

STS/EACTS Latin America Cardiovascular Surgery Conference

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Hybrid Coronary Revascularization: Who would Benefit ?

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The Society
of Thoracic
Surgeons



EACTS
European Association For Cardio-Thoracic Surgery



Hybrid Coronary Revascularization: Who would Benefit ?



MIS + PCI

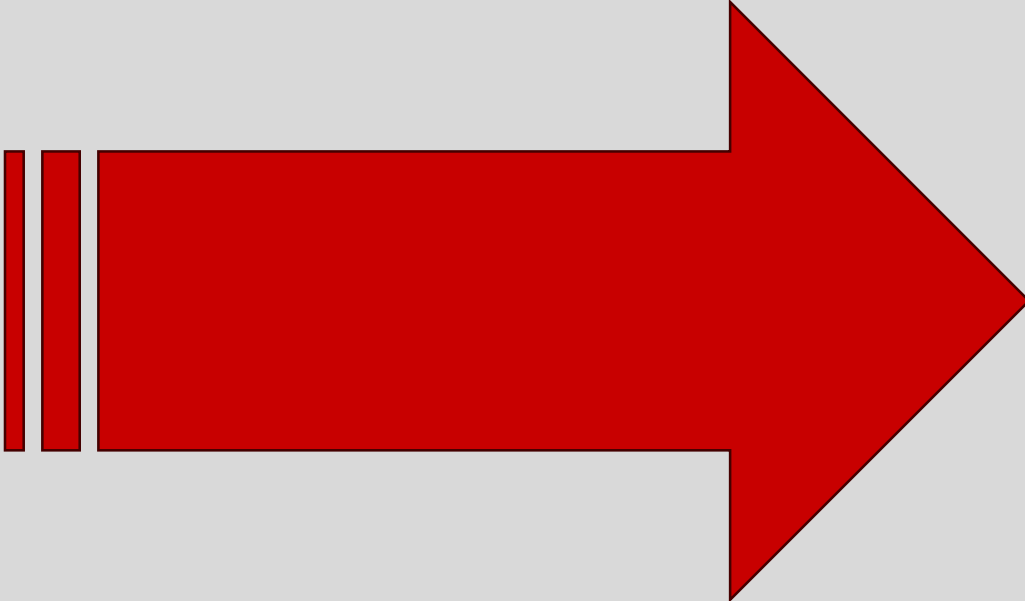
MIS. Ohs. + PCI

Opcab + PCI

PCI + MIS-Ohs-Opcab

Hybrid Coronary Revascularization: Who would Benefit ?



Lima  Lad

PCI + vessels **NoLad**

Hybrid Coronary Revascularization: Who would Benefit ?



patient selection
sequence and timing
surgical technique

Hybrid Coronary Revascularization: Who would Benefit ?



survival
hospital stay
cost and macce

Hybrid Coronary Revascularization: Who would Benefit ?



Why hybrid ??

**Lima to Lad better
PCI and Rsvg same results
on vessels NO Lad**

Hybrid Coronary Revascularization: Who would Benefit ?



Why hybrid ??

because PCI **is not better**
than medical treatment in
3 vessels disease in low risk
patients in survival and MIs

Hybrid Coronary Revascularization: Who would Benefit ?



Patient Selection

ischemic symptoms signs
multivessel disease and LAD
proximal or No PCI treated

Hybrid Coronary Revascularization: Who would Benefit ?



Patient Selection

ischemic symptoms signs
multivessel disease and LAD
proximal or **No PCI** treated

Hybrid Coronary Who would Be

Pat

ischemic
multivesse
proxima

Table 1. Recommendations for Suitable Candidates for Hybrid Coronary Revascularization Versus Conventional Coronary Revascularization

Characteristic	PCI	HCR	CABG
Angiographic characteristics			
ULMD	-	+	+
Intramyocardial LAD	+	-	-
Complex LAD lesion [53, 54, 55]	-	+	+
Complex non-LAD lesion [53, 54]	-	-	+
Comorbidities			
Advanced age	+	+	-
Frailty [53, 54]	+	+	-
LVEF <30%	-	+	+
Diabetes mellitus	-	+	+
Renal insufficiency	-	+	+
Severe chronic lung disease	+	-	-
Prior left thoracotomy	+	-	+
Prior sternotomy [55]	+	+	-
Limited vascular access	-	-	+
Lack of available conduits [53, 54]	+	+	-
Severe aortic calcification [53, 54]	+	+	-
Contraindication for DAPT	-	-	+

+ = recommended; - = not recommended.

CABG = coronary artery bypass graft; DAPT = dual antiplatelet therapy; HCR = hybrid coronary revascularization; LAD = left anterior descending artery; LVEF = left ventricular ejection fraction; PCI = percutaneous coronary intervention; ULMD = unprotected left main disease.

ion:



on

gns

AD

ted

Hybrid Coronary Revascularization: Who would Benefit ?



Sequence Timing

one stage
first PCI. then surgery
first surgery. then PCI

Hybrid Coronary Revascularization: Who would Benefit ?



Sequence Timing

one stage
shorter hospital stay
incomplete dual apt-heparine

Hybrid Coronary Revascularization: Who would Benefit ?



Sequence Timing

PCI first
acute coronary syndrome
without LAD culprit

Hybrid Coronary Revascularization: Who would Benefit ?



Sequence Timing
surgery first
assessment patency
of lima to lad and **less**
risk of postOP bleeding

Hybrid Coronary Revascularization: Who would Benefit ?



Sequence Timing
surgery first
risk for patency
of no treated vessels
postOP ischemia

Hybrid Coronary Revascularization: Who would Benefit ?



Sequence Timing
surgery first
PCI treatment
protected

Hybrid Coronary Revascularization: Who would Benefit ?



Sequence Timing

pci first

**go cpb because high
risk of stent thrombosis**

Hybrid Coronary Revascularization: Who would Benefit ?



Surgical Technique

Mid CAB

Endo-ACB

TECAB-Op CAB

Hybrid Coronary Revascularization: Who would Benefit ?



Surgical Technique

Mid CAB

thoracotomy access

direct lima work

cpb not used. single lung vent

Hybrid Coronary Revascularization: Who would Benefit ?



Surgical Technique

Endo ACAB

thoracotomy access left

robotic lima work

cpb not used. single lung vent

Hybrid Coronary Revascularization: Who would Benefit ?



Surgical Technique

TECAB

thoracotomy thoracoscopy L

complete robotic lima work

cpb **not used**. single lung vent

Hybrid Coronary Revascularization: Who would Benefit ?



Surgical Technique

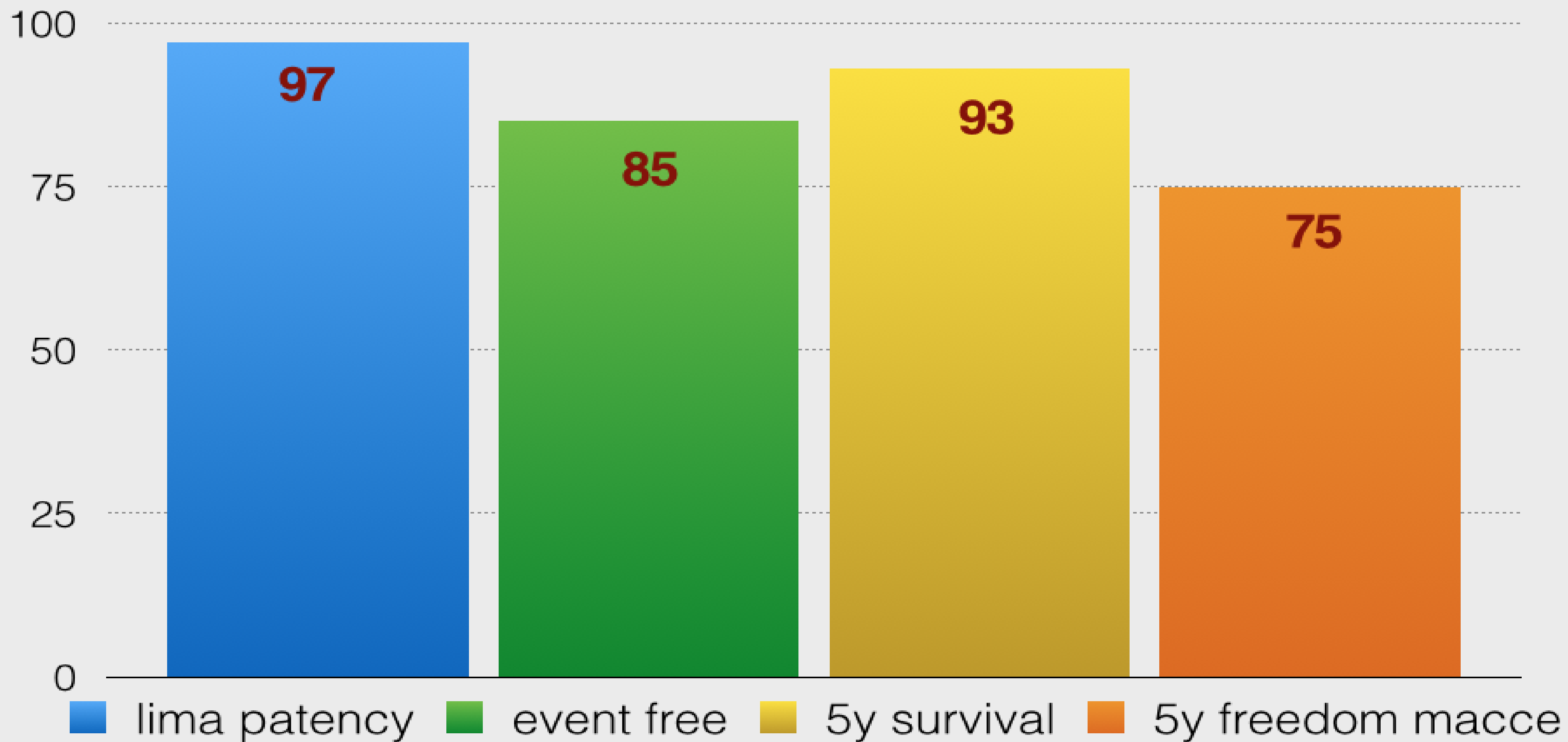
OpCAB

midline sternotomy

direct lima work

cpb not used

Clinical outcomes after HCR



Ann Thorac Surg 2013; 96:2268-77

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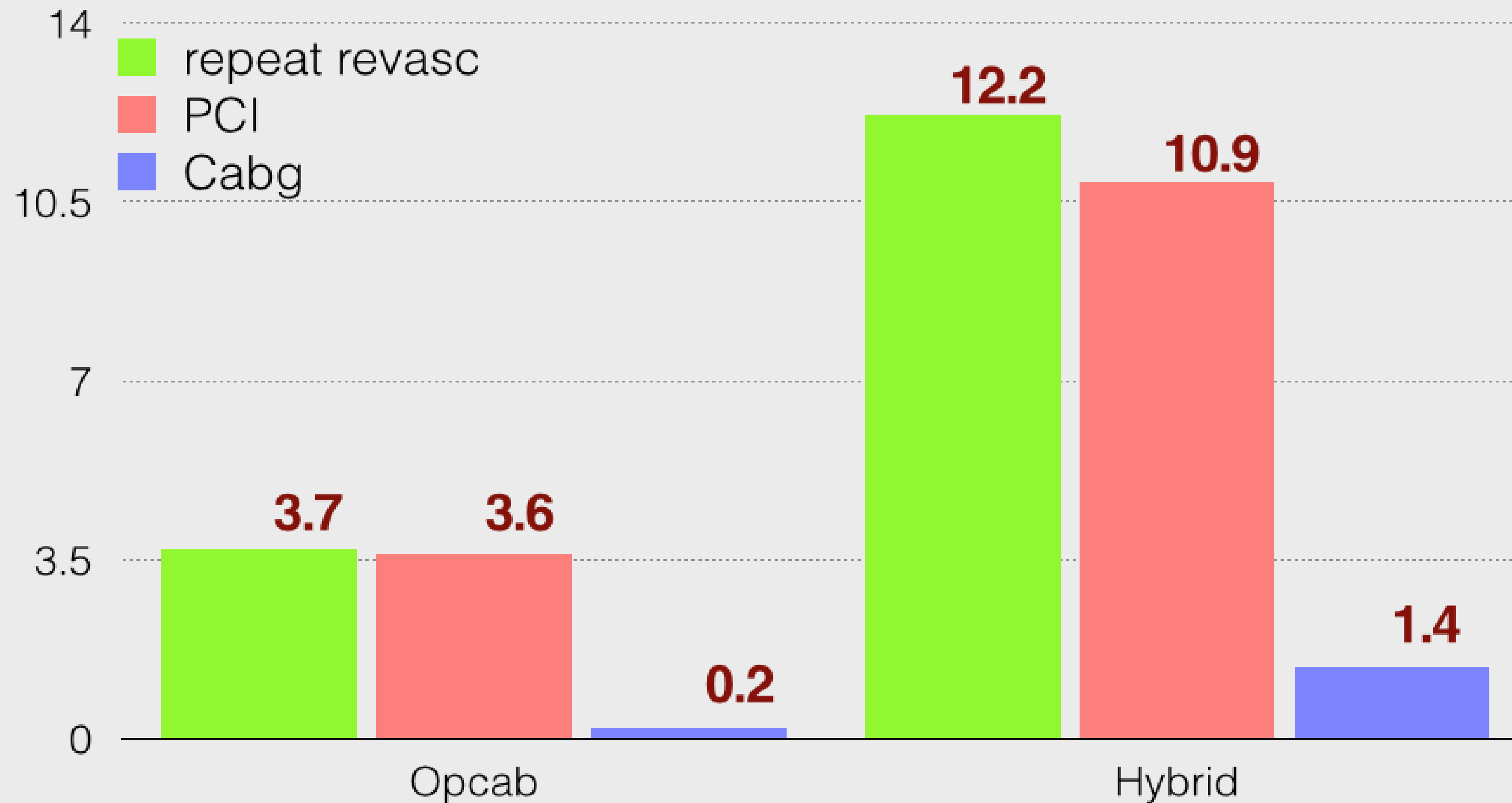


Results

OpCAB - Cabg

better quality life. less atrial fib
significantly shorter ICU stay
back to work. cost. less transf

Details of Repeated Revasc Events



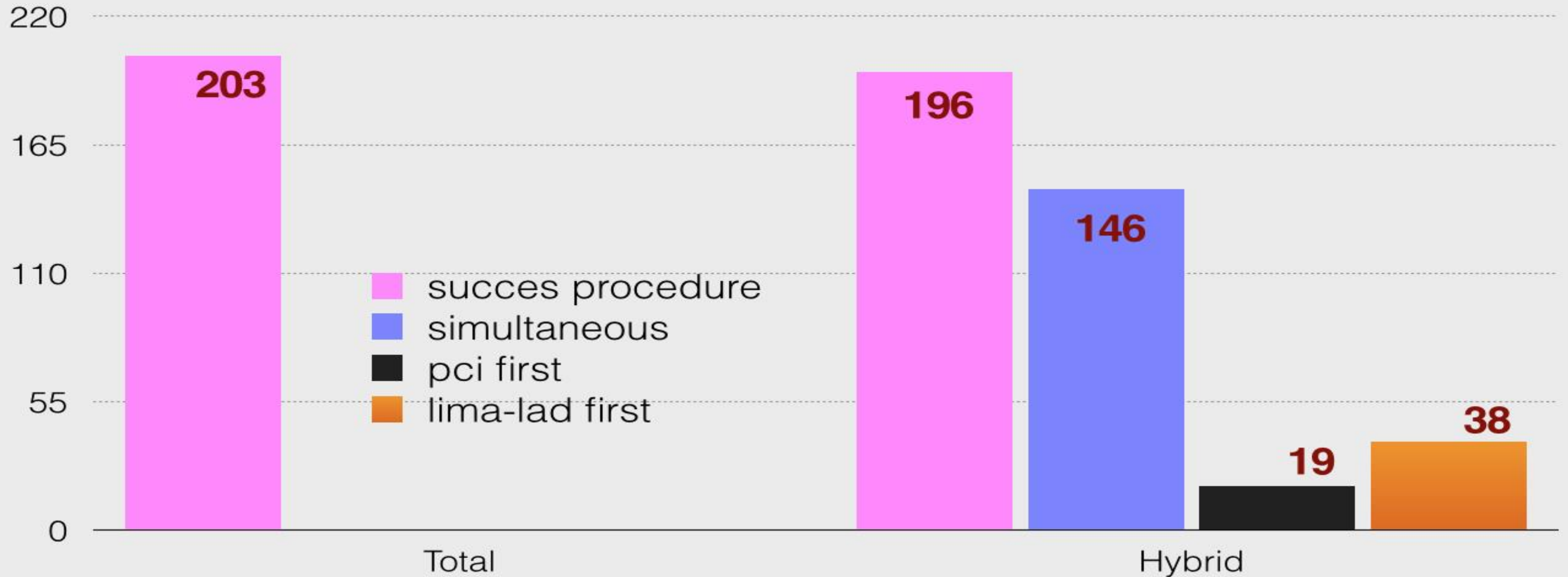
Ann Thorac Surg 2011; 92:1695-1702

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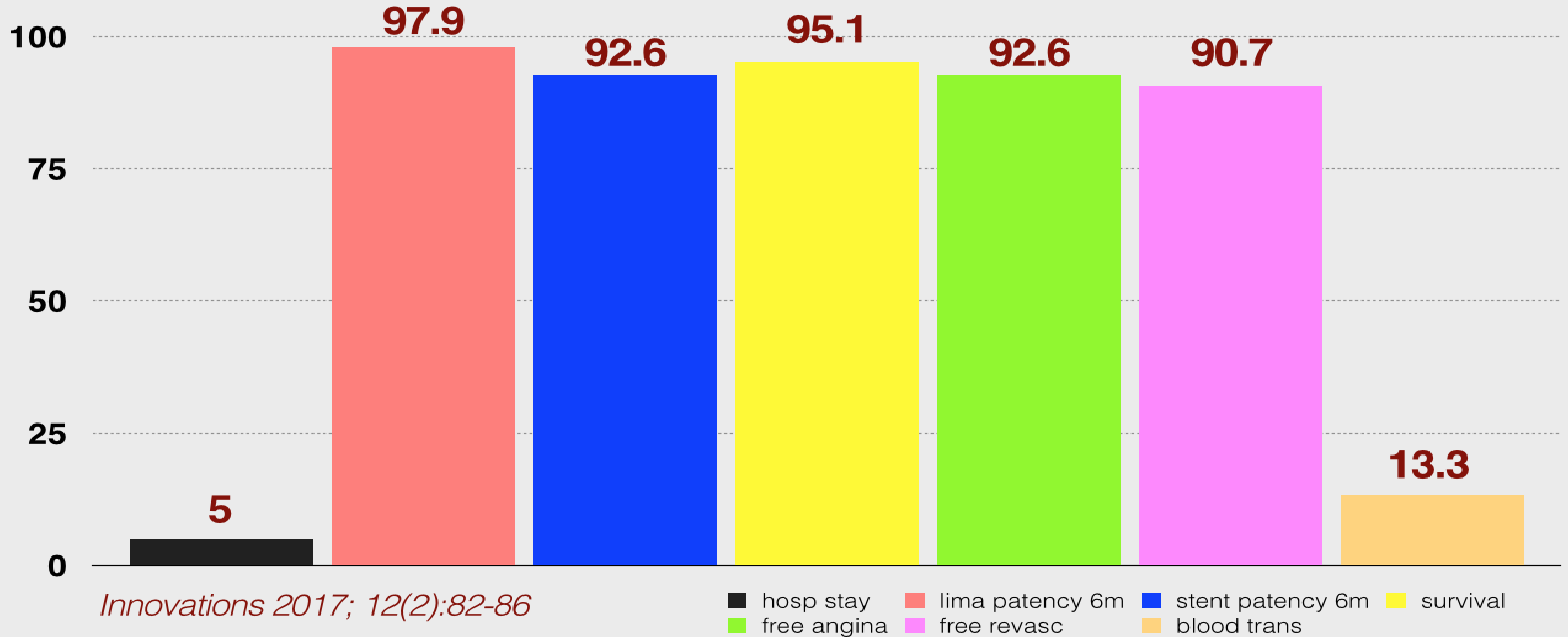
Is HCR the future ...
combines advantages
of both and eliminates
disadvantages just for selected
patients

203 Hybrid procedures



Innovations 2017; 12(2):82-86

203 Hybrid procedures



Hybrid Coronary Revascularization: Who would Benefit ?



for Whom ...

ischemic. multivessels.

acute coronary syndrome.

high risk patients

elderly. contraindication cpb

Hybrid Coronary Revascularization: Who would Benefit ?



for Whom ...

patients treated with PCI
few months ago and with
LAD lesion NO treated

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Thank You



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