

CACVS

Paris, January 25-17 2018

Technique of repair, bare stents or covered stents? Technique, choix des stents: couverts ou non couverts?

Jos C. van den Berg, MD PhD

Ospedale Regionale di Lugano, sede Civico Lugano



Disclosures

- No conflicts of interest

Iliac occlusive disease

- Choice of material
 - PTA with provisional stenting vs. primary stenting
 - Balloon expandable vs. self expandable
 - BMS vs. covered stent

BMS

- Low profile (5-6F)
- Higher flexibility
- Permits patency of side branches
- Problem of long-term patency (?)

Covered stents

- Higher profile ($>7F$)
- More rigid
- Risk of losing side branches
- Better patency (?)
- Potentially less risk of distal embolization

Iliac occlusive disease

- Occlusions need different approach
 - Predilation
 - Back-loading
 - Rendez-vous/snaring
- Do we need covered stents?

Accepted indications for covered stents

- Acute occlusion/emboli
- Perforation (bail-out)
- Aneurysmal disease

Covered stents

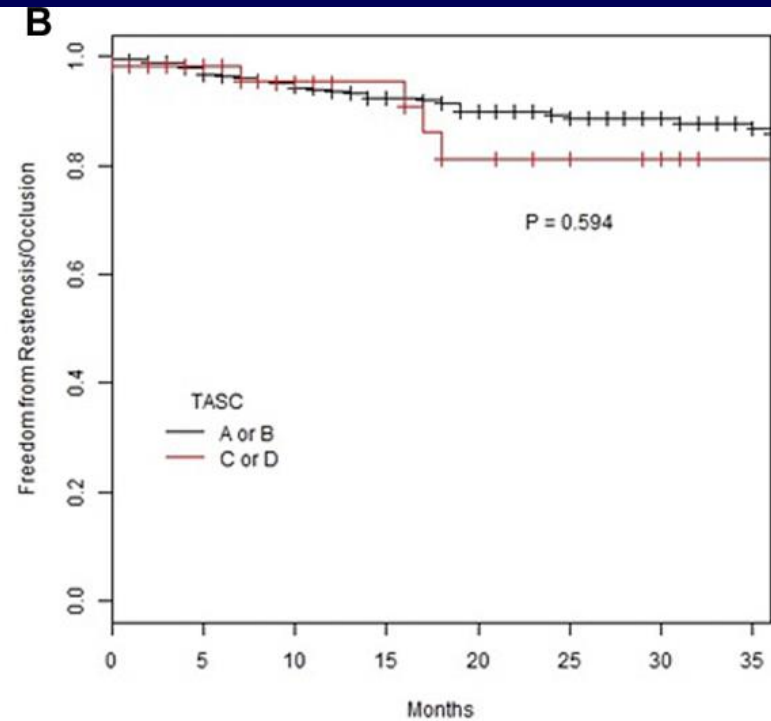
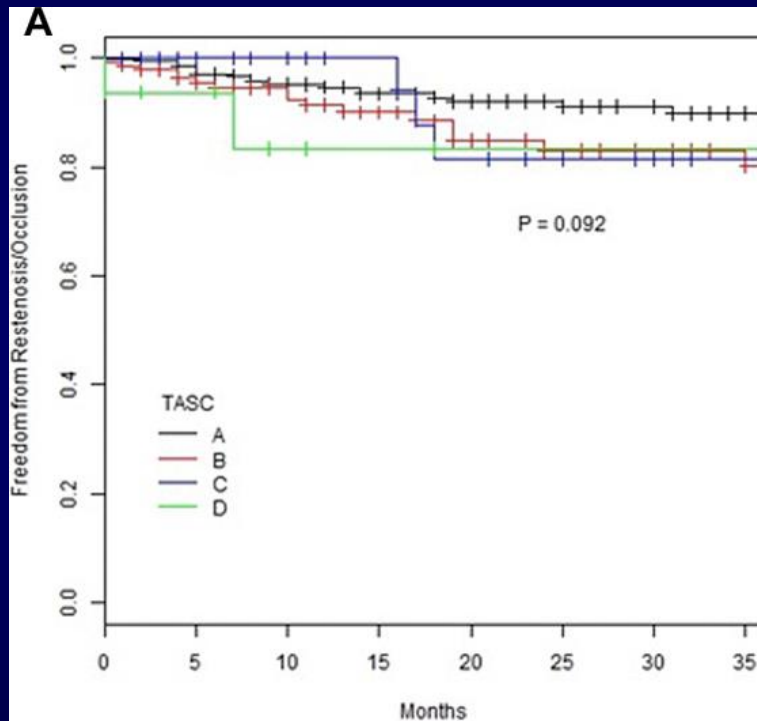
- CERAB
 - Better hemodynamics (in vitro)
 - Potential loss of collateral pathways (lumbar arteries)



Contemporary results BMS

- n = 676
- Technical success rate 99%
 - 100% for stenoses (n = 596)
 - 95% for chronic total occlusions (n = 80)
- Lesion complexity had no impact on success rates (TASC A + B vs C + D; 99.5% vs. 98.6%)
- TASC II classification had no impact on long-term patency rates (TASC A + B vs C + D; 86% vs 81%)
- Multivariable analysis: stent diameter only significant predictor for patency

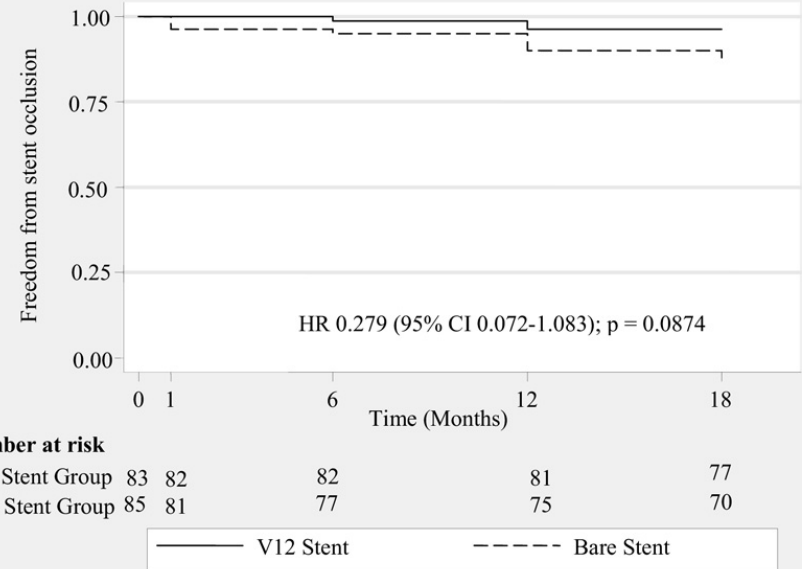
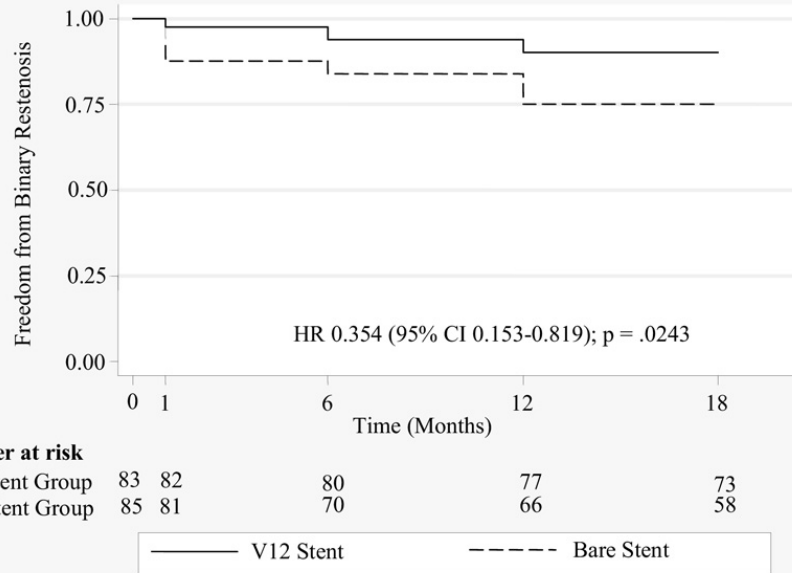
Contemporary results BMS



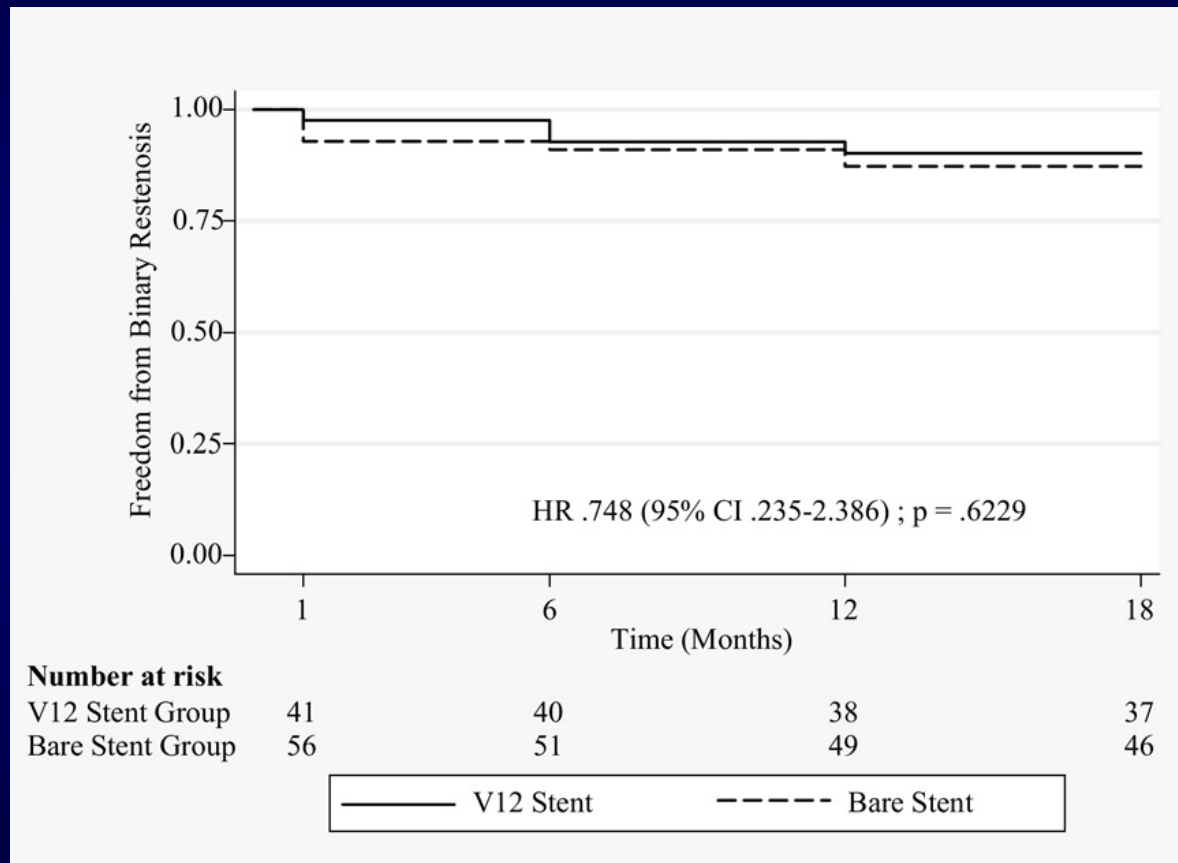
BMS vs. covered stents

- COBEST
- N=168 (125 patients)
- PTFE covered BE stent (Advanta V12) vs. BMS (randomized)
- External iliac disease involved treated with SE BMS

COBEST 18 months



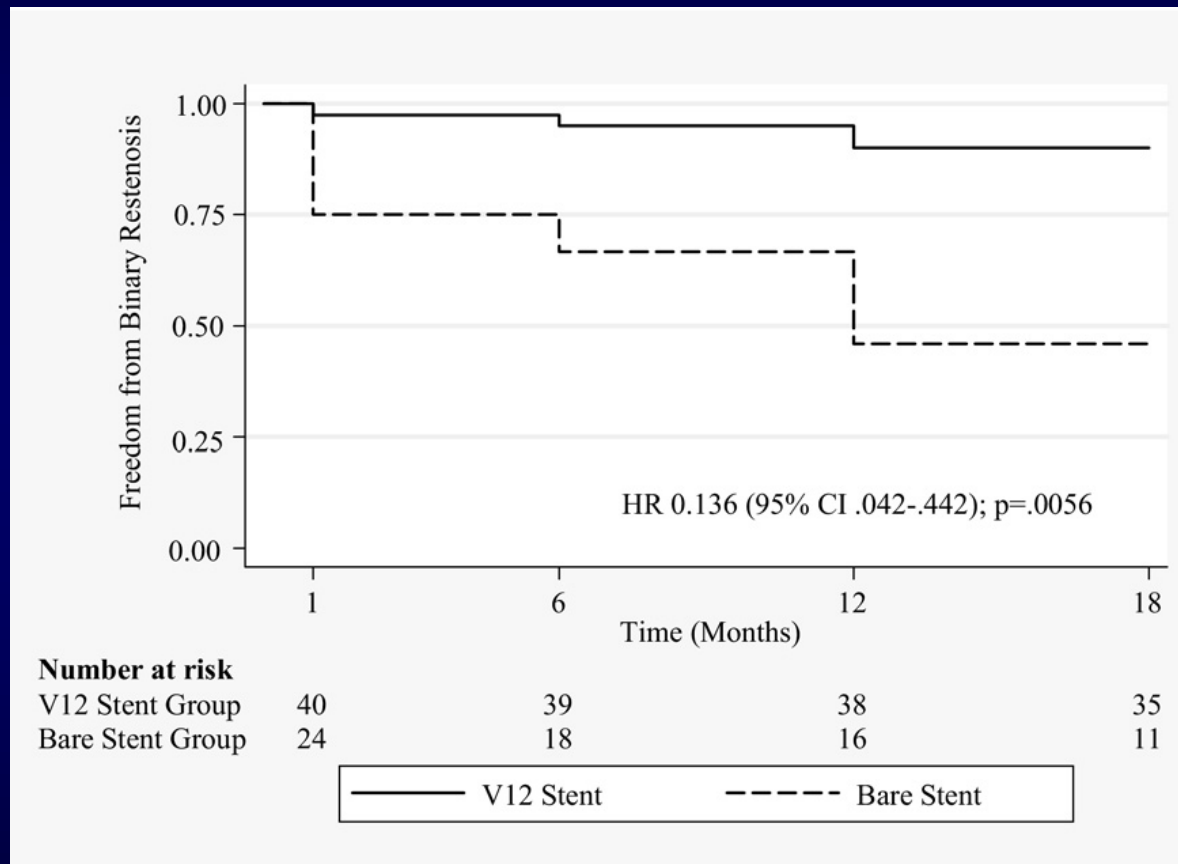
COBEST 18 months



TASC B lesions

Mwipatayi MP et al JVS 2011;54:1561-1570

COBEST 18 months



TASC C and D lesions

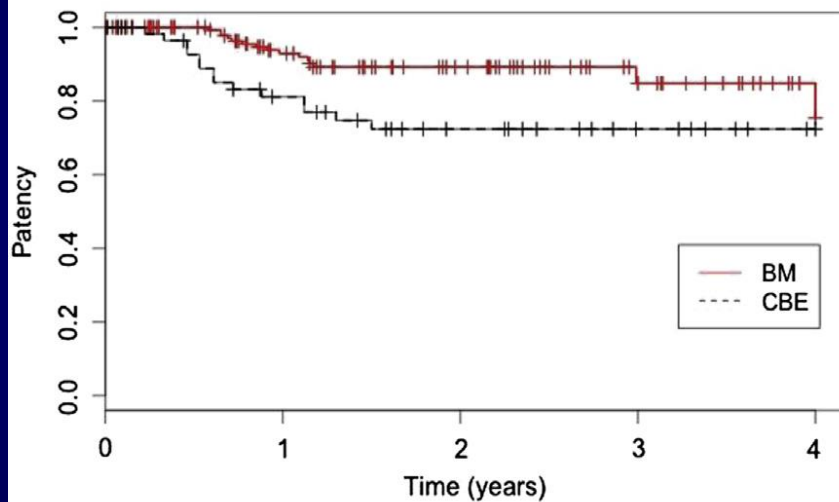
Mwipatayi MP et al JVS 2011;54:1561-1570

BMS vs. covered stents

- 254 aortic and common iliac artery procedures (162 patients); not randomized
 - BMS n=190
 - Covered BE stents n=64
- Primary patency, assisted patency, and secondary patency were significantly better in the BMS group
- Arteries treated with covered stents were more likely at 1 year or longer to require repeated intervention

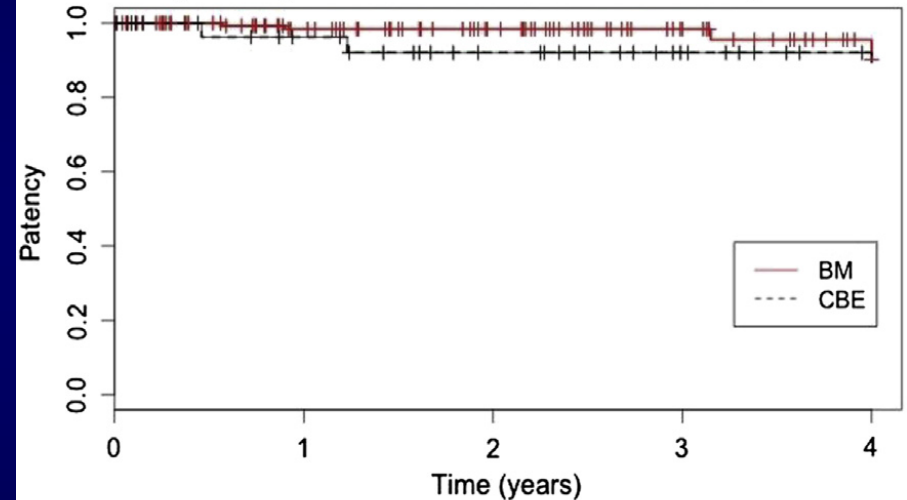
BMS vs. covered stents

Primary Patency of Bare Metal vs. Covered Balloon Expandable Stents



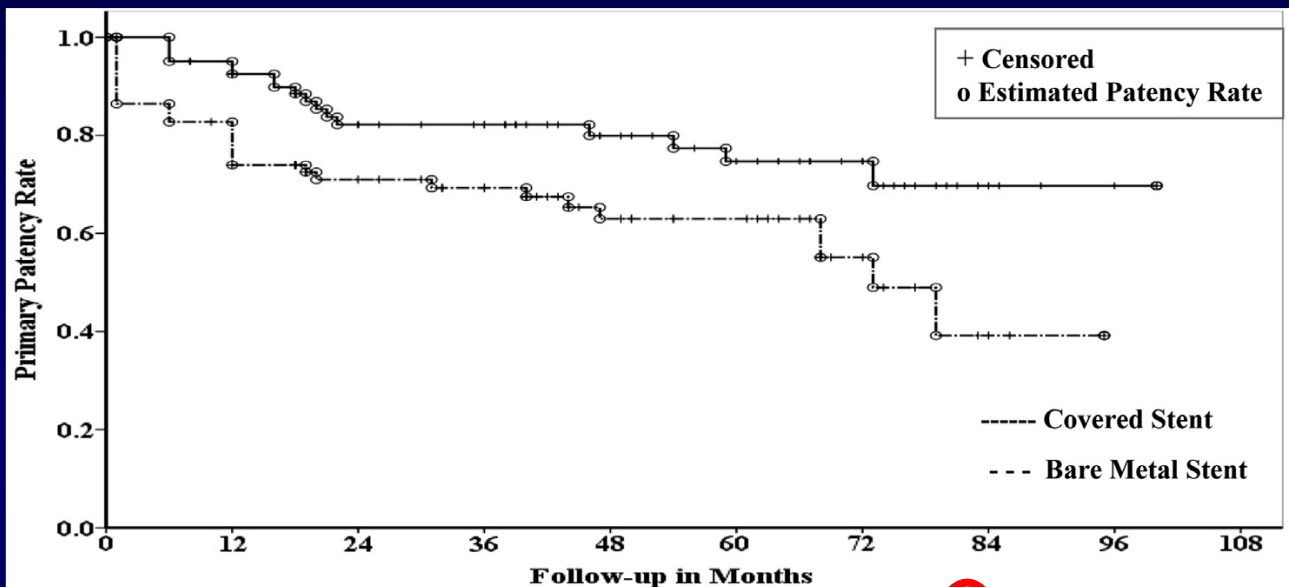
Bare Metal	190	96	65	37
Covered	64	29	19	10

Secondary Patency of Bare Metal vs. Covered Balloon Expandable Stents



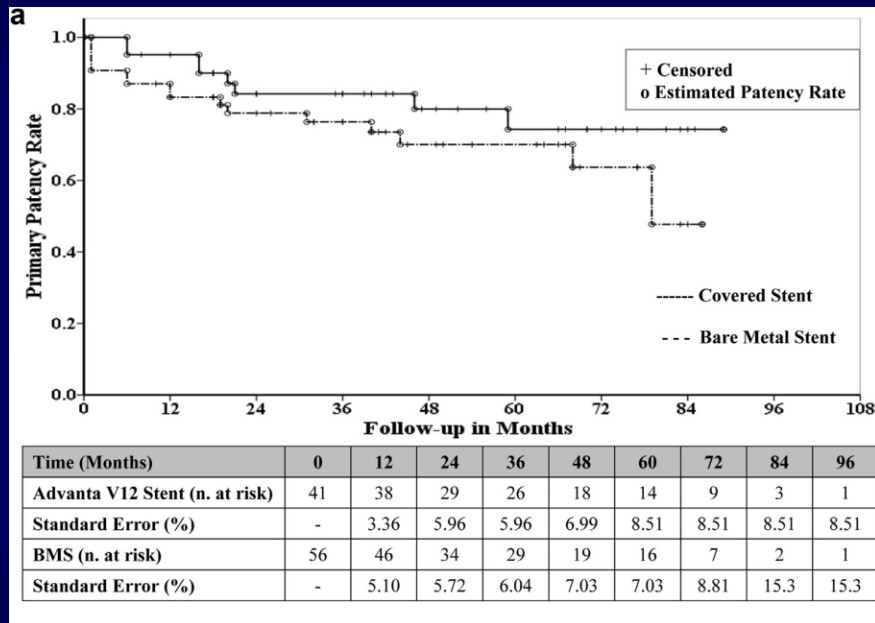
Bare Metal	190	104	68	38
Covered	64	34	23	10

COBEST 5 years

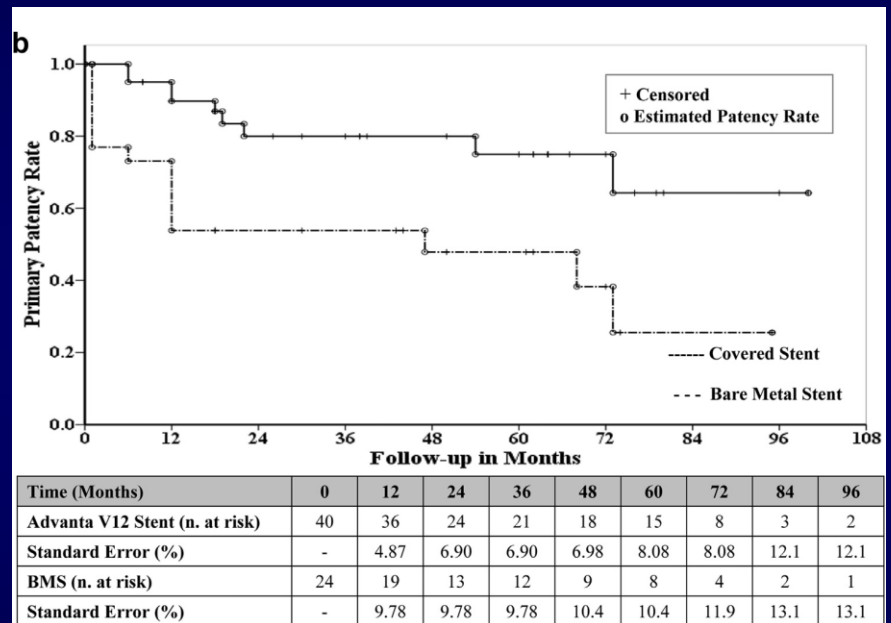


Time (Months)	0	12	24	36	48	60	72	84	96
Advanta V12 Stent (n. at risk)	83	74	52	47	35	28	17	5	2
Standard Error (%)	-	2.95	4.54	4.54	4.93	5.84	5.84	7.27	7.27
BMS (n. at risk)	85	66	46	40	28	23	10	3	1
Standard Error (%)	-	4.89	5.13	5.27	5.94	5.94	7.36	11.2	11.2

COBEST 5 years



TASC B lesions

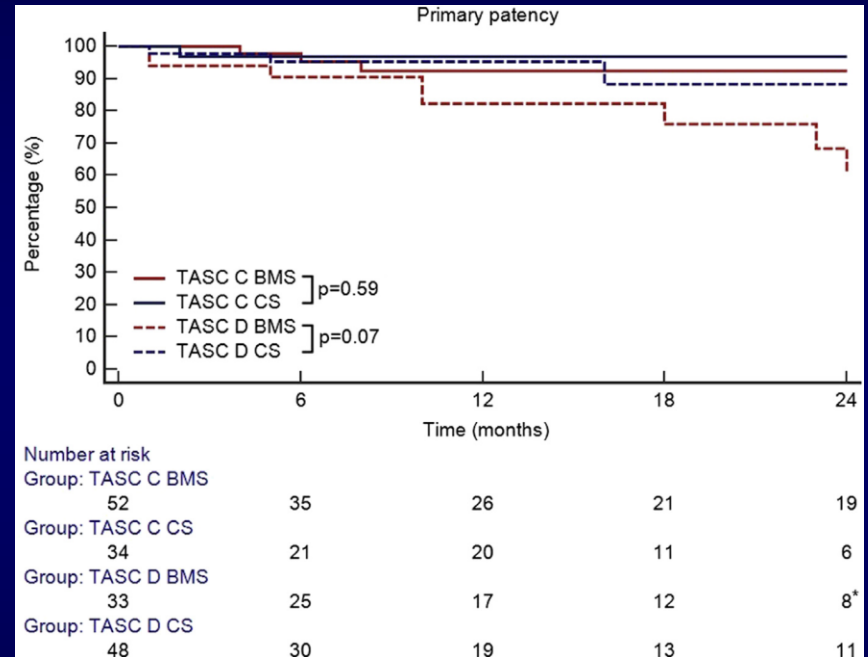
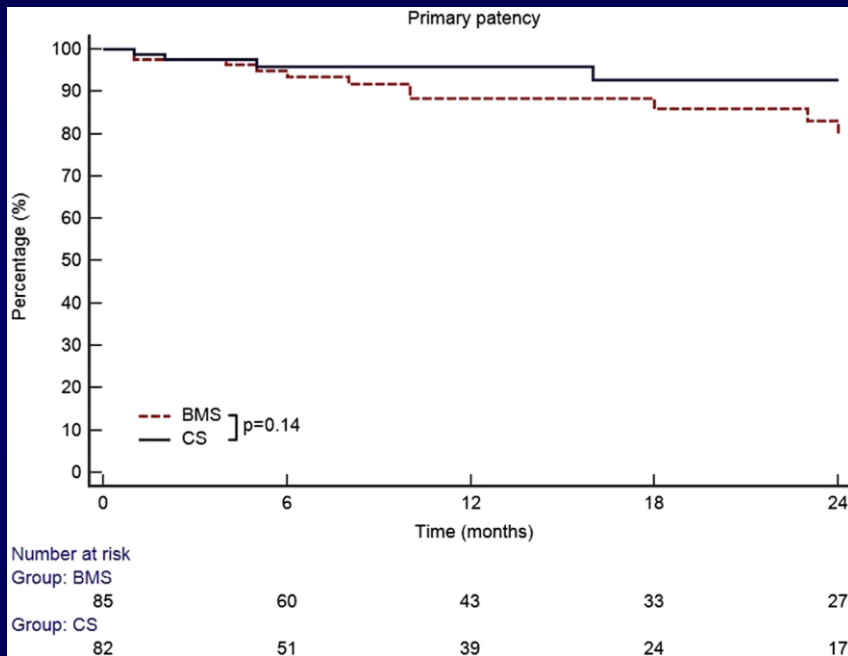


TASC C and D lesions

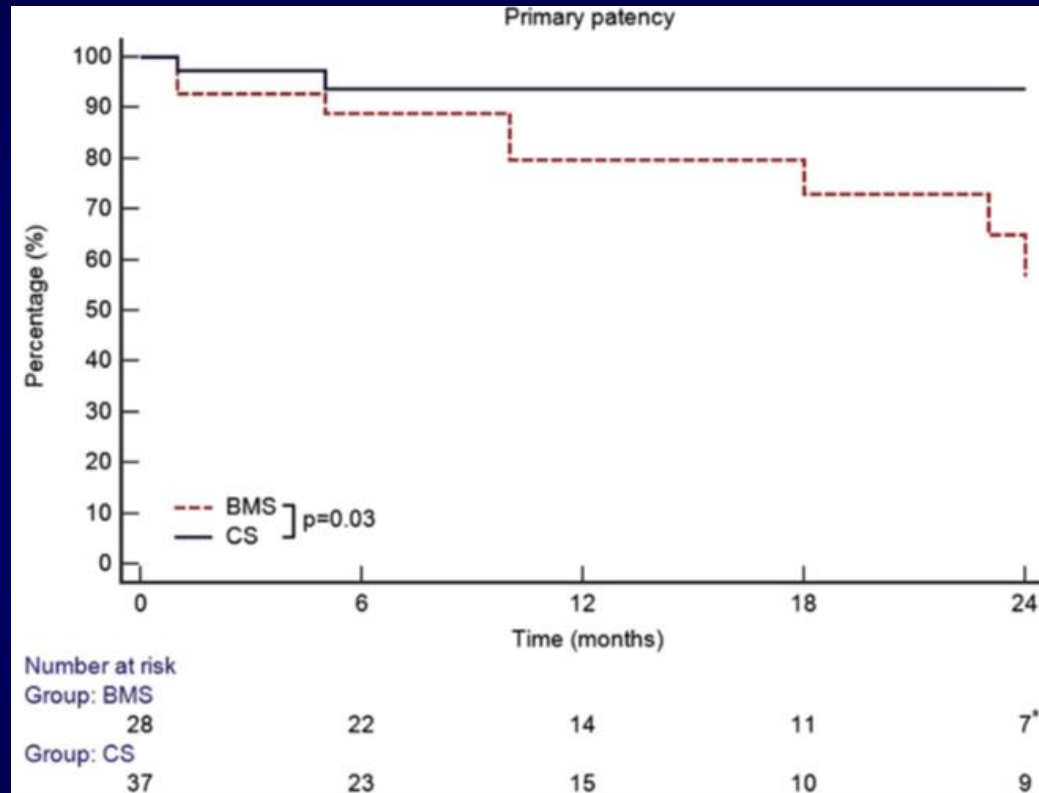
BMS vs. covered stents

- 128 patients (167 iliac arteries; CS n=82, BMS n=85) non randomized
- TASC II C and D only
- Technical success, 30-day cumulative surgical complications rate, mortality and morbidity and 24 months primary patency similar
- Multivariate analysis indicated that BMS in long-segment stenosis involving the common and external iliac arteries was a negative predictor of patency (subgroup of TASC II D lesions, primary patency at 24 months was significantly higher for CS than for BMS)

BMS vs. covered stents



BMS vs. covered stents



Long lesions involving both CIA and EIC

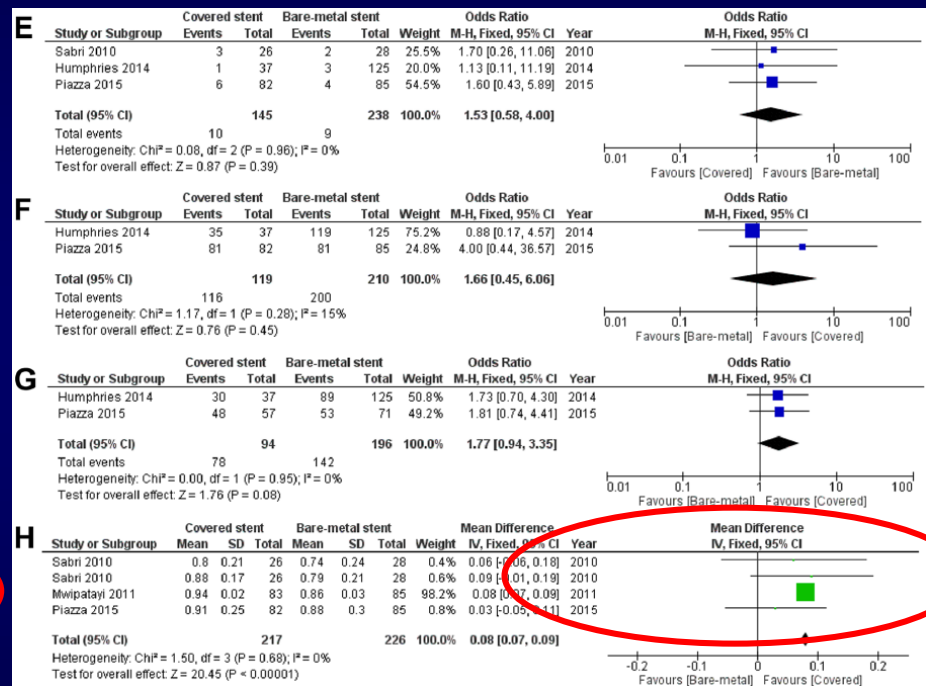
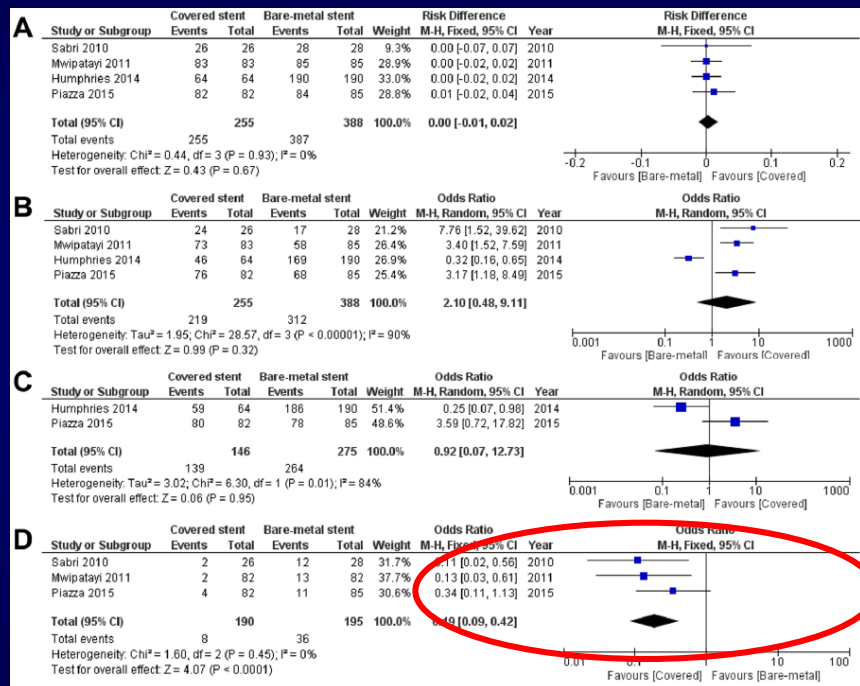
Systematic review

- 2 RCTs (total of 397 participants)
 - One study included mostly stenotic lesions (95%),
 - Second study included only iliac artery occlusions
- Similar clinical outcome comparing PTA with selective stenting and primary stenting
- PTA of occlusions resulted in a significantly higher rate of major complications, especially distal embolisation

Meta-analysis

- Two RCTs and 4 retrospective cohort studies, enrolling 744 patients (mean age 67 years; 477 men) and 918 diseased arteries (aorto-iliac and femoropopliteal disease)
- For aorto-iliac disease, treatment with a covered stent showed no significant improvement in primary patency but a lower reintervention rate
- No significant differences in technical success, complications, limb salvage, or survival were identified between the groups

Meta-analysis



(A) technical success, (B) primary patency, (C) secondary patency
(D) need for reintervention, (E) major complications, (F) limb salvage, (G) survival, and (H) ankle-brachial index

Summary

- Large meta-analysis demonstrated significantly higher 12-month primary patency rates for primary stenting in comparison to selective stenting for TASC C and D lesions
- Patency rates for primary stenting of TASC C and D lesions are similar to those for TASC A and B lesions
- A recent study found no significant difference in the patency rates of iliac artery stents among all TASC categories
- Primary stenting seems to be the preferred treatment for most patients with TASC A-D lesions

Summary

- Several studies have confirmed technical feasibility of covered stenting (primary patency rates around 90%)
- Significant benefit of using covered balloon expandable stents in type C and D lesions as compared with bare metal stents at 18-month follow-up with respect to binary restenosis (95.4% versus 82.2%), amputation rate (1.2% versus 3.6%), and clinical improvement (94.2% versus 76.7%)

Conclusions

- For TASC A and B lesions bare metal stents seem to be sufficient (no role for PTA anymore)
- Conflicting evidence for TASC C and D lesions, but probably a benefit of covered stents, especially in long-term follow-up
- Beware of collaterals with covered stents