האיגוד הישראלי לכירורגית לב וחזה
THE ISRAEL SOCIETY OF CARDIOTHORACIC SURGERY

האיגוד הקרדיולוגי בישראל
ISRAEL HEART SOCIETY

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Hybrid Approach to Myocardial Revascularization: Early Results of Randomized Trial

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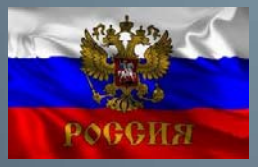
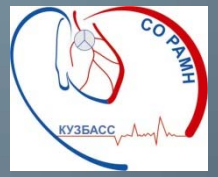
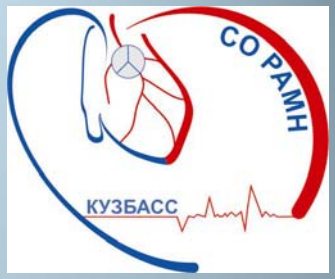




Conflict of interest:

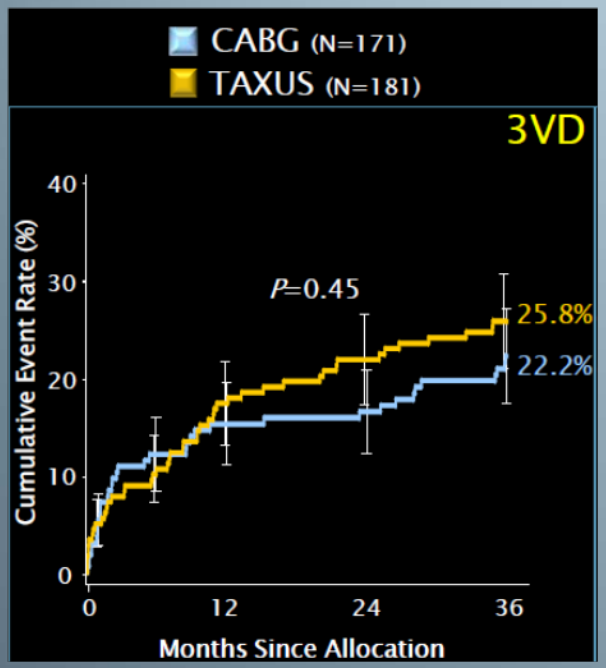


I do not have a financial interest/arrangement or affiliation with one or more organizations that could be perceived as a real or apparent conflict of interest in the context of the subject of this presentation

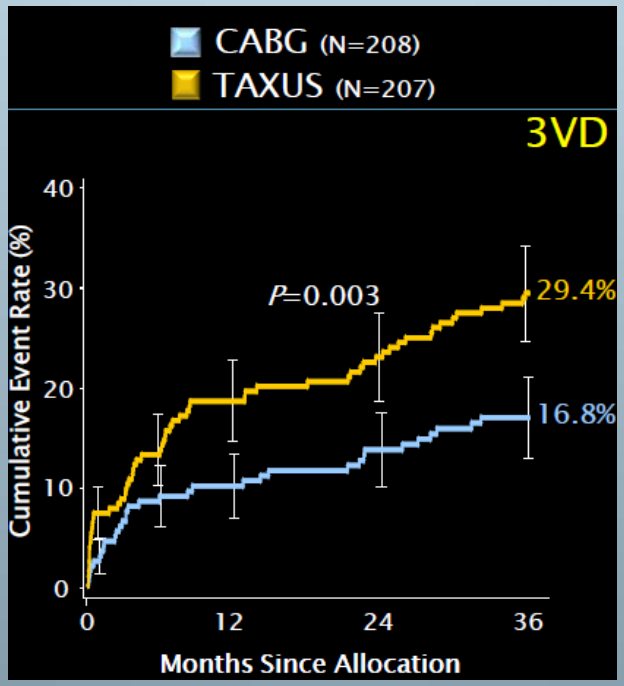
- What the best options for coronary revascularization ?

CABG vs PCI in MVD: SYNTAX Trial 3VD Subset 3 Year MACCE

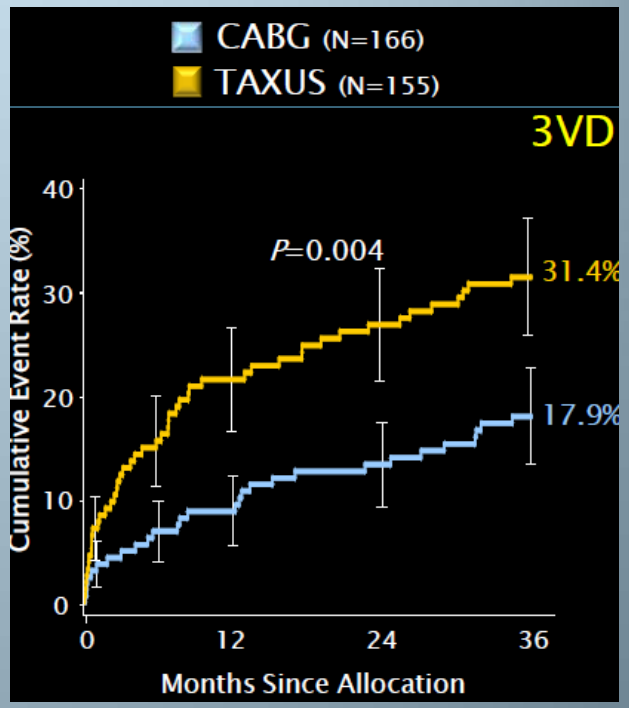
LOW SCORE



INTERMEDIATE SCORE



HIGH SCORE



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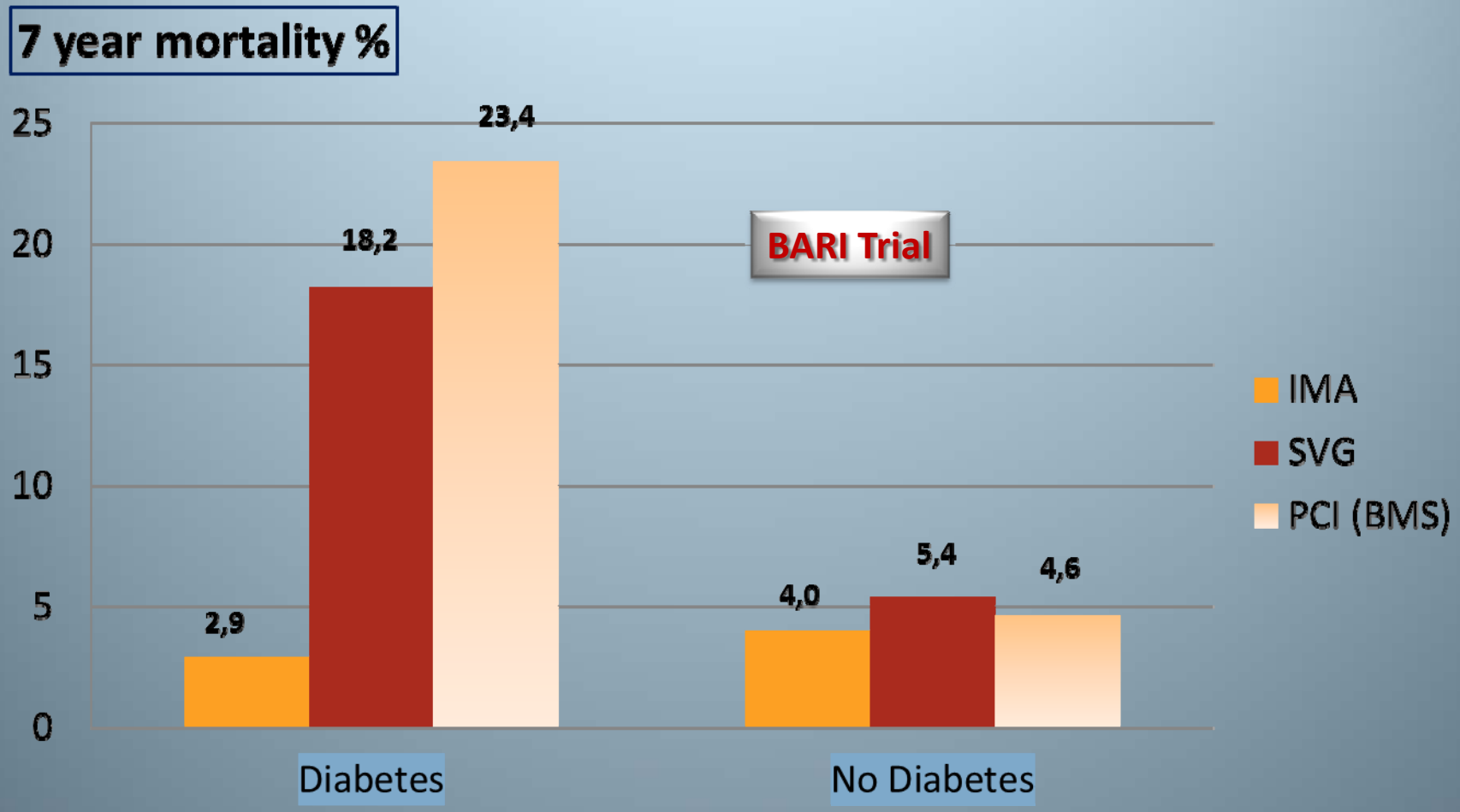
CABG vs PCI

IMA Graft Reduced Mortality



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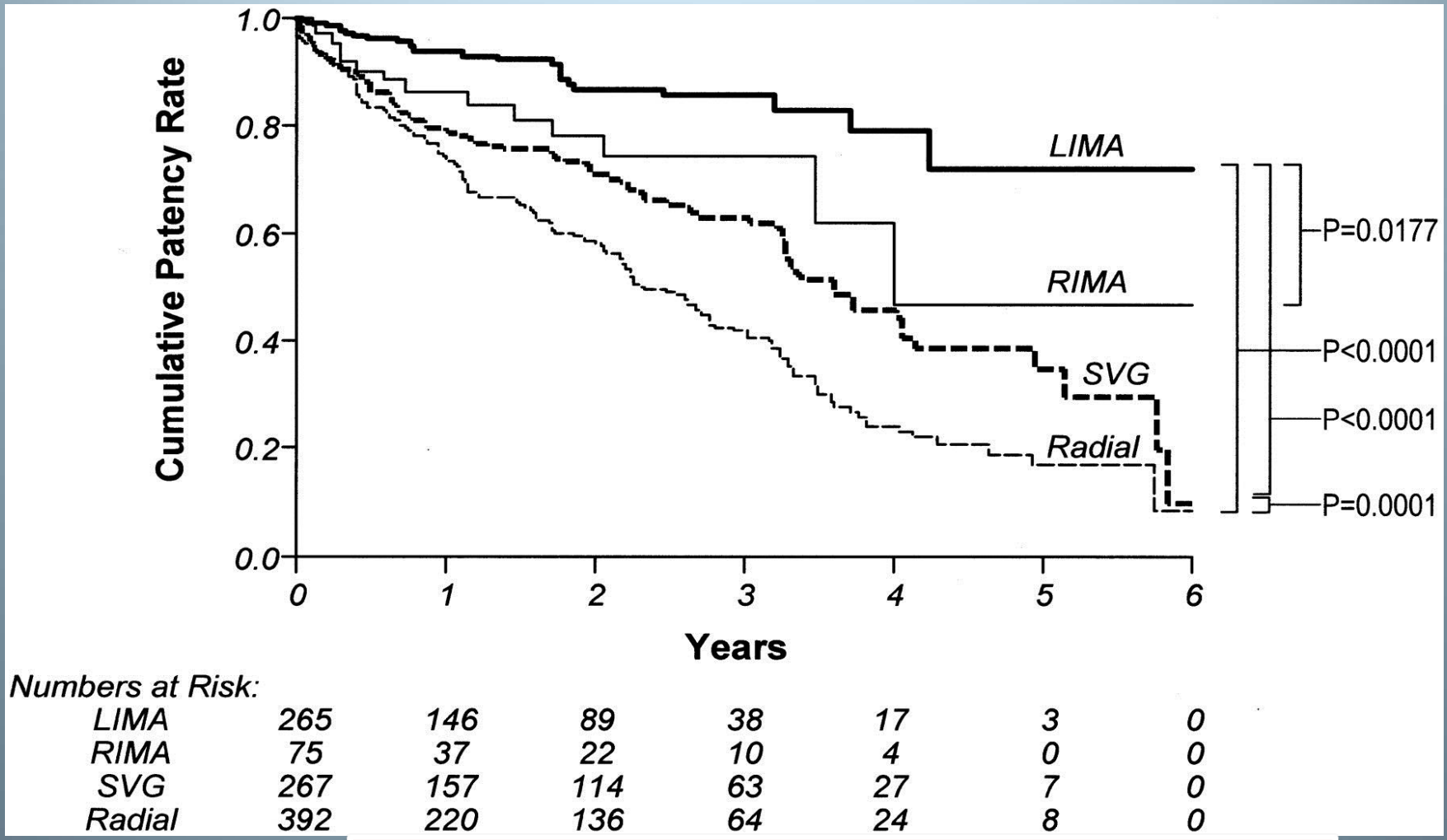
CABG: Long Term Graft Patency

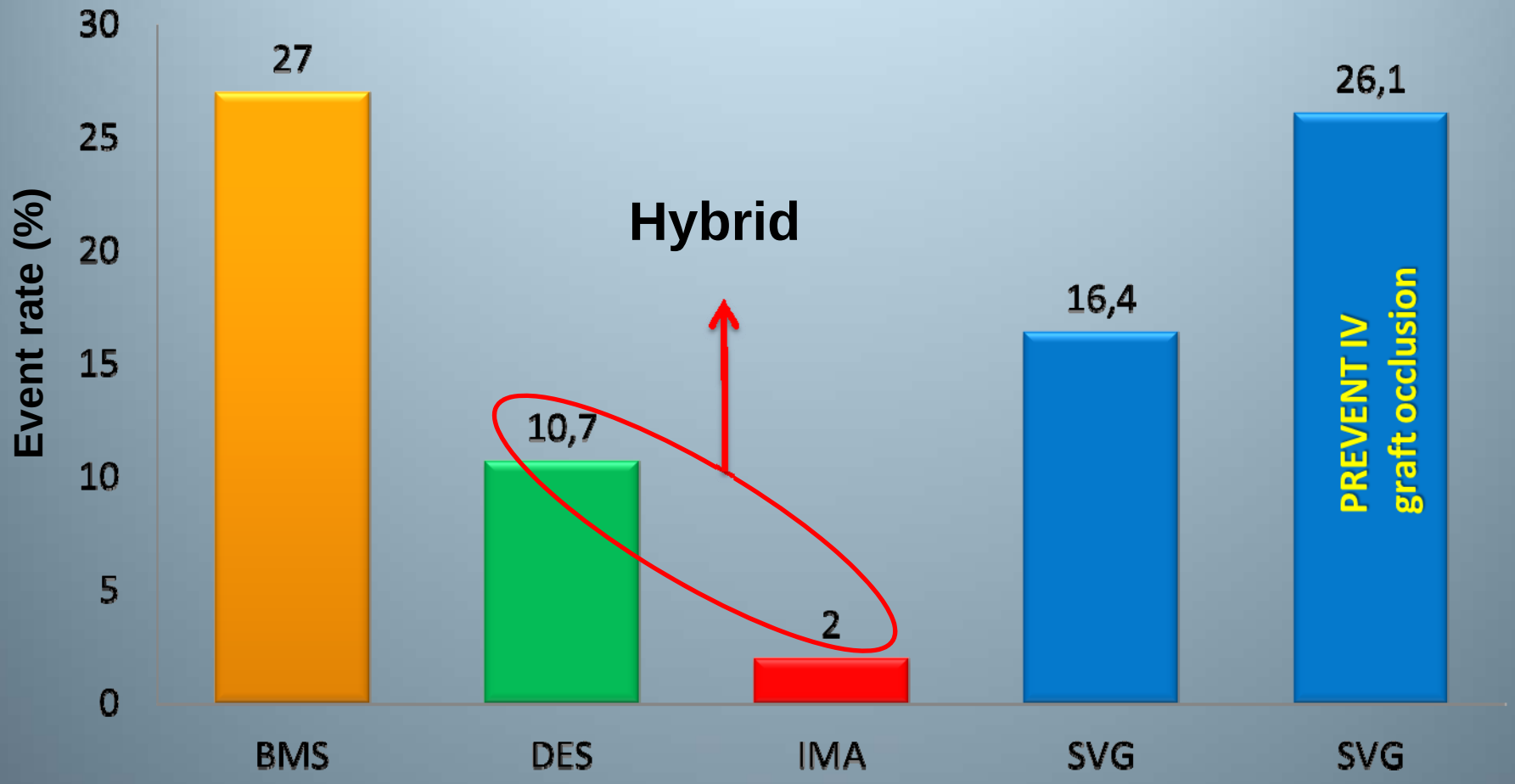


Numbers at Risk:

LIMA	*265*	*146*	*89*	*38*	*17*	*3*	*0*
RIMA	*75*	*37*	*22*	*10*	*4*	*0*	*0*
SVG	*267*	*157*	*114*	*63*	*27*	*7*	*0*
Radial	*392*	*220*	*136*	*64*	*24*	*8*	*0*

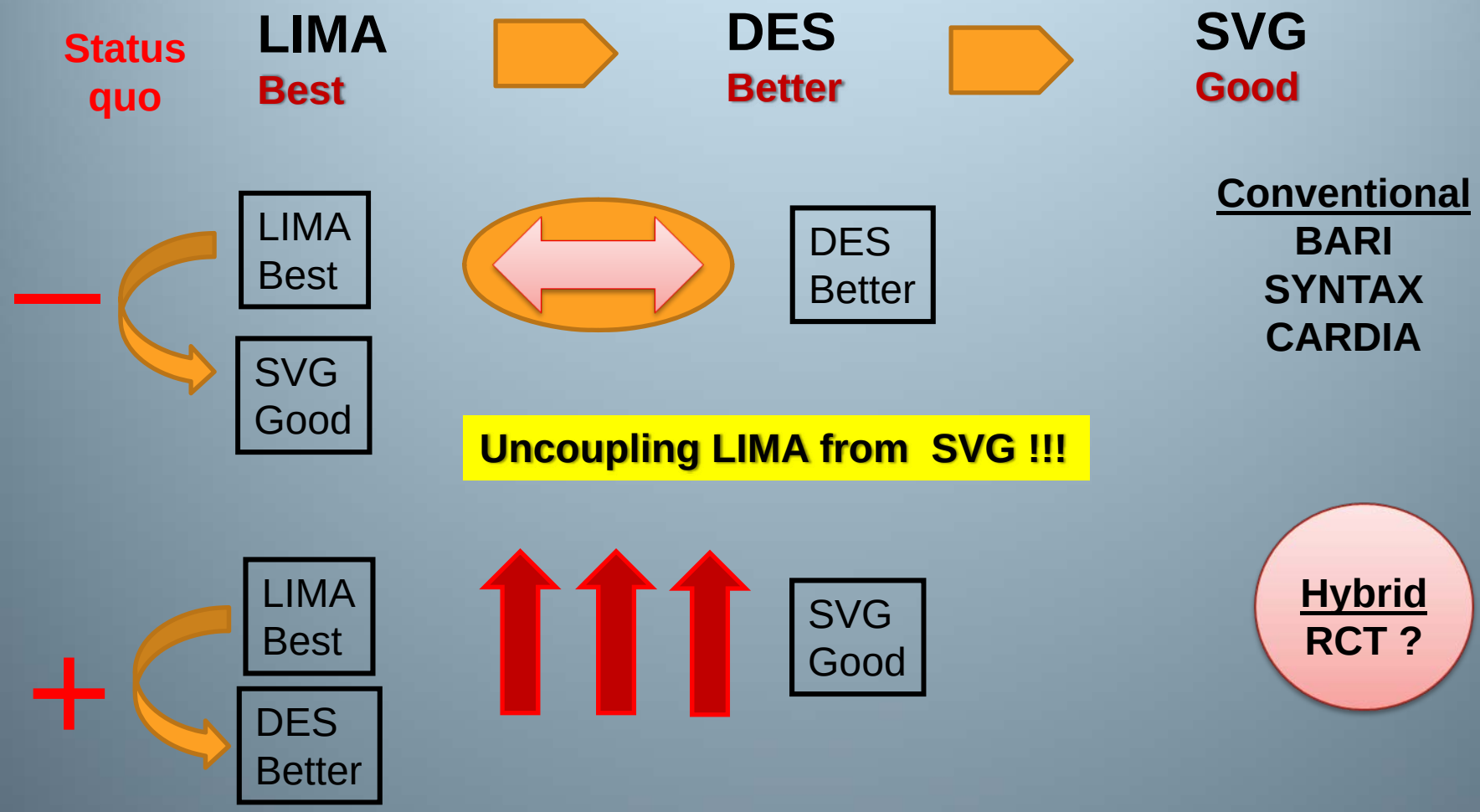
Khot, U. N. et al. Circulation 2004;109:2086-2091

CABG vs PCI in DES Era



BARI, SIRIUS, & PREVENT IV Trials

Can We Improve Revascularization Outcomes Beyond CABG and PCI: Hybrid Revascularization



Current State of Hybrid Revascularization in Multi-Vessel CAD

- Hybrid revascularization appears safe and feasible in patients with MVD
- Conventional CABG may have lower MACE than hybrid in patients with high Syntax score.
- LIMA and DES are must!

- Randomized trials are needed to compare 3 strategy of coronary revascularization !!!

HREVS

Hybrid **R**evascularization **Ve**rsus **S**tents

Prospective, Single-center, Randomized Trial, Intended to Compare Three Revascularization Strategies in Patients With Multi-vessel Coronary Artery Disease

Primary Outcome Measures:

- MACCE [Time Frame: up to 5 years]
  [Designated as safety issue: Yes]

Secondary Outcome Measures:

- Procedural success
- Procedural and post-procedural blood loss and number of transfusions
- Recovery time
- New York Heart Association (NYHA) class modification with respect to baseline
- Life quality assessed by SF-36

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HYPOTHESIS

- Hybrid approach is safety and efficacy than conventional surgical or percutaneous revascularization

Inclusion Criteria:

1. Multi-vessel coronary artery disease with ≥ 70% and <96% artery stenosis (according to QCA)
2. I-III CCS functional class of angina
3. Asymptomatic patients with stress-test documented ischemia
4. Patients at 1 month after acute myocardial infarction
5. Ability to perform either of revascularization methods (Hybrid, MVD-PCI, CABG)
6. “Heart team” consensus on the treatment strategy
7. Patients must have signed an informed consent

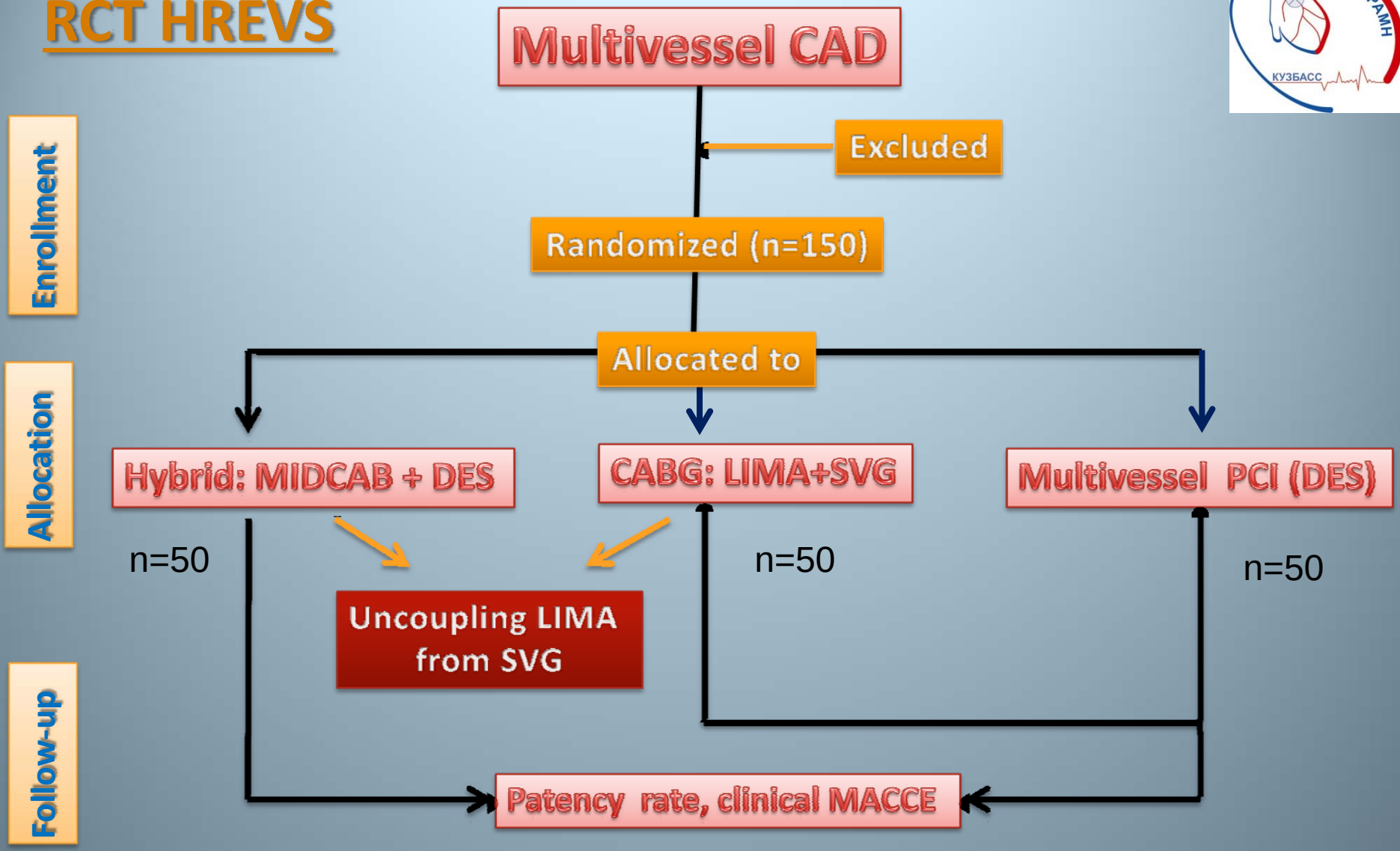
Exclusion Criteria:

1. Pregnancy
2. Acute coronary syndrome
3. Previous CABG
4. Previous stent thrombosis
5. Severe comorbidity with high procedural risk for either of the studied strategies
6. Severe peripheral artery disease
7. Other serious diseases limiting life expectancy (e.g. oncology)
8. Inability for long-term follow-up
9. Participation in other clinical trials
10. Inability to take dual antiplatelet therapy

Angiographic Exclusion Criteria:

1. Critical stenosis (≥95%) in RCA,LAD, CX or Intermediate artery, feasible for revascularization
2. Left main lesions
3. Coronary artery occlusion of the major vessel
4. Single vessel disease
5. Need for emergency revascularization (acute MI, ACS etc.).

RCT HREVS



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1,2,3,4,5 y

Enrolled – 60: Hybrid – 15; CABG- 21; PCI- 24
Operated –52; Hybrid – 11; CABG -18; PCI - 18

Patients clinical characteristics

Total (n=52)	Hybrid (n=11)	CABG (n=18)	PCI (n=23)
Age, mean	59,8±5,7	58,7±4,3	60,8±7,2
Male	85,7%	82,8%	62,5%
Angina class CCS: I II III	 28,5% 28,5% 43%	 0 17,2% 82,8%	 12,5% 58,3% 40,2%
MI	71,4%	63,6%	54,1%
Arythmia and conduct disoders	42,8%	36,3%	29,1%
Previous stroke	14,3%	0%	4,1%
Leg ischemia	10,1%	9%	12,5%
Diabetes	157%	17,2%	16,6%
Hypertension	100%	100%	100%
Chronic obstructive pulmonary disease	14,3%	19,1%	16,6%
Renal insufficiency	12,1%	9%	10,8%
Obesity	14,3%	9%	17,1%
SYNTAX score	10,1±3,2	10,9%	10,6±3,3
EF, %	63±4	51,2±8,2	61,9±6
EuroSCORE Additive Logistic	 1,7±1,2 1,4±0,5	 1,8±1,25 1,6±0,6	 1,5±1,4 1,5±0,7
3 vesseles disease	36%	37%	41%
2 vesseles disease	64%	53%	59%
Degree of stenosis	81,2±8,6%	79,1±9,2%	80,9±8,9%

Results

at in-hospital point of study

Total (n=52)	Hybrid (n=11)	CABG (n=18)	PCI (n=23)
Length of sents, mean	15,5±2,9		18,6±4,4
Diameter of stents	3,3±0,4		3,2±0,4
Target revascularazation,mean	2,7	2,27	2,4
Blood loss, ml	240± 57	320±95	-
CPB time	-	91,7±32	-
Ao Cx	-	44,3±23,1	-
Procedural success	100%	100%	100%
Ventilation time, h	3,5±2,1	5,8± 3,7	-
ICU time, h	16±3,9	18,6+9,5	-

- no MACCE
- 100% procedural success
- no major bleedings
- short recovery time

Conclusion:

In-hospital hybrid approach in the HREVS RCT showed good results comparable to those of traditional approaches to myocardial revascularization

Let's collaborate!

http://www.clinicaltrials.gov/ct2/show/NCT01699048