC*, Trans-Atlantic Inter-Society Consensus.
[a]Statistically significant.



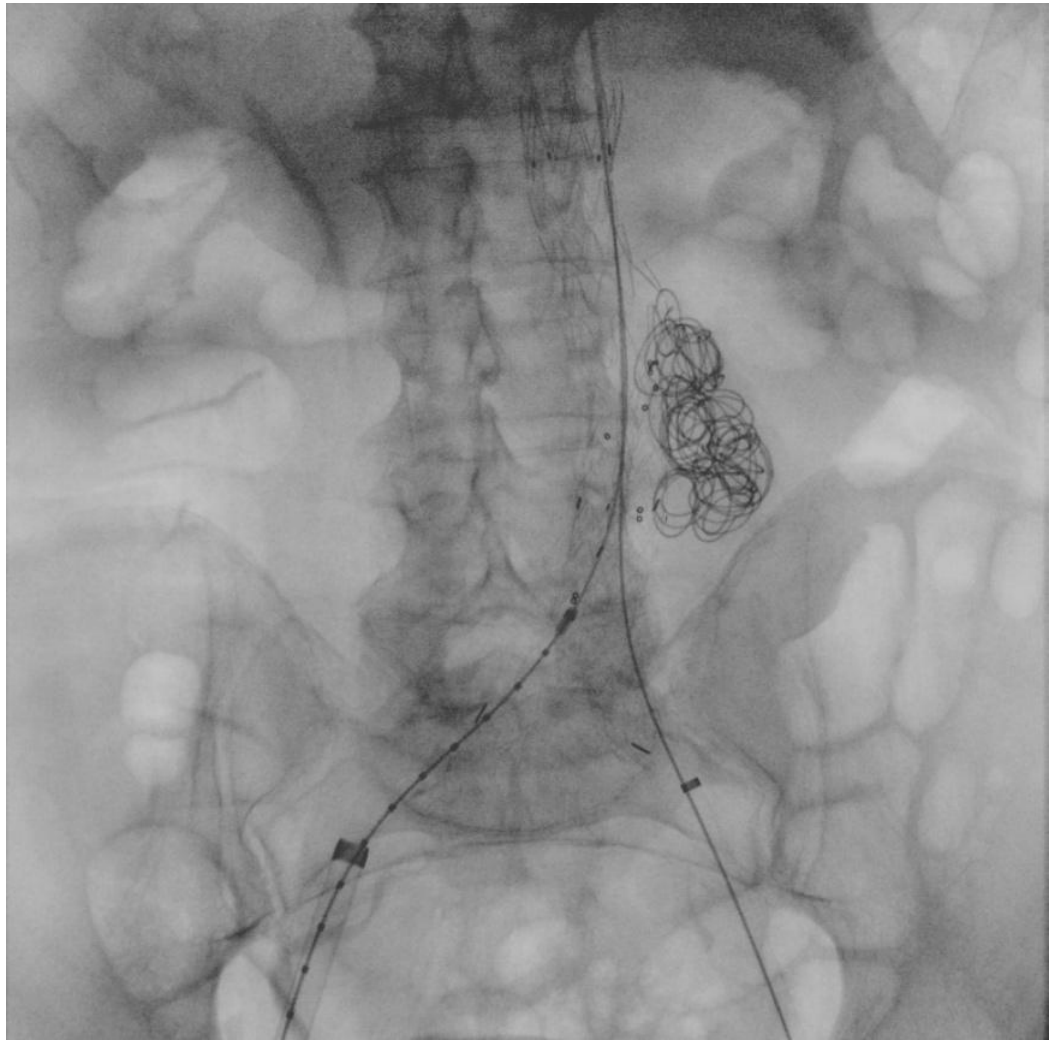
NARROW AORTIC BIFURCATION



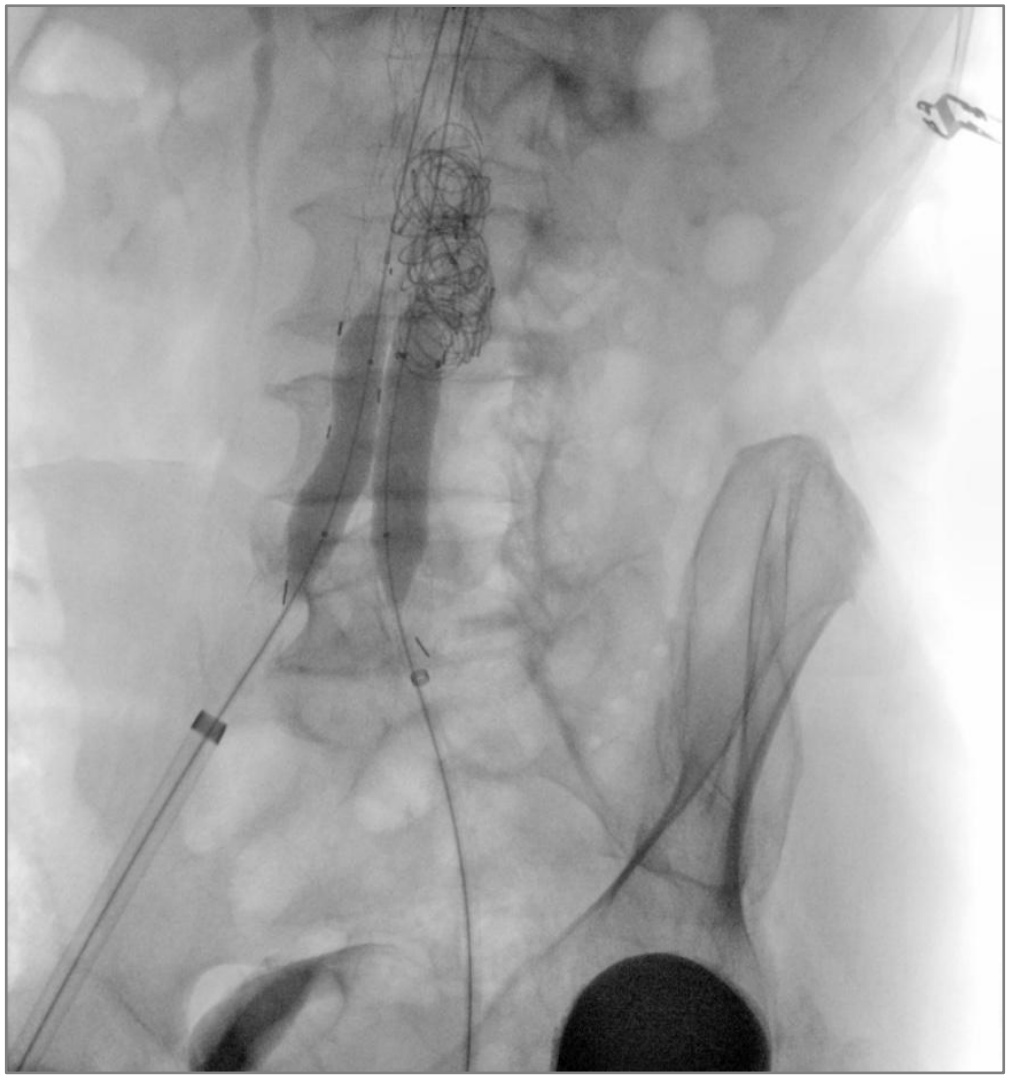
NARROW AORTIC BIFURCATION



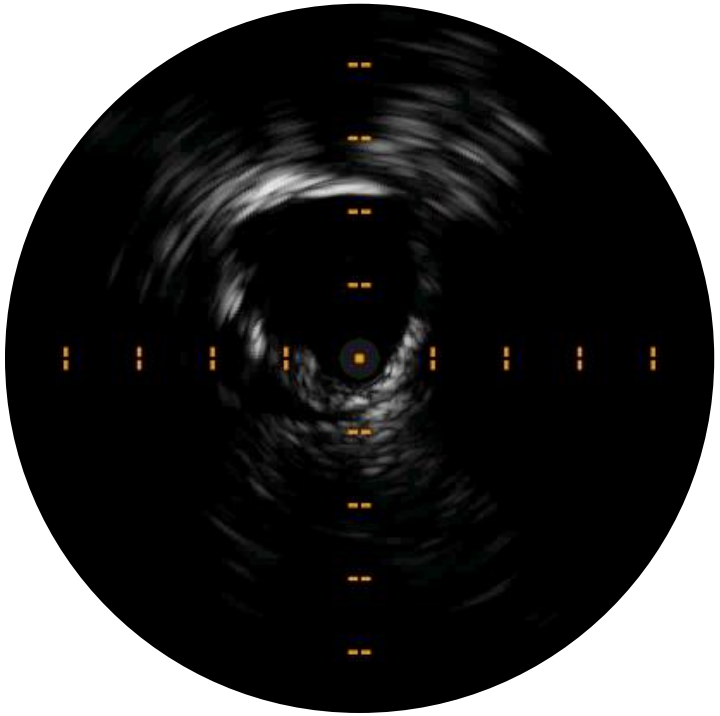
IVUS



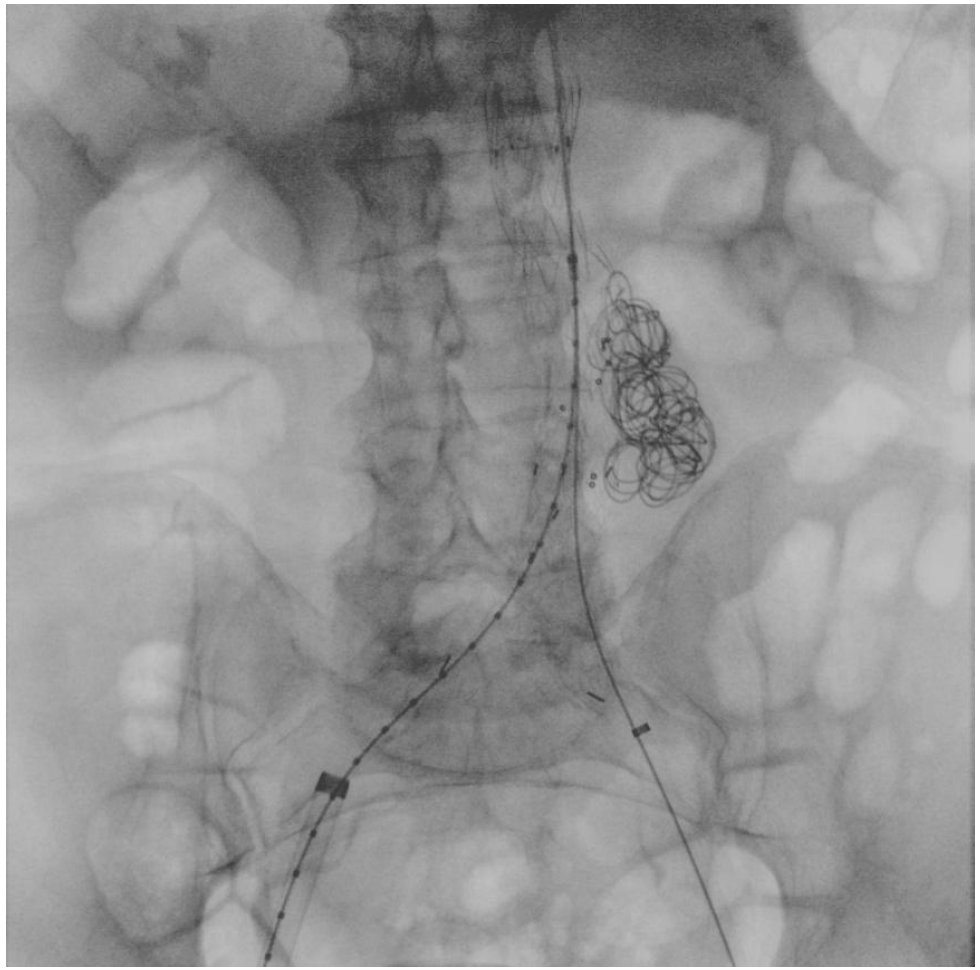
NARROW AORTIC BIFURCATION



NARROW AORTIC BIFURCATION



IVUS



CONCLUSIONS

- IVUS, in a selected cohort of patients, with severe aorto-iliac obstructive disease may increase intraoperative quality control after CERAB.
- In our experience, allowed the identification and intraoperative correction of a significant technical defect in 15-20% of patients, achieving optimal mid-term results.
- IVUS-guided “quality control” was particularly effective in cases with narrow (<12mm) calcified aortic bifurcation and iliac artery total occlusion
- Further studies with larger number of patients are required