

Is stenting of the aortic bifurcation durable ?

Eric Steinmetz
CHU Dijon

CONTROVERSES ET ACTUALITÉS EN CHIRURGIE VASCULAIRE
CONTROVERSIES & UPDATES
IN VASCULAR SURGERY
JANUARY 23-25 2014
MARRIOTT RIVE GAUCHE & CONFERENCE CENTER PARIS FRANCE

Disclosure

Proctoring for
Cook
W.L. Gore



Aorto iliac stenting – durable ?

- Type of lesion
 - TASC C ?
 - TASC D ?
- Definition of « long term » ?
 - Life expectancy
- Open surgery : endangered species ?

Once upon a time, in the 2000s...





*Eric Steinmetz, J Picquet, PE Magnan, R Hassen-Khodja, J Chevalier,
E Rosset, M Fleury et l'AURC*

AIOD EVT – the AURC study

Kissing stents

1999 2000 2001

N = 80

Claudicants 84 %

CLI 16 %



AIOD EVT – the AURC study

TASC	N	%		N
A	53	66%	CIA unilat stenosis CIA Bilat stenosis	12 41
B	13	16%	CIA occlusion CIA +EIA stenosis	11 2
C	14	18%	Bilat occlusion Complex Lesions	0 14
D	0			

AIOD EVT – the AURC study

■ Stents

- Nitinol 28 %
- BES 42 %
- Steel SES 30 %

- Wallstent, Angiomed, AVE, Memotherm, Smart

Postoperative results

- **Technical success**

	72	89 %
□ remaining stenosis	4	5.3%
□ dissections	4	5.3%

- **Post op ABIIndex**

□ Right	0.71	→	0.92	+ 30%
□ Left	0.74	→	0.91	+ 23%

Long term results

■ Follow-up

- Lost to FU 5%

- Redo PTA/stenting 24%

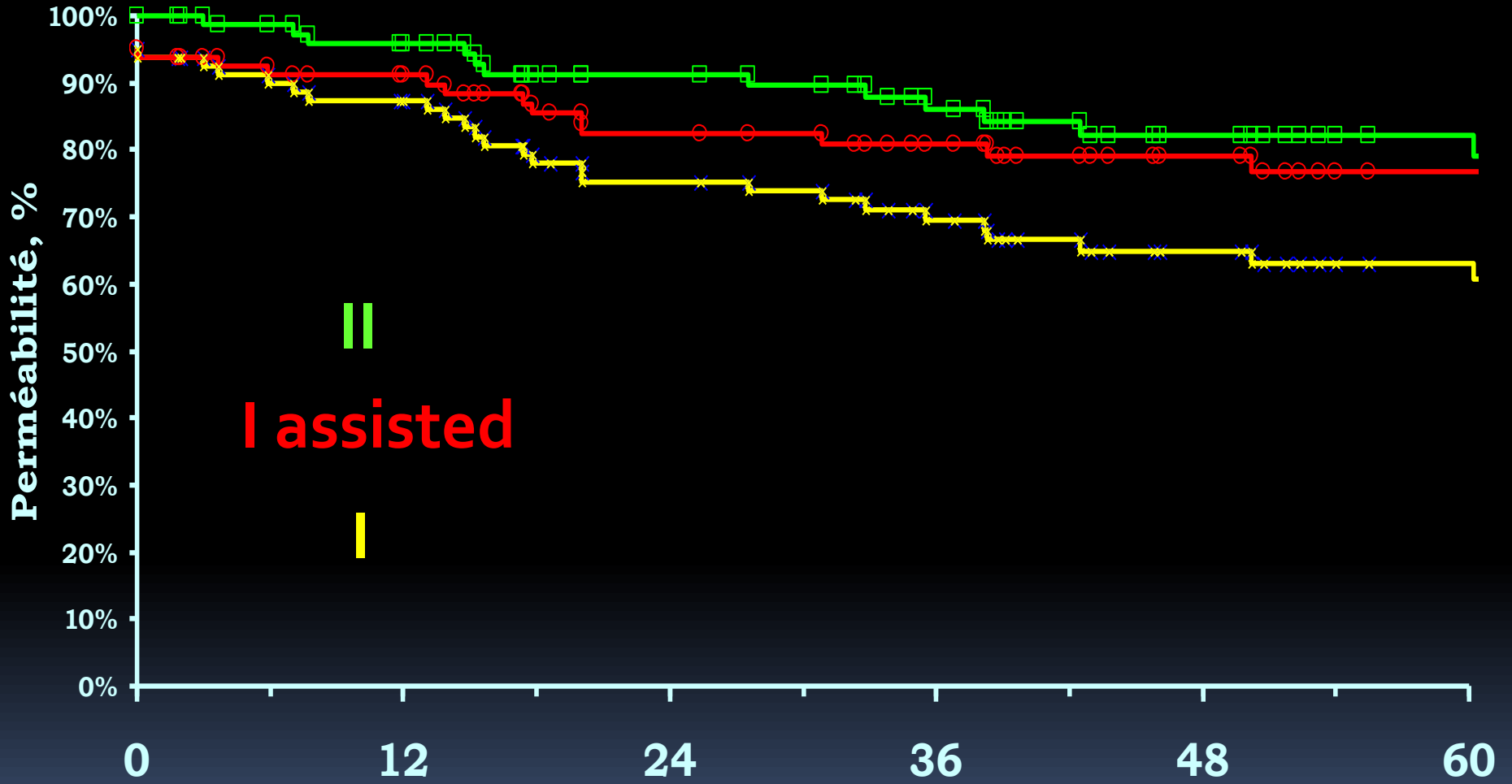
- Open Surgery 16%

- Deaths n = 21 26%
 - Mean delay : 36 Mos [3-68]

Causes of death

■ Cancer	10	12.5%
□ lung	4	
□ bowel	3	
■ Cirrhosis		2
■ Bowel ischaemia		1
■ Heart Insufficiency		1
■ MI		1
■ Suicide		1
■ Unknown		5

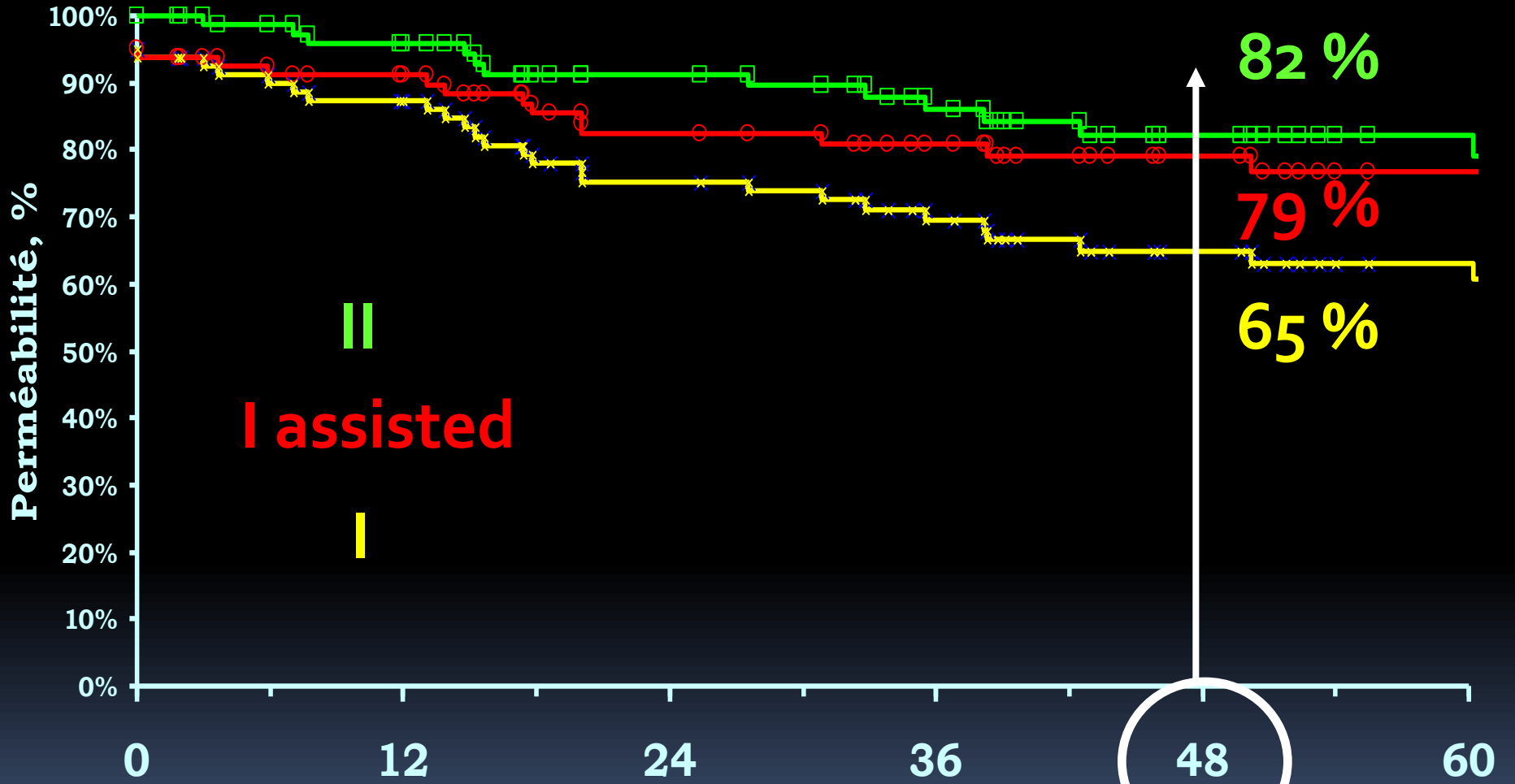
Long term patency



80 73 68 64 58 54

Abello, AnnVascSurg 2012

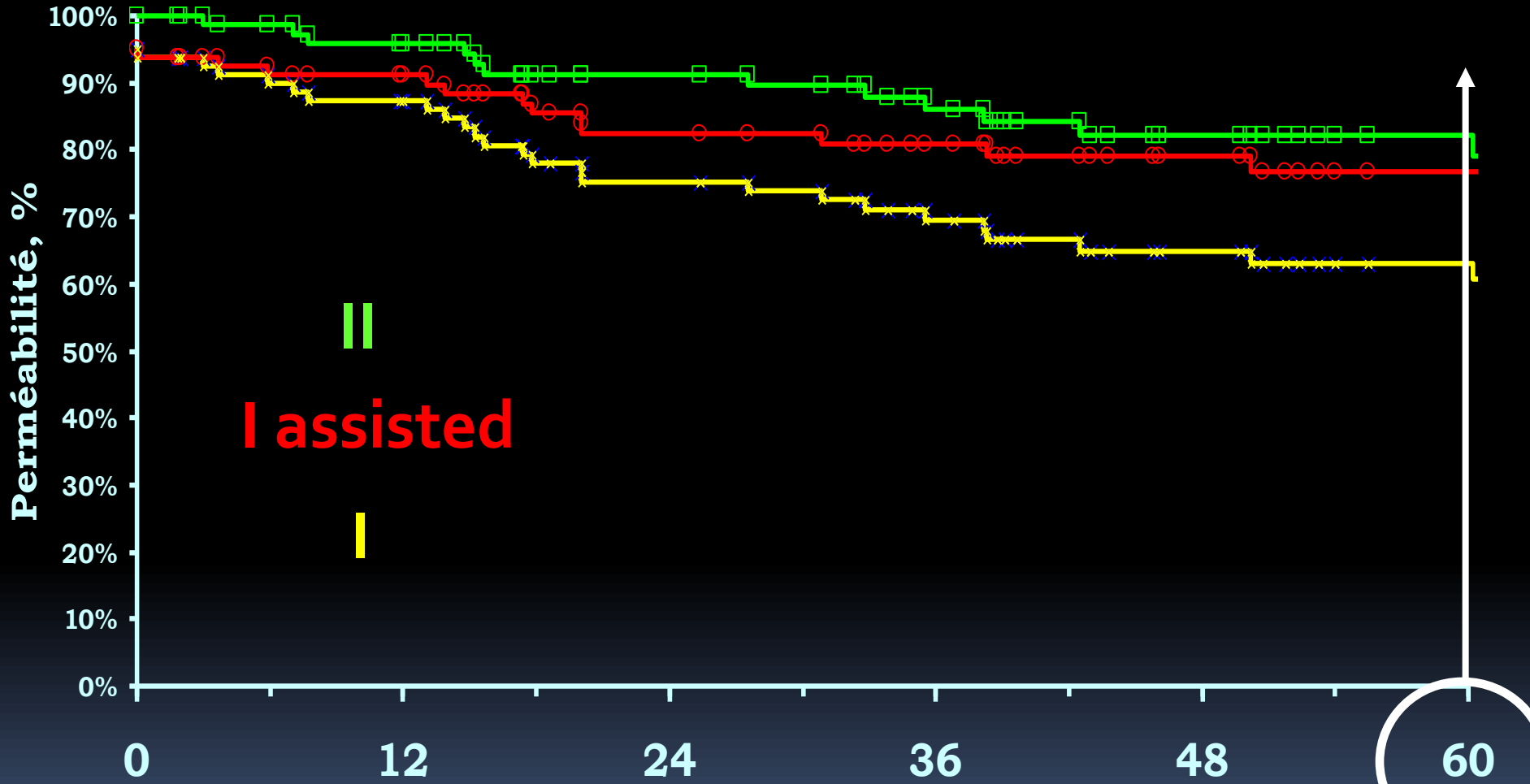
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Long term patency



I assisted

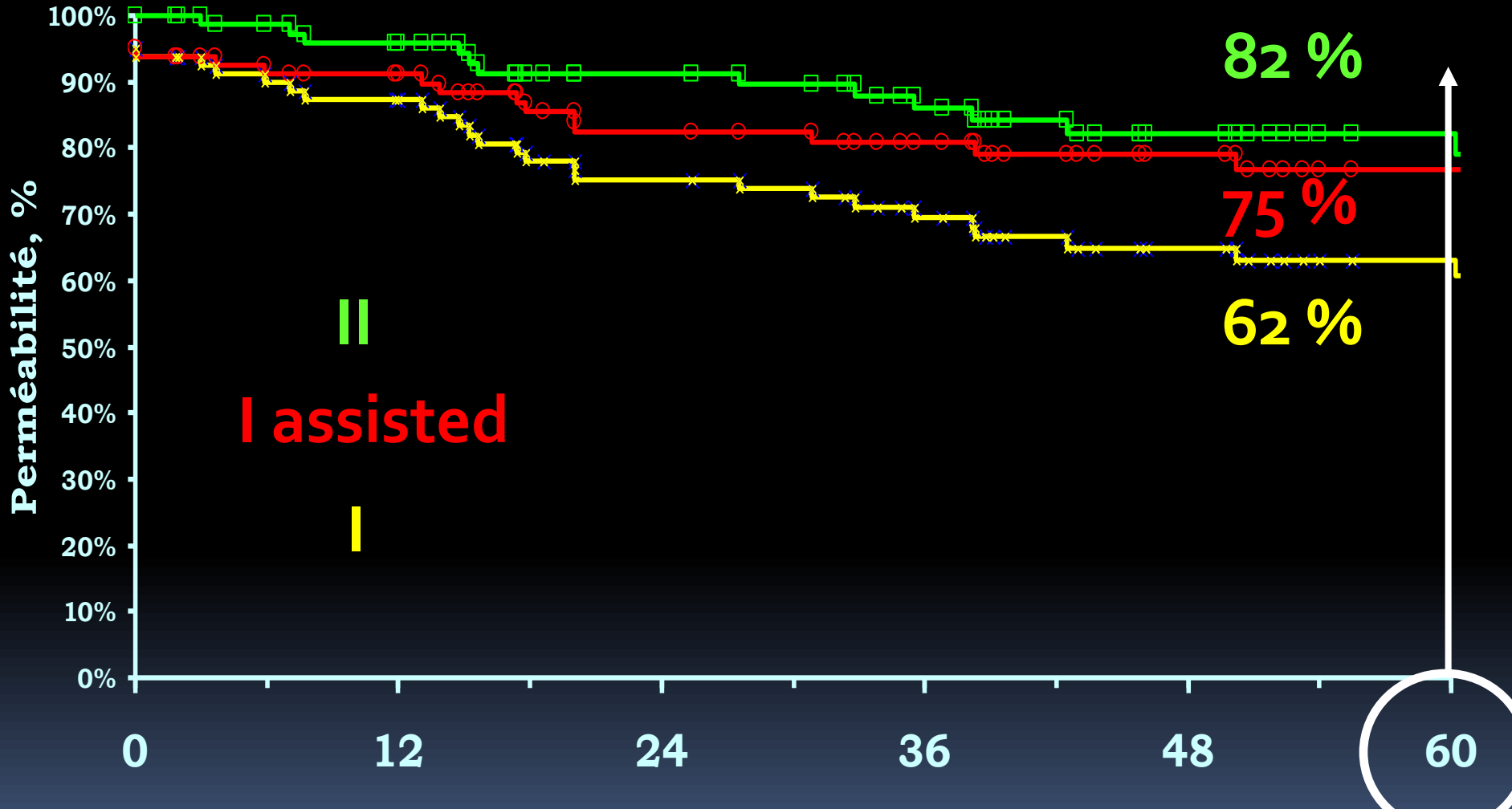
60



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Abello, AnnVascSurg 2012

Long term patency



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Aorto Iliac Occlusive Disease – Long Term Results

Authors	N	I Paten.	Assisted I Paten	II Paten	Limb Salvage	F/U(Mos)	N @term
Uher (Malmö) EJVES 99	82	61% (4)	67%	75% (5)	/	36	5
Haulon JET 02	106	80% (17)	/	96% (27)	/	30	?
Mouanoutoua (Milwaukee) 2003 CathCardiovasInterv	50	86% (?)		100% (?)	100% (?)	20	?
Greiner (Innsbruck) EJVES 03	36	/	65%	/	/	24	3
Yilmaz (Turquie) JET 2006	68	63%	64%	81%	/	60	9
AURC 2008	80	62%	75%	82%	0	60	54

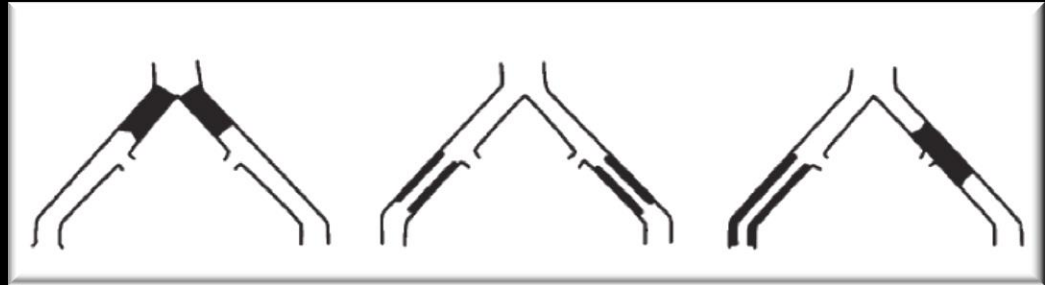


AURC study - conclusion

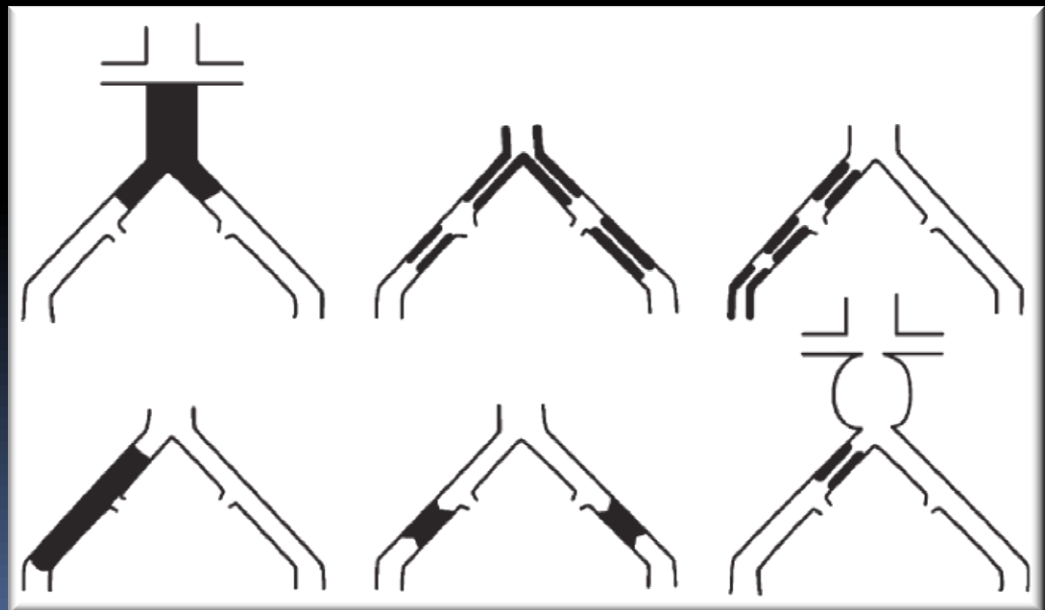
- Retrospective but continuous series
- TASC recommendations were respected
- Good results maintained @ 5 y

What's goin'on in 2014 ?

- TASC II C



- TASC II D



What's goin' on in 2014 ?

TASC C & D

Early and late outcomes of percutaneous treatment of TransAtlantic Inter-Society Consensus class C and D aorto-iliac lesions

Wei Ye, MD,^a Chang-Wei Liu, MD,^a Jean-Baptiste Ricco, MD, PhD,^b Kevin Mani, MD, PhD,^c Rong Zeng, MD,^a and Jingmei Jiang, PhD,^d Beijing, China; Poitiers, France; and Uppsala, Sweden

Objectives: The aim of this study was to analyze the technical success and long-term patency of the endovascular treatment of TransAtlantic Inter-Society Consensus (TASC) C and D aorto-iliac arterial lesions.

Methods: All studies reporting original series of patients published in English between 2000 and 2010 were enrolled into meta-analysis. Separate meta-analyses were performed for groups with immediate technical success, 12-month patency, and long-term outcomes. Subgroup analyses were performed to determine if there were differences in outcomes between patients with varying types of lesions (TASC C or D lesions) or between different stenting strategies, including primary or selective stenting.

Results: Sixteen articles consisting of 958 patients were enrolled in this meta-analysis. The pooled estimate for technical success was 92.8% (95% confidence interval [CI], 89.8%-95.0%, 749 cases). Primary patency at 12 months was 88.7% (95% CI, 85.9%-91.0%, 787 cases). Subgroup analyses demonstrated a technical success rate of 93.7% (95% CI, 88.9%-96.5%) and a 12-month primary patency rate of 89.6% (95% CI, 84.8%-93.0%) for TASC C lesions. For TASC D lesions, these rates were 90.1% (95% CI, 76.6%-96.2%) and 87.3% (95% CI, 82.5%-90.9%), respectively. The technical success and 12-month primary patency rates for primary stenting were 94.2% (95% CI, 91.8%-95.9%) and 82.9% (95% CI, 89.0%-94.3%), respectively; for selective stenting, these rates were 88.0% (95% CI, 67.9%-96.2%) and 82.9% (95% CI, 72.2%-90.0%), respectively. The long-term, primary patency rates for patients receiving primary stenting were significantly better than those receiving selective stenting. Publication bias was not significant for these analyses.

Conclusions: This study demonstrates that early and midterm outcomes of endovascular treatment for TASC C and D aorto-iliac lesions were acceptable, with a better patency for primary stenting than selective stenting. (J Vasc Surg 2011; 53:1728-37.)

What's goin'on in 2014 ?

- **AIOD - TASC C & D meta-analysis**
 - 958 Pts
 - 16 articles / 596
 - Publications 2003 to 2010
 - Max length of FU : 24 to 72 Mos

TASC C&D meta-analysis

Table I. Summary of the 16 studies included in the meta-analysis

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							13 cases selective	46%	46%	36
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TASC C&D meta-analysis

Table II. Primary patency rates at every 12-month period (random

<i>Time-period (months)</i>	<i>Studies (n)</i>	<i>Patients (n)</i>	<i>Primary patency (%)</i>	<i>Primary patency 95% CI (interval)</i>	
12	12	787	88.7	85.9	91.0
24	11	758	81.9	77.1	86.0
36	10	736	76.5	69.2	82.6
48	5	398	70.4	57.4	80.7
60	5	430	64	53.5	73.4

TASC C&D meta-analysis

Table III. Secondary patency at every 12-month interval (random ef

<i>Time-period (months)</i>	<i>Studies (n)</i>	<i>Patients (n)</i>	<i>Secondary patency (%)</i>	<i>Secondary patency 95% CI (%)</i>	
12	6	443	95.4	92.8	97.1
24	4	230	91.7	86.8	95.0
36	4	235	91.0	86.4	94.1
48	1	40	89.1	75.1	95.6
60	2	91	83.0	73.0	89.8

TASC C&D meta-analysis

- Conclusion = trends only (NS)

Results

TASC C > TASC D
93,7% 90,1%

TASC C&D meta-analysis

- Conclusion = trends only (NS)

Results

TASC C	>	TASC D
93,7%		90,1%

TASC C&D meta-analysis

- Conclusion = trends only (NS)

Results

TASC C	>	TASC D
93,7%		90,1%

Primary stenting	>	Selective stenting
94,2%		88%

TASC C&D meta-analysis

- Conclusion

5-year primary patency = *only* 64%

but...

- 5-year secondary patency = 83%
- Reintervention rate = 19% (endo+++)

TASC C&D meta-analysis

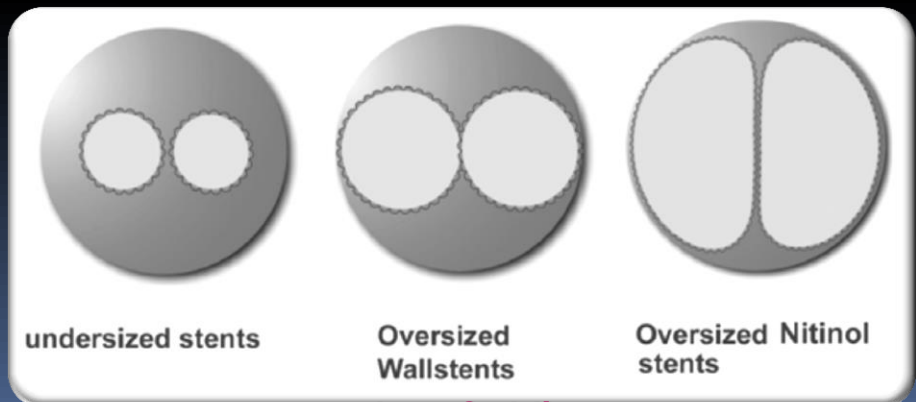
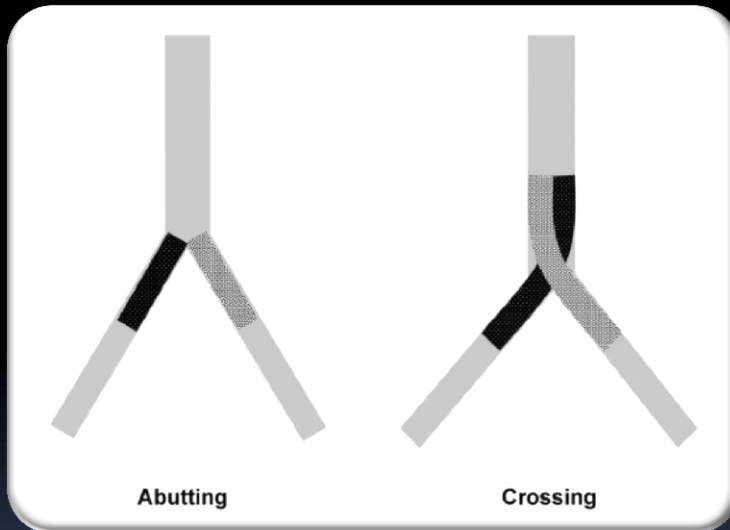
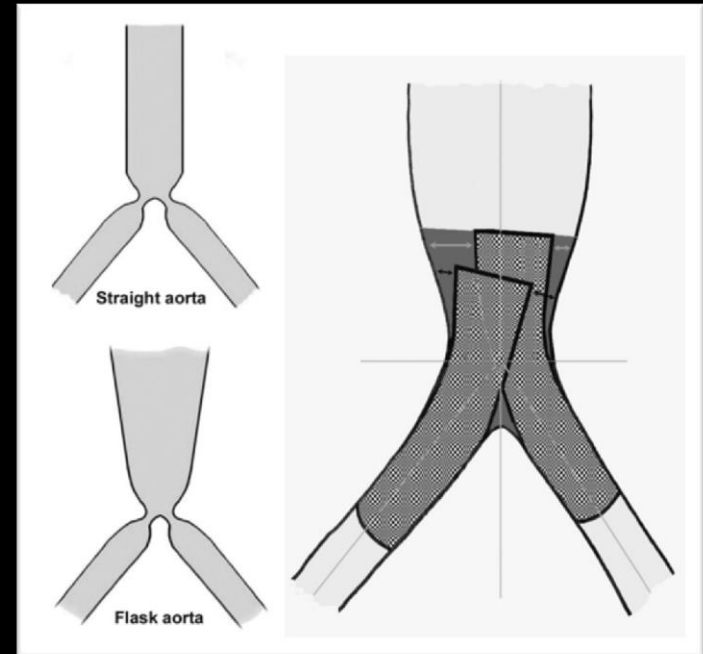
- Limitations
 - Single center studies
 - Back to 1993

TASC C&D meta-analysis

- Limitations
 - Single center studies
 - Back to 1993
 - Cofounding factors ?
 - POAD extension
 - Stent type
 - Comorbidities
 - Medication
 - Optimal Medical Care ?
 - Antiplatelet duration ?

AIOD EVT - Long Term outcome

- Other factors ?



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AIOD EVT - Long Term outcome

- Shall we move to the covered world ?



Aortoiliac Occlusive Disease = EVT

