The IN.PACT AV Access Trial: The Data so far…….

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Faculty Disclosure

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For the 12 months preceding this CME activity, I or my spouse/partner disclose the following types of financial relationships:

- **Honoraria received from**: Medtronic, Boston Scientific, Penumbra
- **Consulted for**: Medtronic, Boston Scientific, Penumbra
- **Held common stock in**: None
- **Research, clinical trial, or drug study funds received from**: Medtronic, Boston Scientific, Vesper, BlackSwan, Terumo, BD Bard, Penumbra, Inari, Ethicon

I will not be discussing products that are investigational or not labeled for use under discussion.

IN.PACT AV Access IDE Study

Objective:
Evaluate the safety and effectiveness of the IN.PACT AV drug-coated balloon (DCB) compared to percutaneous transluminal angioplasty (PTA) for treatment of *de-novo* or *restenotic* obstructive lesions of *native* arteriovenous fistulae (AVF) in the upper extremity

Principal Investigators:

- Robert Lookstein, MD *(USA)*
- Andrew Holden, MD *(New Zealand)*
- Hiroaki Haruguchi, MD *(Japan)*

Study Characteristics:

- Prospective, global, multicenter, 1:1 randomized, single-blinded study
- 330 patients
- Follow-up to five years
- Lesions up to 10 cm in length in the native AVF
- Independent and blinded
  - Duplex Ultrasound Core Lab[1]
  - Angiographic Core Lab[2]
  - Clinical Events Committee[3]
- Patients enrolled at 29 Global Sites (United States, Japan and New Zealand)

1. VasCore DUS Core Laboratory
2. SYNTACTX Angiographic Core Laboratory
3. Clinical Events Committee and Data Safety Monitoring services provided by SYNTACTX

IN.PACT AV Access IDE Study

Key Inclusion/Exclusion Criteria And Endpoints

Inclusion

- Native AV fistula created ≥ 60 days prior to the index procedure
- Patient underwent successful crossing of the target lesion with the guide wire and pre-dilatation with a HP balloon:
  - stenosis of ≤ 30% in the absence of a flow limiting dissection (Grade ≥ C) or perforation

Exclusion

- Target AVF previously had or currently has a thrombosis
- Presence of a stent located in the target AV access circuit
- Presence of pseudoaneurysm or aneurysm requiring treatment at the lesion site

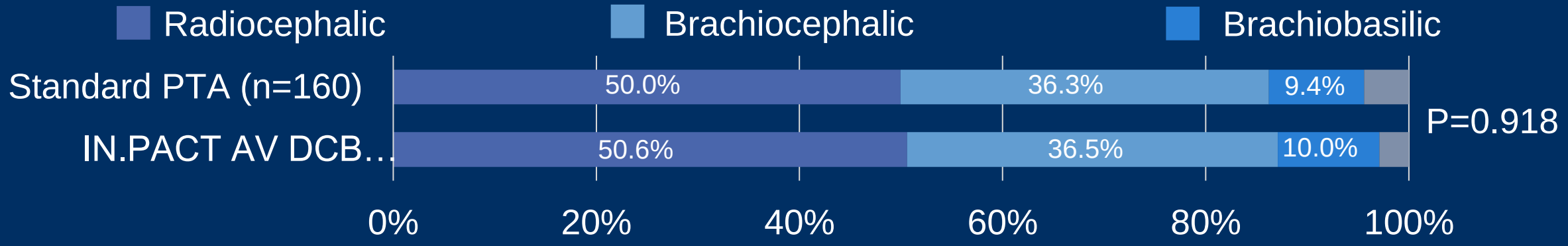
Safety: Serious Adverse Event Rate within 30 Days

- Defined as the Serious Adverse Event (SAE) rate involving the AV access circuit through 30 days post-procedure

Effectiveness: Target Lesion Primary Patency Rate through 6 Months

- Defined as freedom from clinically-driven target lesion revascularization (CD-TLR) or access circuit thrombosis measured through 6 months post-procedure
  - Clinically-Driven Target Lesion Revascularization (CD-TLR): Any re-intervention involving the target lesion in which:
    - The subject has a ≥ 50% diameter stenosis (per angiographic core lab assessment) in the presence of clinical or physiologic abnormalities that indicate dialysis access dysfunction OR
    - ≥ 70% stenosis without the presence of clinical or physiologic abnormalities indicating dialysis access dysfunction
  - Target lesion primary patency is measured out to 210 days endpoint (rather than 180 days)

IN.PACT AV Access AVF Type

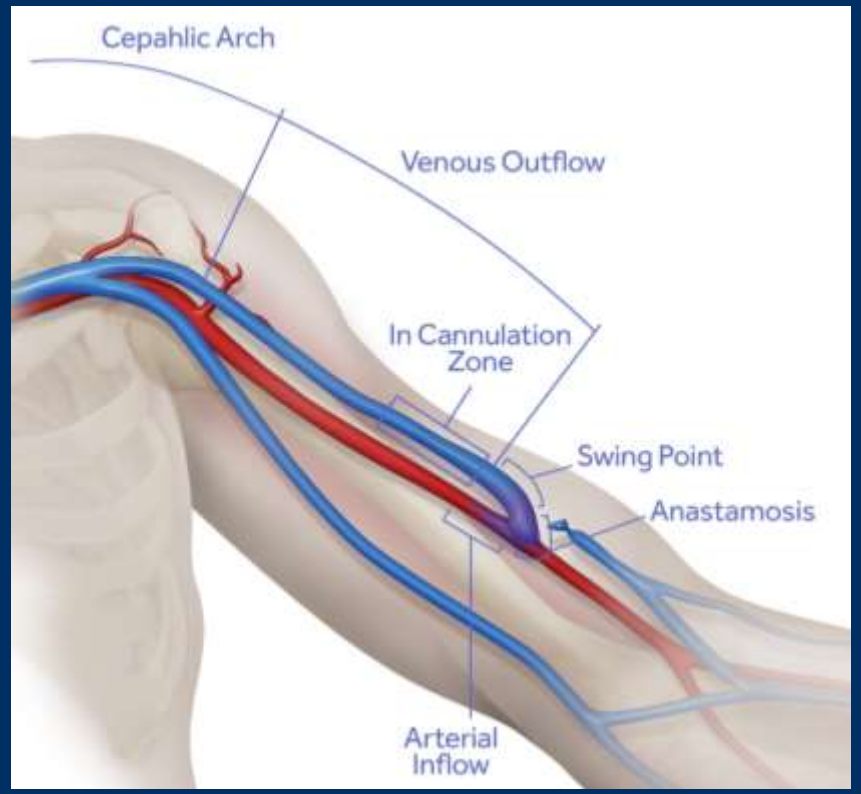


AVF type locations are site-reported ; AVF, arteriovenous fistula; DCB, drug-coated balloon; PTA, percutaneous transluminal angioplasty

*Other AVF types included radial-perforative vein (3), ulnar-basilica (2), basilobrachial, radialbasilic, high bifurcated ulnar artery to cephalic vein, distal radial artery to median vein, proximal radial artery to perforating vein, Gracz, left radiocephalic

IN.PACT AV Access Lesion Characteristics

Lesion Characteristics	IN.PACT AV DCB (n=170)	Standard PTA (n=160)	P-value
Lesion Type			0.905
De Novo	30.0% (51/170)	30.6% (49/160)	
Restenotic	**70.0% (119/170)**	**69.4% (111/160)**	
Target Lesion Location[1, 2]			0.310
Arterial Inflow	2.4% (4/170)	4.4% (7/160)	
Anastomosis	**25.9% (44/170)**	**25.0% (40/160)**	
Swing Point	8.2% (14/170)	7.5% (12/160)	
In Cannulation Zone	14.7% (25/170)	7.5% (12/160)	
Venous Outflow	**31.2% (53/170)**	**33.1% (53/160)**	
Cephalic Arch	**17.6% (30/170)**	**22.5% (36/160)**	



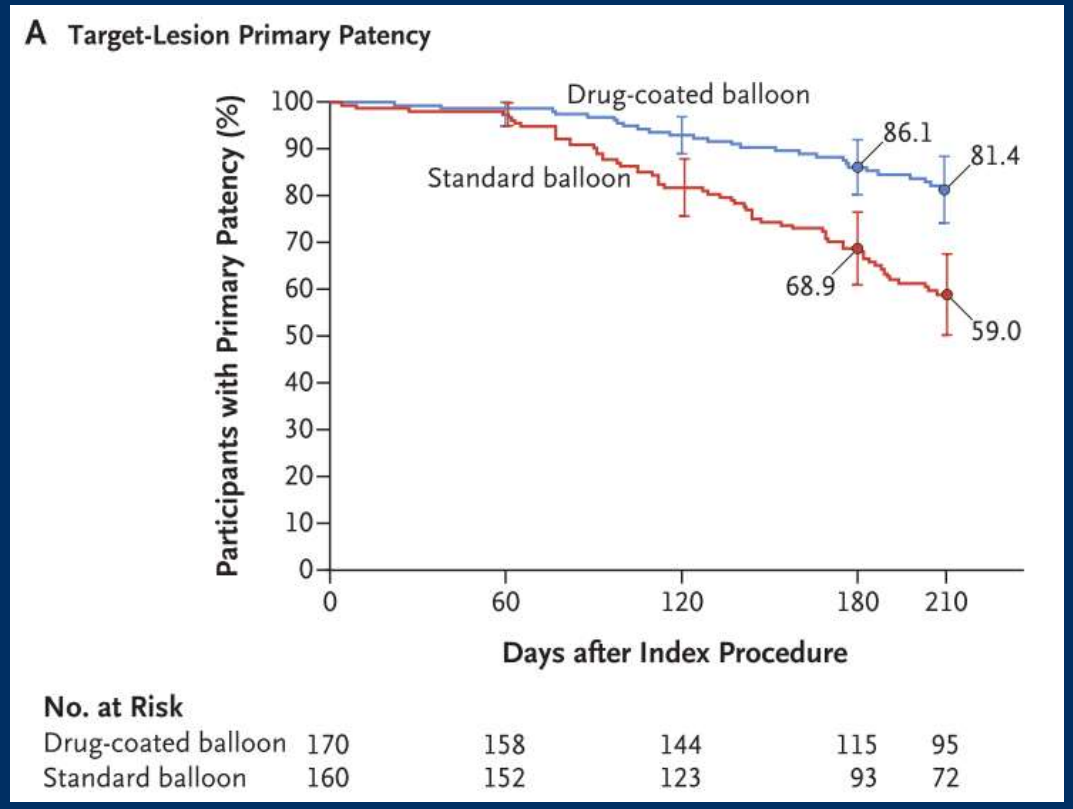
DCB, drug-coated balloon; PTA, percutaneous transluminal angioplasty

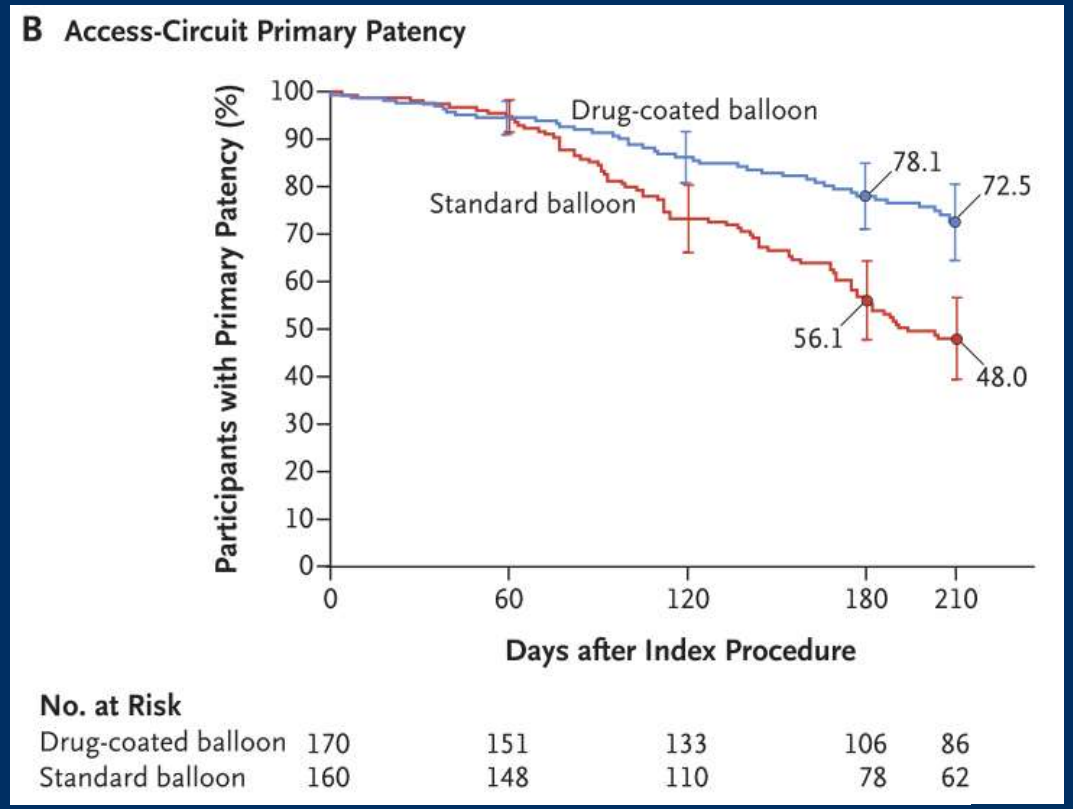
1. Target lesion location was site-reported
2. Lesion definitions:

Arterial Inflow: treated segment is isolated to the arterial side
Anastomosis: treated segment crosses or meets the AV anastomosis
Swing Point: treated segment includes the curved segment of mobilized vessel
In Cannulation Zone: treated segment is isolated to straight segment of vessel where cannulation is performed
Venous Outflow: treated segment is in basilic vein (non-mobilized) or distal to the cephalo-axillary junction
Cephalic Arch: treated segment includes curved segment of cephalic vein as the vein crosses between the pectoralis major and deltoid muscles

IN.PACT AV Access IDE Results Through 6 Months

Recently Published in The New England Journal of Medicine[1]

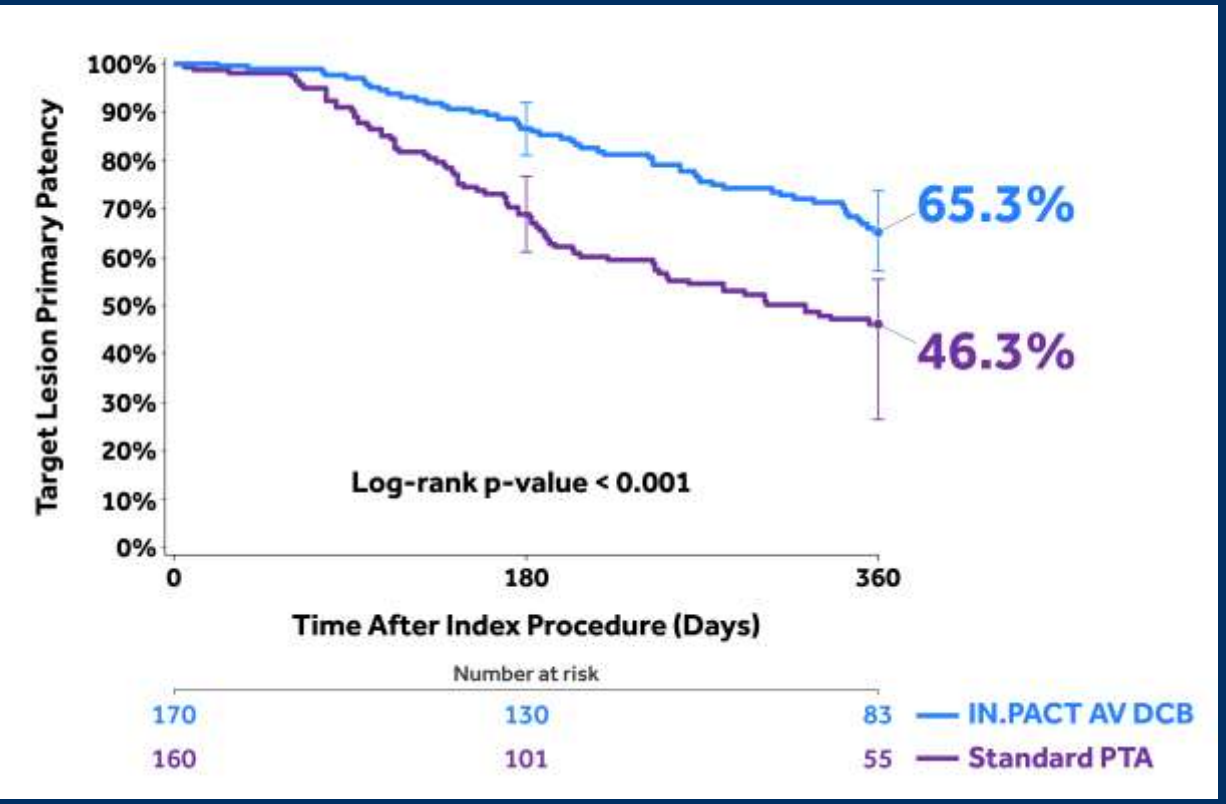


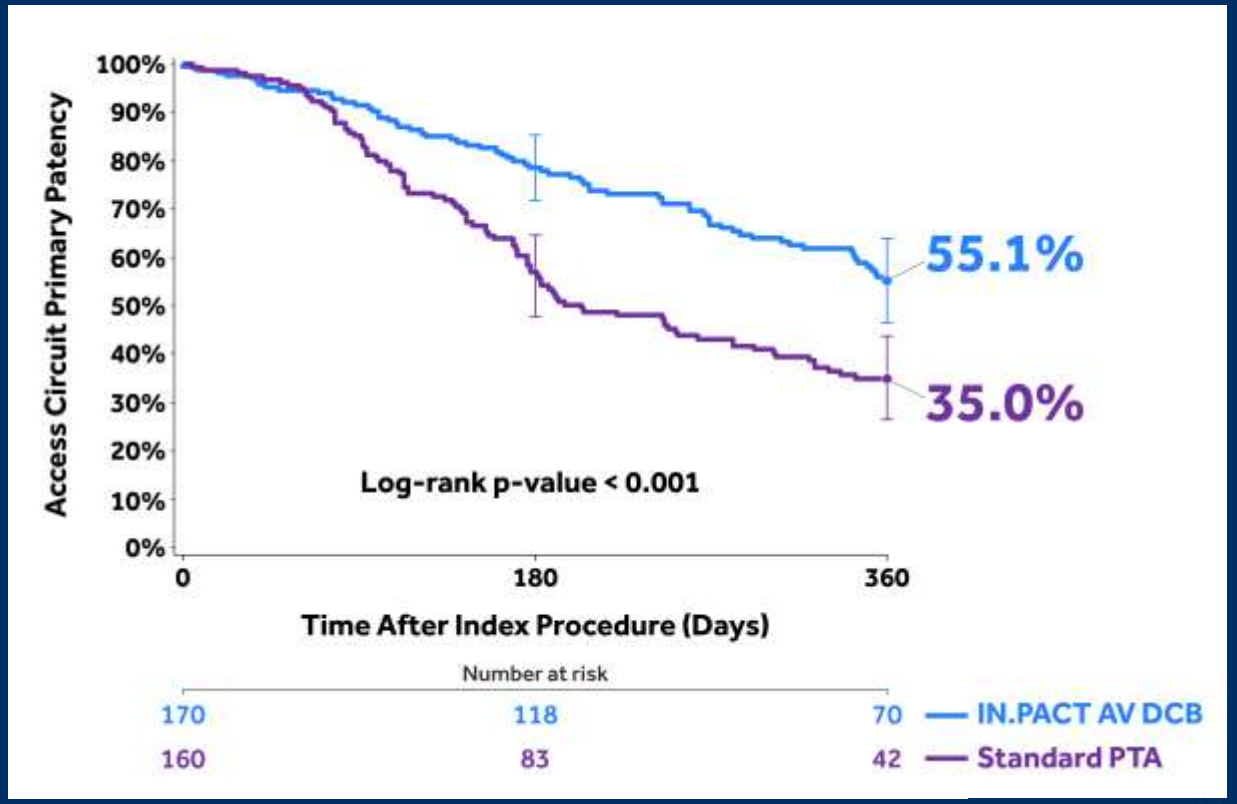


1. Lookstein R et al. N Engl J Med 2020;383:733-42.

IN.PACT AV Access IDE Results Through 12 Months

Presented at LINC 2020[1]



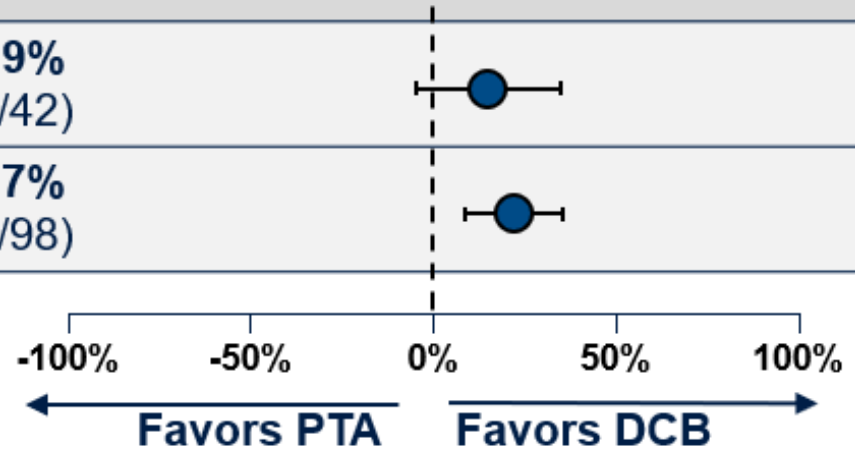


1. Holden A. LINC 2020.

Target Lesion Primary Patency Through 12 Months

DCB vs PTA by Lesion Type

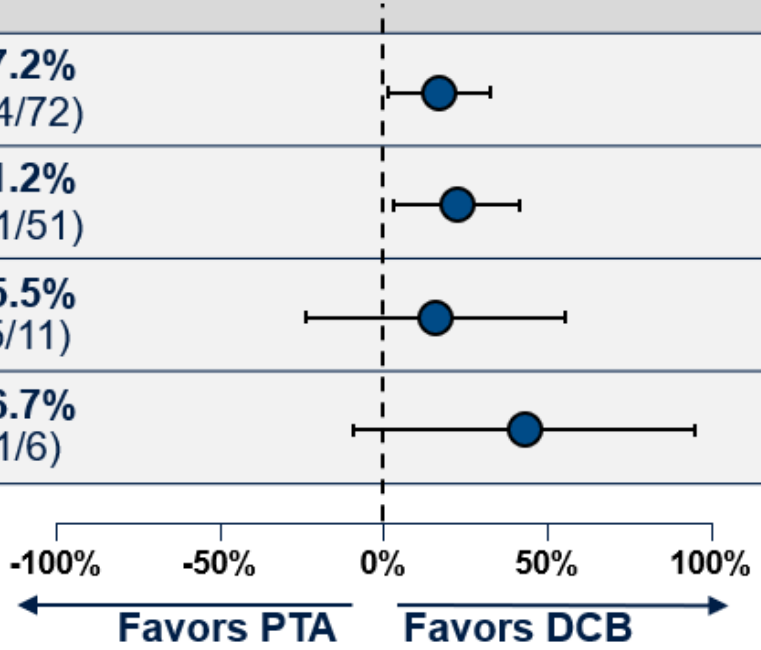
Subgroup (N_{DCB}/N_{PTA})	IN.PACT AV DCB	Standard PTA	Difference [95% CI]
Lesion Type			
De Novo (51/49)	**77.5%** (31/40)	**61.9%** (26/42)	**15.6%** [-4.0%, 35.2%]
Restenotic (119/111)	**58.4%** (59/101)	**35.7%** (35/98)	**22.7%** [9.2%, 36.2%]



Target Lesion Primary Patency Through 12 Months

DCB vs PTA by AVF Type

Subgroup (N_{DCB}/N_{PTA})	IN.PACT AV DCB	Standard PTA	Difference [95% CI]
AVF Type			
Radiocephalic (86/80)	**64.5%** (49/76)	**47.2%** (34/72)	**17.3%** [1.5%, 33.0%]
Brachiocephalic (62/58)	**63.8%** (30/47)	**41.2%** (21/51)	**22.7%** [3.4%, 41.9%]
Brachiobasilic (17/15)	**61.5%** (8/13)	**45.5%** (5/11)	**16.1%** [-23.5%, 55.6%]
Other* (5/7)	**60.0%** (3/5)	**16.7%** (1/6)	**43.3%** [-8.9%, 95.6%]



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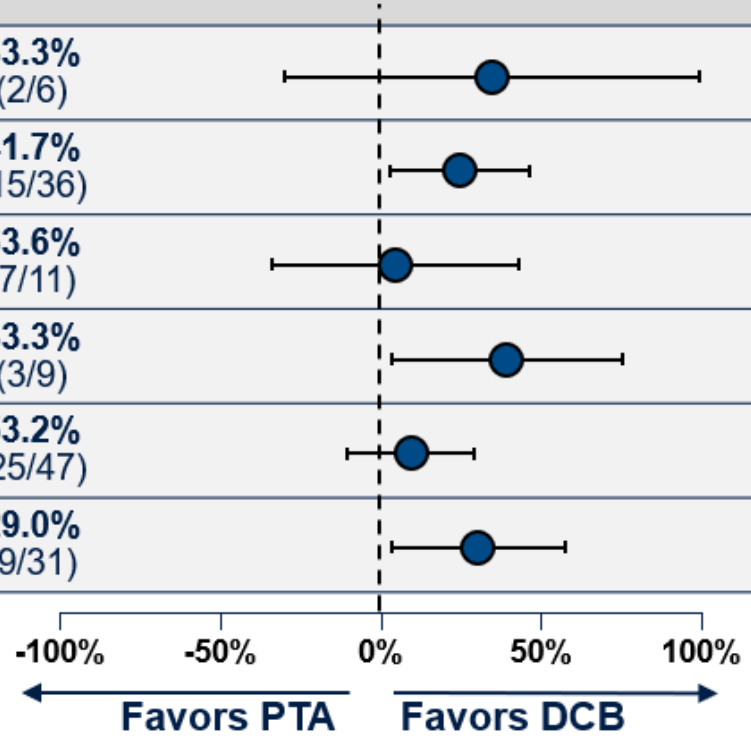
Target Lesion Primary Patency Through 12 Months

DCB vs PTA by Lesion Location

Subgroup (N_{DCB}/N_{PTA})	IN.PACT AV DCB	Standard PTA	Difference [95% CI]
Target Lesion Location			
Arterial Inflow (4/7)	**66.7%** (2/3)	**33.3%** (2/6)	**33.3%** [-32.0%, 98.7%]
Anastomosis (44/40)	**65.0%** (26/40)	**41.7%** (15/36)	**23.3%** [1.5%, 45.2%]
Swing Point (14/12)	**66.7%** (8/12)	**63.6%** (7/11)	**3.0%** [-36.0%, 42.0%]
In Cannulation Zone (25/12)	**71.4%** (15/21)	**33.3%** (3/9)	**38.1%** [1.7%, 74.5%]
Venous Outflow (53/53)	**60.9%** (28/46)	**53.2%** (25/47)	**7.7%** [-12.4%, 27.7%]
Cephalic Arch (30/36)	**57.9%** (11/19)	**29.0%** (9/31)	**28.9%** [1.5%, 56.2%]



Summary

- Results from IN.PACT AV Access study demonstrate superior outcomes for DCB vs PTA in dysfunctional AVF
  - Fewer reinterventions to maintain target lesion primary patency in the DCB group compared to PTA group
    - 56.0% at 6 months
    - 35.4% at 12 months
- Through 12 months, sustained superior target lesion primary patency was achieved with DCB in restenotic lesions, and both radiocephalic and brachiocephalic AVF types
- Superior target lesion primary patency through 12 months was also observed at several anatomic locations, especially the AV anastomosis and cephalic arch as well as in cannulation zone