

**VEITH SYMPOSIUM**  
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## 15-Year Experience With Iliac Branched Endografts For Aortoiliac Aneurysms: Advantages, Limitations: Long-Term Results Of The Various IBD Devices

**G Pratesi, MD**  
Professor of Vascular Surgery  
Clinic of Vascular and Endovascular Surgery  
IRCCS Ospedale Policlinico San Martino - University of Genoa

### Disclosures

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### Iliac Branched Endograft: lesson learned after 15 years of clinical practise

- Learning curves in the selection of patients and performance of the procedure
- Dedicated endograft
- High technical success
- Low risk of graft-related reintervention rate
- Improved clinical outcomes and quality of life

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### Endovascular Treatment of Aorto-iliac Aneurysms: Four-year Results of Iliac Branch Endograft

G. Pratesi <sup>a</sup>, A. Fargion <sup>b</sup>, R. Pulli <sup>a</sup>, M. Barbanite <sup>a</sup>, W. Dorigo <sup>b</sup>, A. Ippoliti <sup>a</sup>, C. Pratesi <sup>b</sup>

#### 2007-2012: 85 EVAR with IBD in 81 patients in two Vascular Centers

Months	0	12	24	36	48
Number at risk	84	78	70	61	51
Surv	1.00	0.99	0.97	0.95	0.94

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Surv	1.00	0.99	0.99	0.99	0.99

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EVAR for aorto-iliac aneurysms using IBD is an effective procedure with low complication and reintervention rates at mid-term follow-up.  
Pratesi G et al., EJVES 2013

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### The pELVIS Registry

#### PERformance of Iliac branch deVices for aneurysMs involving the iliac bifurcation

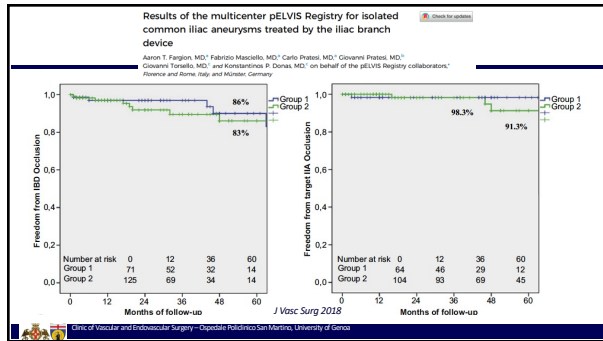
- January 2005 - April 2017
- 9 high-volume European vascular centers
- 804 patients underwent endovascular iliac aneurysm repair
- 910 IBDs implanted (95% Cook ZBIS; 5% Gore IBE)

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### Iliac branch: factors affecting outcomes

- Hypogastric involvement
- Isolated vs bilateral
- Age & sex
- Associated complex aortic repair
- BalloonEx vs SelfEx Bridging stent
- Device comparative analysis

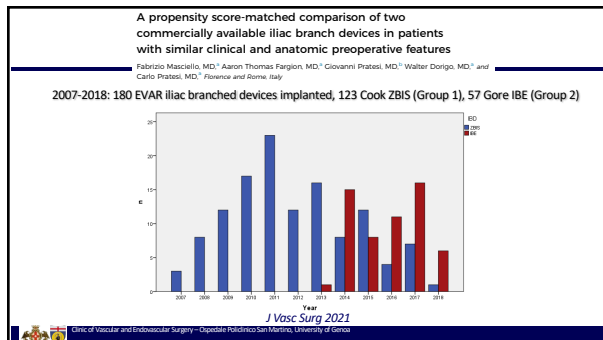
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### Cook's ZBIS vs Gore's IBE: Advantages And Limitations Of Each

- Cook IBD:**
  - Longitudinal independent stainless steel stent
  - Different proximal lengths, with longer overlapping zones
  - Need for an IIA mating stent
- Gore IBE:**
  - Continuous stent design
  - Increased conformability
  - Dedicated IIA component

**No comparative device-related analysis available**



### Study Group Preoperative Features- Matched groups

Clinical Features	Group 1 (n=123)	Group 2 (n=57)	P
Mean age	72.8 ± 8.2	73.1 ± 8.7	.21
Female	32 (26.0%)	11 (19.3%)	1
Arterial Hypertension	30 (24.3%)	10 (17.5%)	.20
Dyslipidemia	14 (11.3%)	14 (24.6%)	.45
Diabetes mellitus	3 (2.4%)	3 (5.3%)	.50
COAD	0 (0.0%)	0 (0.0%)	1
ASA	2 (1.6%)	1 (1.8%)	1
AKD	1 (0.8%)	0 (0)	.50

Anatomical Features	Group 1 (n=123)	Group 2 (n=57)	P
Aortic aneurysm	36 (29.3%)	29 (50.9%)	.09
COA	3 (2.4%)	4 (7.0%)	.28
COA Anomalous In Proximal Open Aortic Arch	1 (0.8%)	0 (0)	.31
Proximal neck diameter	23.3 ± 2.6 mm	23.1 ± 2.5 mm	.78
Proximal neck length	27.6 ± 3.5 mm	28.1 ± 3.5 mm	.81
Aortic diameter	43.3 ± 15.6 mm	46.9 ± 17 mm	.18
Right CO diameter	38.6 ± 13.5 mm	38.1 ± 13.2 mm	.10
Left CO diameter	27.8 ± 10.4 mm	30.1 ± 14.8 mm	.49
IA diameter at branch point	38.8 ± 9.2 mm	38.8 ± 9.9 mm	.15
IA diameter at branch end	37.7 ± 9.1 mm	39.3 ± 9.6 mm	.77
Distal aorta length to cover the stent	223.4 ± 41.3 mm	228.8 ± 38.5 mm	.75
Distal aorta length to cover the collateralized IIA	168.4 ± 30.8 mm	165.2 ± 20.3 mm	.60

### Study Group Perioperative Outcomes

Perioperative Outcomes	Group 1 (ZBIS, n=123)	Group 2 (IBE, n=57)	P
Technical success	35 (100%)	35 (100%)	1
General anesthesia	28 (80%)	6 (17.1%)	<.001
Percutaneous access	19 (54.2%)	31 (86.6%)	.002
Adjunctive procedures on IBD	6 (17.1%)	3 (8.5%)	.28
IBD-related complications	1 (2.8%)	0 (0)	.49
Access-related complications	1 (2.8%)	1 (2.8%)	1
Intraoperative conversion	0 (0)	0 (0)	1
Procedure time	158.1 ± 71.5 min	126.2 ± 45.6 min	.06
Fluoroscopy time	40.5 ± 11.9 min	43.1 ± 17.6 min	.53
Hospitalization	6.6 ± 2.9 days	3.4 ± 1.4 days	<.001
Mortality	0 (0)	0 (0)	1
TL SELL	0 (0)	0 (0)	1
Major complications	1 (2.8%)	0 (0)	.49

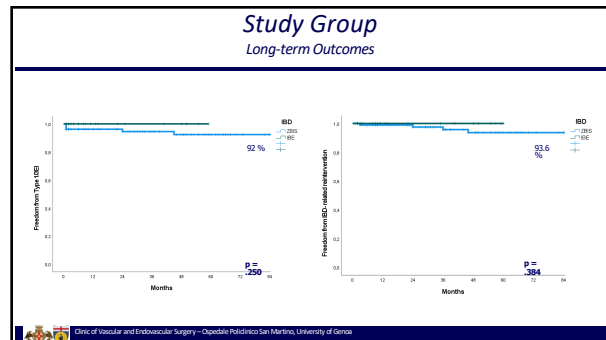
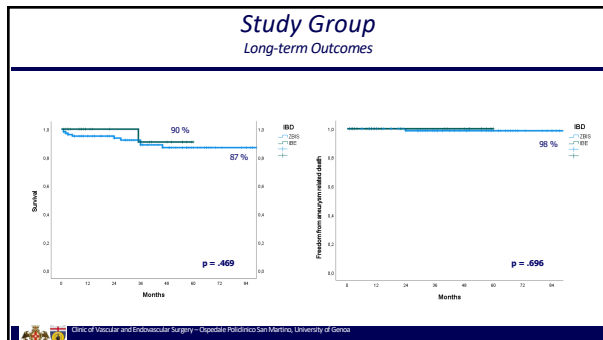
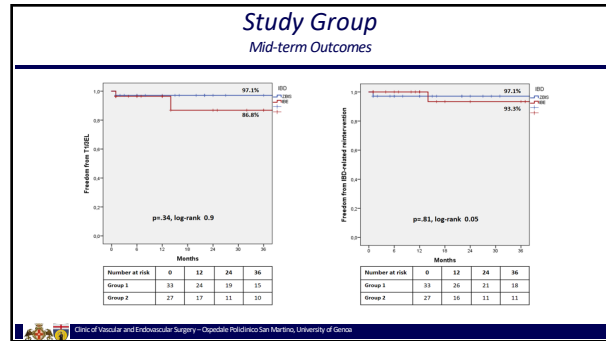
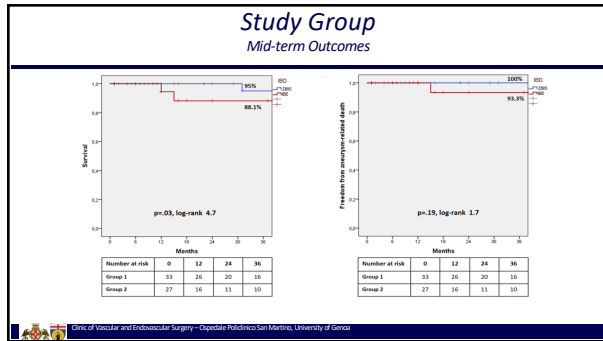
IBD-related complication: 1 distal embolization on IBD side  
Major complications: 1 myocardial infarction

### Study Group Mid-term Outcomes

Mean follow-up was 46.7 months in group 1 (SD ± 36.3), 20.8 months in group 2 (SD ± 15.9), p <.001

Outcomes at Follow-up	Group 1 (ZBIS, n=123)	Group 2 (IBE, n=57)	P
Mortality	3 (8.6%)	4 (11.4%)	.69
Aneurysm-related mortality	1 (2.8%)	1 (2.8%)	.67
Aneurysm-related complications	5 (14.3%)	2 (5.7%)	.35
TSEL	1 (2.8%)	1 (2.8%)	1
TSEL	1 (2.8%)	1 (2.8%)	1
Migration	1 (2.8%)	0 (0)	.49
IBD occlusion	0 (0)	0 (0)	1
Isolated iliac occlusion	0 (0)	0 (0)	1
IBD-related reinterventions	2 (5.7%)	1 (2.8%)	.57
Conversion to open surgery	2 (5.7%)	0 (0)	.49
Aneurysm rupture	1 (2.8%)	1 (2.8%)	1

Two aneurysm-related deaths due to iliac aneurysmal sac rupture following the development of a TSEL with emergent conversion to open surgery (1 each Group)

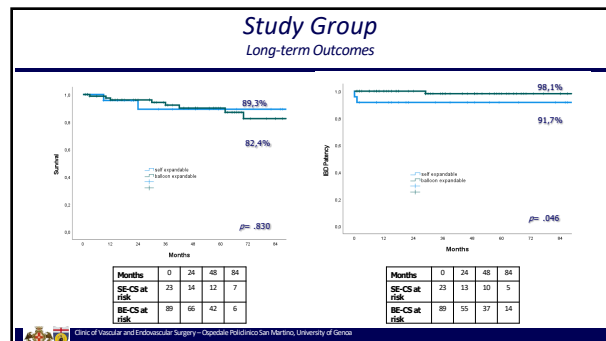


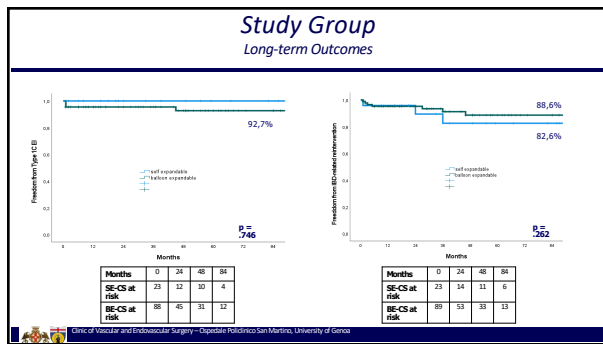
### Bridging stent in iliac branch stent-graft: Study Group

**Iliac BRIDGING STENTS:**  
**95 BE-CS** (78 V12 Advanta, 82.1%; 11 VBX, 11.5%; 6 E-Ventus, 6.3%) - **Group 1**  
**Vs 25 SE-CS** (24 Fluency, 96%; 1 Viabahn, 4%) - **Group 2**  
 Mean follow-up: 43.3 mths in Group 1 (SD 34.8) Vs 51.6 mths in Group 2 (SD 36.), p=.452

Outcomes at Follow-up	Group 1 (n=95)	Group 2 (n=25)	p
Mortality	10 (11.2%)	2 (8.3%)	.89
Aneurysm-related mortality	-	-	-
Aneurysm-related complications	11 (12.2%)	4 (25.1%)	.41
Type 1a/3 RL	8 (8.9%)	2 (8.4%)	.90
Migration	-	-	-
BE occlusion	3 (3.3%)	3 (12.5%)	.04
BE-related reinterventions	9 (9.4%)	4 (16.7%)	.36
Conversion to open surgery	3 (3.3%)	1 (4.2%)	.84
Aneurysm rupture	4 (4.4%)	1 (4.2%)	.95

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- ### Conclusions
- The propensity matched comparison between the Cook ZBIS and Gore IBE devices, based on the preoperative clinical and anatomical features, showed similar, satisfying perioperative and mid-term results
  - In our experience BE-CS and SE-CS as bridging stents provided similar perioperative and mid-term results
  - Lack of dedicated covered stents seem to have lower impact on patency compared to other complex endovascular repairs (ie F/BEVAR)
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