

COVERED versus Bare metal stents in the Reconstruction of the Aortic bifurcation

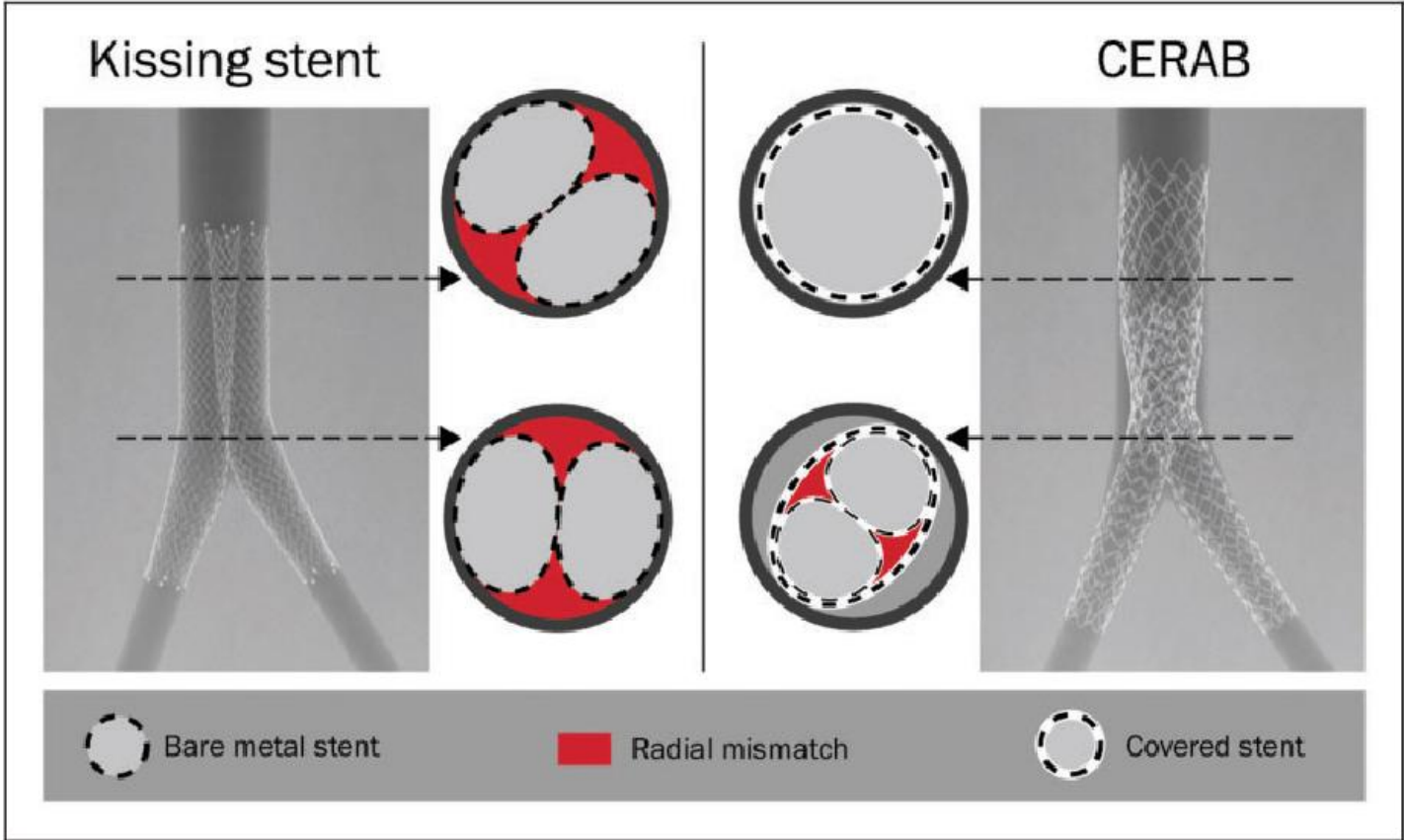
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Endovascular Aorto-iliac reconstructions



The rationale of stent grafts for aortoiliac atherosclerotic disease

Pan-European collaboration in 2020-21

COversus **B**are metal stents in the **R**econstruction of the **A**ortic bifurcation: early and mid-term outcomes from the **COBRA** European multicenter registry

[>> The COBRA Registry Study <<](#)

Objective: Report outcomes following endovascular revascularisation for severe AIOD using Covered (CS) or Bare Metal (BMS) stent(s).

The COBRA Registry Study



Methods

Retrospective cohort study

Consecutive patients undergoing treatment with CS or BMS for AIOD ... dates: November 2012 → March 2020

12 European centres

Outcome measures: mortality, freedom from Target Lesion Revascularization (TLR), major amputation, Major Adverse Cardiac and Cerebrovascular Events (MACCE).



The COBRA Registry Study

Results

252 patients (53% males; mean age: 65 ± 10 years)

102 with BMS - 150 with CS

Severe calcification in >65%

70% TASC D, 32% aortic CTO, 46% iliac CTO

Median follow-up **17 months** (range: 6 – 40; none lost to follow-up).

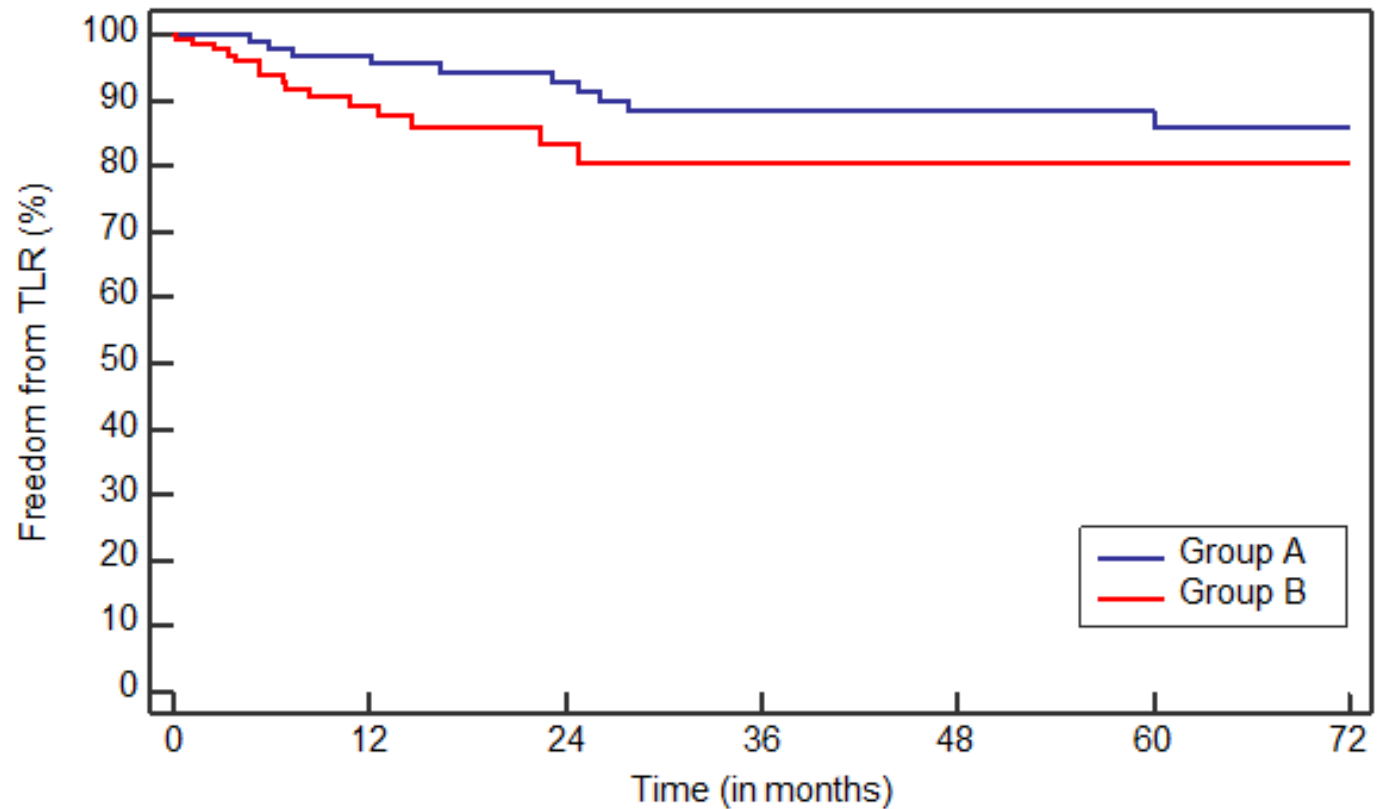
	All patients	Bare Metal stents	Covered stents	p
Aortic CTO	80 (32%)	28 (28%)	52 (35%)	0.228
Iliac CTO (any)	117 (46%)	27 (27%)	90 (60%)	0.001
Median aortic lesion length (IQR), mm	40 (25-62)	48 (40 to 57)	33 (30 to 40)	0.002
Median right iliac lesion length (IQR), mm	30 (0-57)	20 (0 to 31)	40 (0 to 270)	0.004
Median left iliac lesion length (IQR), mm	30 (0-58)	23 (10 to 37)	30 (23 to 44)	0.001
Aortic calcification				0.004
Grade 4	81 (32%)	14 (14%)	67 (45%)	
Calcification right iliac lesion				0.001
Grade 4	45 (18%)	4 (4%)	41 (28%)	
Calcification left iliac lesion				0.001
Grade 4	54 (22%)	18 (8%)	46 (31%)	
				0.001

30-day results

Events	All patients	Bare Metal stents	Covered stents	p
Mortality	2 (1%)	0	2 (1%)	0.243
TLR	0	0	0	-
Amputation	2 (1%)	0	2 (1%)	0.243
MACCE	3 (1%)	1 (1%)	2 (1%)	0.795
Access site complications	22 (9%)	8 (8%)	14 (9%)	0.681
AKI	8 (3%)	2 (2%)	6 (4%)	0.366
Aortic rupture (intra-operative)	2 (1%)	0	2 (1%)	0.242
Stroke	1 (0.4%)	1 (1%)	0	0.225

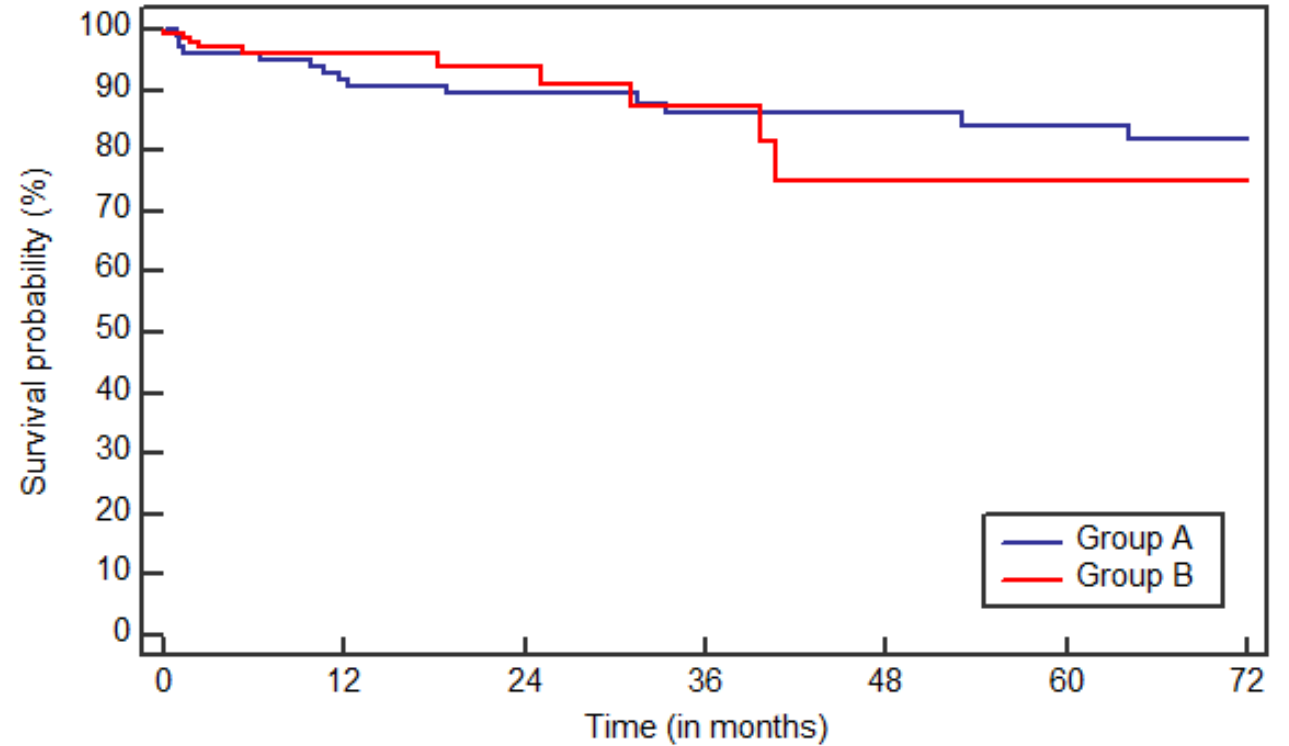
TLR end of follow-up

Kaplan Meier curve comparing freedom from Target Lesion Revascularisation (TLR) during follow-up between patients receiving a bare metal aortic stent (Group A) vs. patients receiving a covered aortic stent (Group B) - Hazard Ratio: 1.98, 95% Confidence Interval: 0.89 to 4.43, P=0.095.



Number at risk							
Group: Group A							
	102	83	64	51	41	33	23
Group: Group B							
	150	61	32	15	8	7	5

Survival end of follow-up



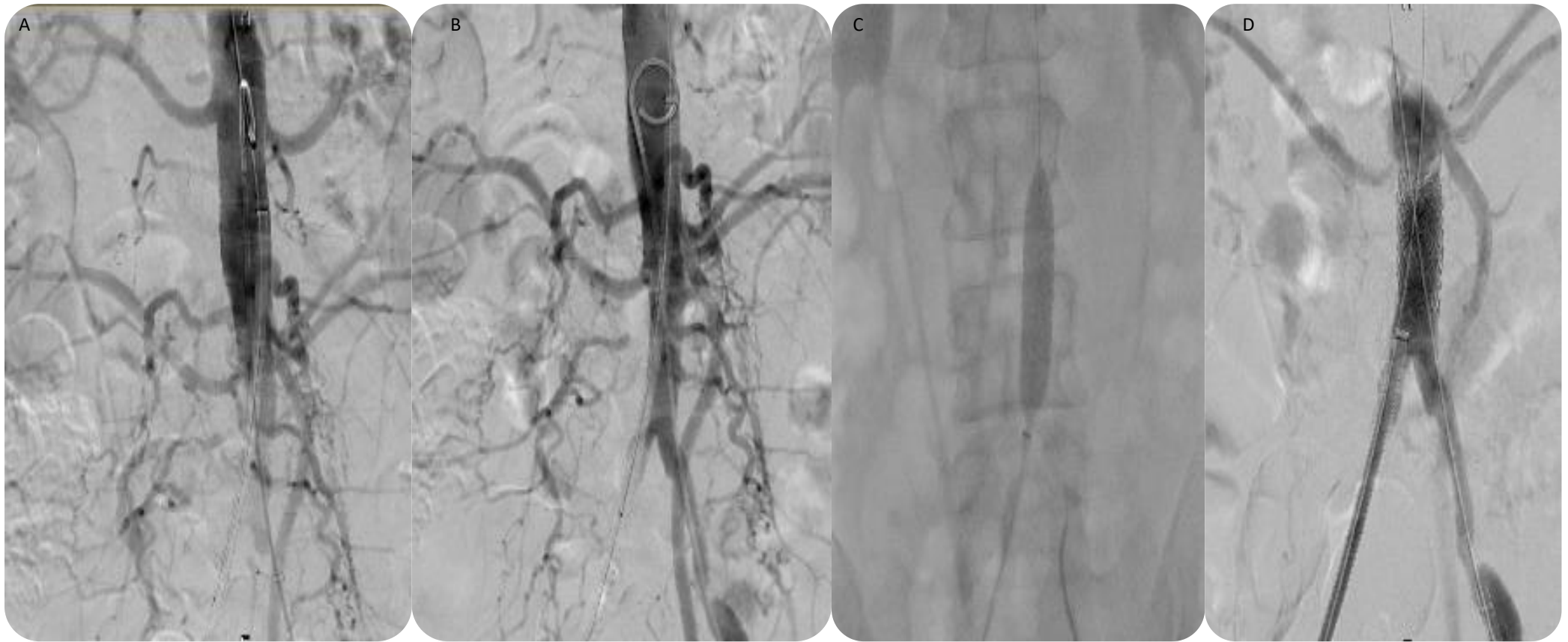
Number at risk	
Group: Group A	
102	84 67 55 45 38 26
Group: Group B	
150	66 35 19 11 9 6

Outcome predictors (17 months)

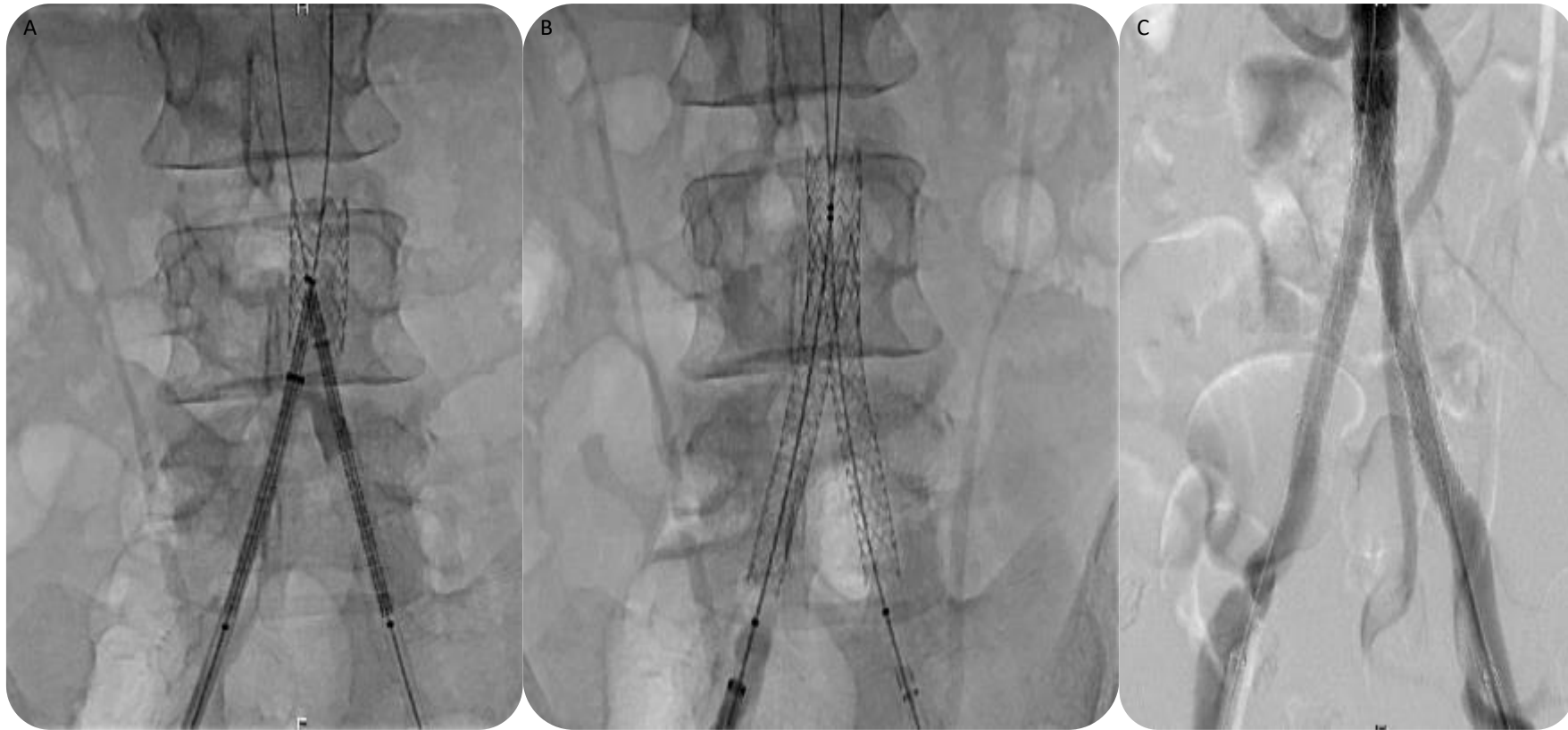
COX REGRESSION USING ANATOMICAL CHARACTERISTICS

	P value	HR	95% CI for HR
Covered aortic stent	0.424	1.441	0.589 – 3.527
Aortic chronic total occlusion	0.407	1.498	0.576 – 3.895
Iliac chronic total occlusion	0.331	1.710	0.579 – 5.049
Aortic lesion length	0.782	1.002	0.988 – 1.016
Total iliac lesion length	0.615	1.001	0.996 – 1.006
TASC II classification	0.181	1.877	0.746 – 4.718
Severe aortic calcification	0.869	1.144	0.231 – 5.670
Severe iliac calcification	0.911	1.085	0.260 – 4.525
Conditional Cox regression (best fit model)			
Covered aortic stent	0.027	0.302	0.105 – 0.875
TASC II classification	0.050	2.184	0.984 – 4.848
Use covered common iliac stents	0.001	0.080	0.022 – 0.271

The CERAB technique case example



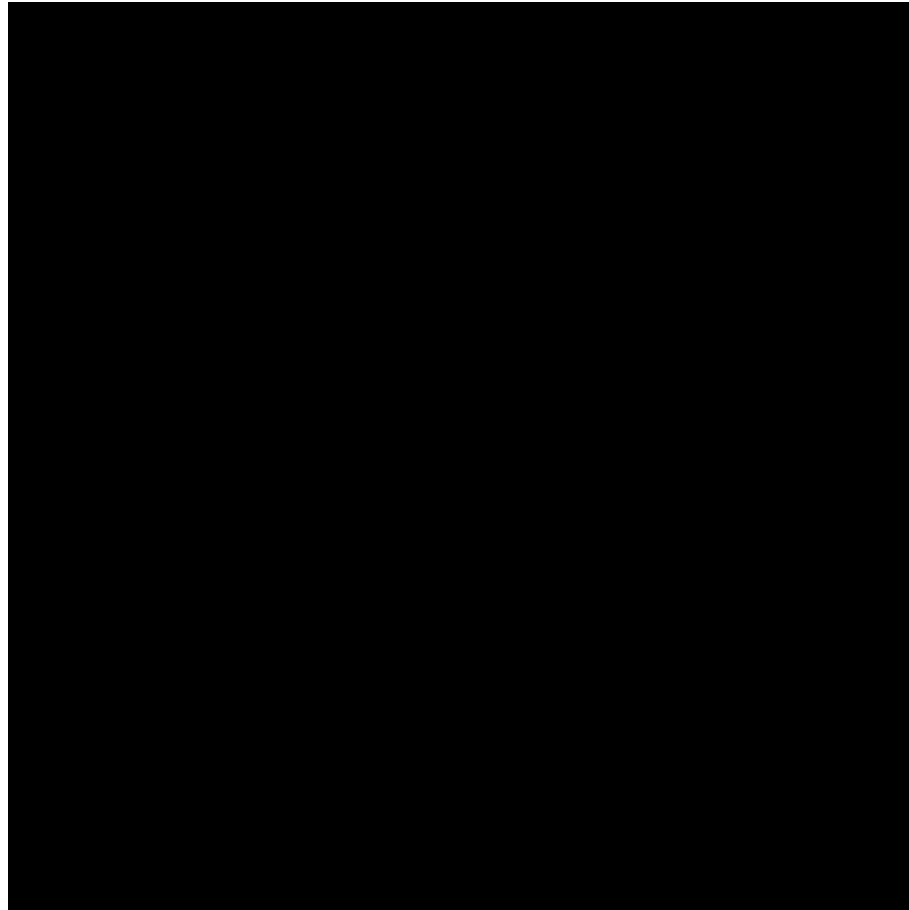
The CERAB technique case example



But...



Bare Metal might also do a good job..

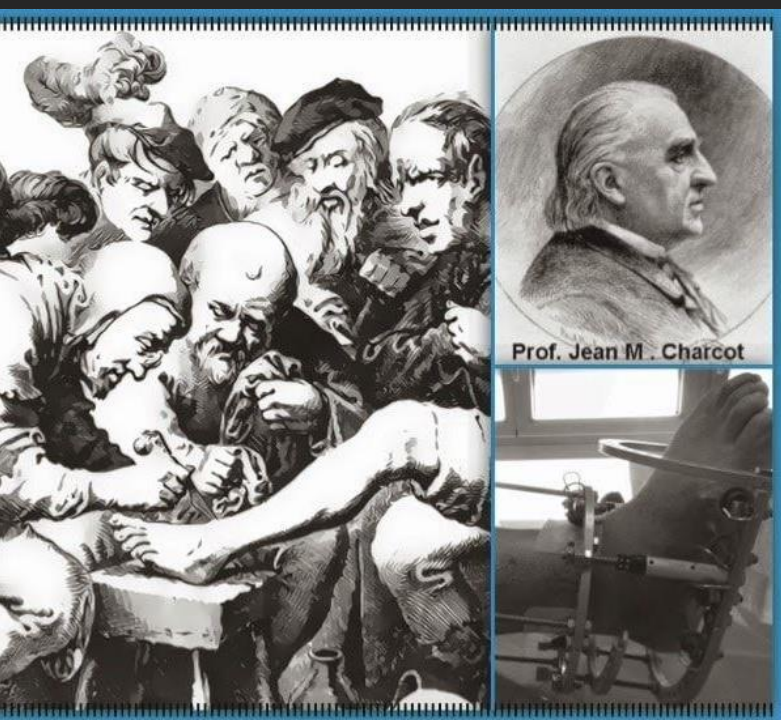


Conclusions

- The COBRA registry is the first study comparing covered and bare metal aortic reconstructions
- Benefit in terms of reduced TLR in the CERAB group
- No differences regarding morbidity and mortality
- Decision making should be based on various parameters including vessel access
- Time to randomize!



Thank you
for your
attention



Prof. Jean M. Charcot

