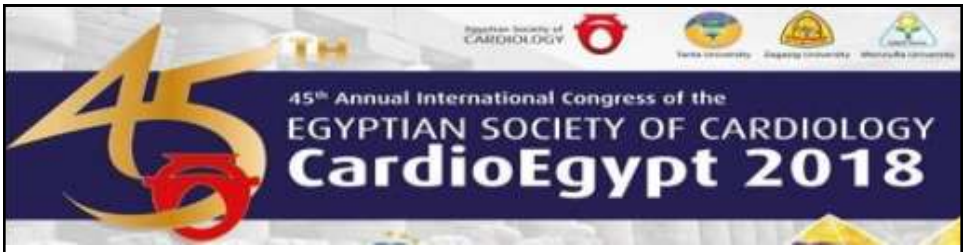

STEMI with Cardiogenic shock and multivessel coronary artery disease

ELSayed Farag MD ,FSCAI
Zagazig University

Clinical Data

- Female 65 yrs old diabetic
- Chest pain 24 hours before being transferred
- AWMI …SK
- Bed side echoDoppler .. Severe HK in all segments with EF 39 %
- Shocked

Multivessel Disease in AMI

- Multivessel disease occurs in 40-60% of patients with STEMI, and 70-80% of patients with shock
- It confers higher risk of death, reinfarction, stent thrombosis, lack of compensatory hyperkinesis of the non-infarct zone and development of shock
- Multiple culprits may be present due to a systemic inflammatory state
- Therefore, treatment of non-culprit vessels may be beneficial

UNIVERSITÄTSMEDIZIN HERZZENTRUM

CULPRIT-SHOCK

CULPRIT-SHOCK: A Randomized Trial of Multivessel PCI in Cardiogenic Shock

Holger Thiele, MD

on behalf of the CULPRIT-SHOCK Investigators

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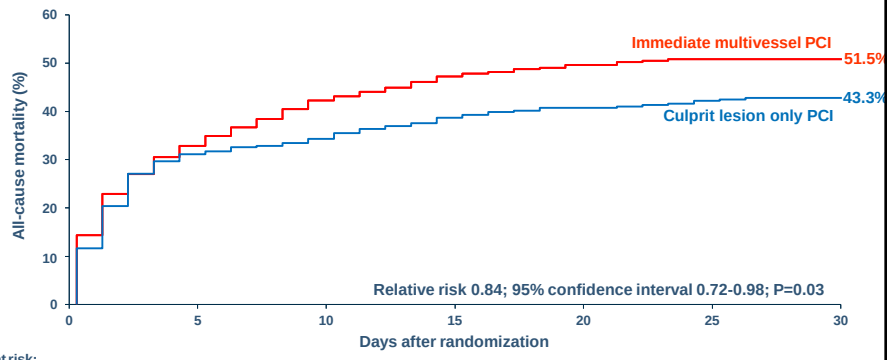
Cardiovascular Research Foundation

All-Cause Mortality



Number at risk:

Culprit lesion only PCI	344	237	226	211	203	198	193
Immediate multivessel PCI	341	229	197	179	170	166	165

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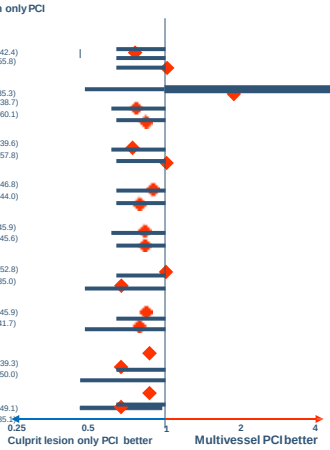
Subgroup Analysis – Primary Endpoint

Baseline Variable	Multivessel PCI	Culprit lesion only PCI	Relative Risk (95% CI)	P Value for Interaction
Sex				
Male	148/266 (55.6)	109/257 (42.4)	0.76 (0.64-0.91)	0.11
Female	41/75 (54.7)	48/86 (55.8)	1.02 (0.77-1.35)	
Age				
<50 years	3/16 (18.8)	6/17 (35.3)		0.24
50-75 years	114/226 (50.4)	82/212 (38.7)	0.77 (0.62-0.95)	
>75 years	72/99 (72.7)	70/115 (60.1)	0.84 (0.69-1.01)	
Diabetes				
No	116/218 (53.2)	93/235 (39.6)	0.74 (0.61-0.91)	0.08
Yes	66/116 (56.9)	59/102 (57.8)	1.02 (0.81-1.28)	
Hypertension				
No	68/129 (52.7)	65/139 (46.8)	0.89 (0.70-1.13)	0.47
Yes	114/205 (55.6)	88/200 (44.0)	0.79 (0.65-0.97)	
Type of infarction				
NSTEMI	54/97 (55.7)	45/98 (45.9)	0.82 (0.62-1.09)	0.96
STEMI	128/233 (54.9)	108/237 (45.6)	0.83 (0.69-0.99)	
STEMI type				
Anterior infarction	59/113 (52.2)	57/108 (52.8)	1.01 (0.79-1.30)	0.07
Non-anterior infarction	48/92 (52.2)	34/97 (35.0)	0.67 (0.48-0.94)	
Previous infarction				
No	154/281 (54.8)	128/279 (45.9)	0.84 (0.71-0.99)	0.83
Yes	28/53 (52.8)	25/60 (41.7)	0.79 (0.53-1.17)	
Coronary artery disease				
2-vessel disease	64/124 (51.6)	48/122 (39.3)	0.76 (0.58-1.01)	0.56
3-vessel disease	124/215 (57.7)	109/218 (50.0)	0.87 (0.73-1.03)	
Chronic total occlusion				
No	146/259 (56.4)	131/267 (49.1)	0.87 (0.74-1.02)	0.26
Yes	43/82 (52.4)	27/77 (35.1)	0.67 (0.46-0.97)	



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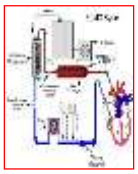
Historical Perspectives of Cardiac Support Devices

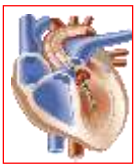

ECMO


IABP


CPS


Hemopump


TandemHeart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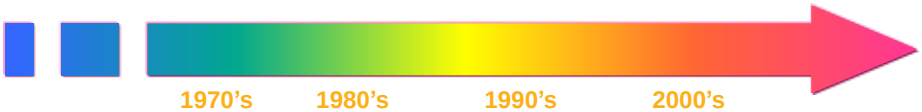


Randomized comparison of intraaortic balloon counterpulsation versus optimal medical therapy in addition to early revascularization in acute myocardial infarction complicated by cardiogenic shock

Holger Thiele, MD
Uwe Zeymer, MD; Franz-Josef Neumann, MD; Miroslaw Ferenc, MD; Hans-Georg Olbrich, MD; Jörg Hausleiter, MD; Gert Richardt, MD; Marcus Hennersdorf, MD; Klaus Empen, MD; Georg Fuernau, MD; Steffen Desch, MD; Ingo Eitel, MD; Rainer Hambrecht, MD; Jörg Fuhrmann, MD; Michael Böhm, MD; Henning Ebelt, MD; Steffen Schneider, PhD; Gerhard Schuler, MD; Karl Werdan, MD
on behalf of the **IABP-SHOCK II Trial** Investigators

University of Leipzig – Heart Center

Study Sites and Organisation

DSMB:

Steering committee:

Support + Patronage:

DFG Deutsche Forschungsgemeinschaft

Summary + Conclusions

- IABP support in cardiogenic shock is safe without significant inherent complications.
- However, IABP support did not reduce 30-day mortality in this large, randomized, multicenter trial in cardiogenic shock patients complicating myocardial infarction undergoing early revascularization.
- The primary study endpoint results are supported by a lack of benefit in secondary endpoints.

Guidelines

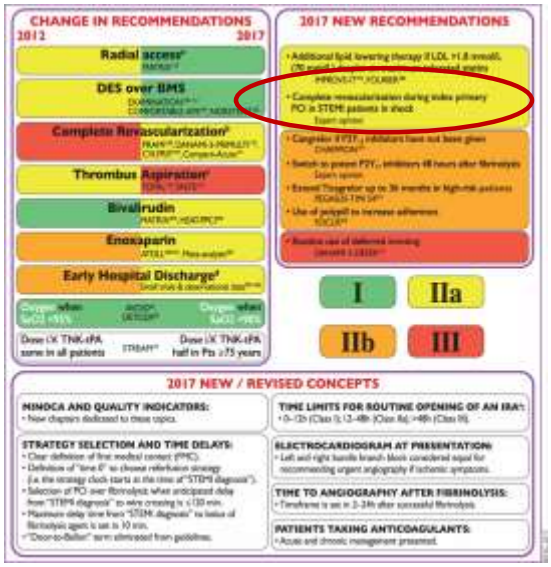
ESC

Class IC

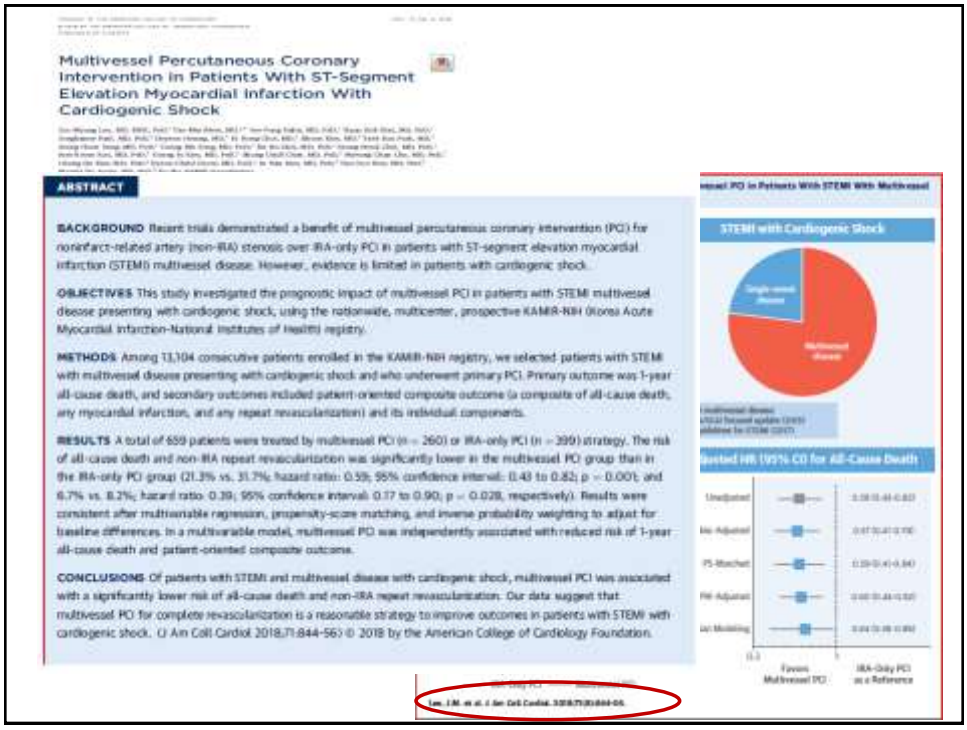
ACC/AHA

Class IB

ESC STEMI Guidelines 2017



Eur Heart J. Published online August 26, 2017. doi:10.1093/eurheartj/ehx393



Multivessel Percutaneous Coronary Intervention in Patients With ST-Segment Elevation Myocardial Infarction With Cardiogenic Shock

ABSTRACT

BACKGROUND Recent trials demonstrated a benefit of multivessel percutaneous coronary intervention (PCI) for noninfarct-related artery (non-IRA) stenosis over IRA-only PCI in patients with ST-segment elevation myocardial infarction (STEMI) multivessel disease. However, evidence is limited in patients with cardiogenic shock.

OBJECTIVES This study investigated the prognostic impact of multivessel PCI in patients with STEMI multivessel disease presenting with cardiogenic shock, using the nationwide, multicenter, prospective KAMIR-NIH (Korea Acute Myocardial Infarction-National Institutes of Health) registry.

METHODS Among 13,104 consecutive patients enrolled in the KAMIR-NIH registry, we selected patients with STEMI with multivessel disease presenting with cardiogenic shock and who underwent primary PCI. Primary outcome was 1-year all-cause death, and secondary outcomes included patient-oriented composite outcome (a composite of all-cause death, any myocardial infarction, and any repeat revascularization) and its individual components.

RESULTS A total of 659 patients were treated by multivessel PCI (n = 260) or IRA-only PCI (n = 399) strategy. The risk of all-cause death and non-IRA repeat revascularization was significantly lower in the multivessel PCI group than in the IRA-only PCI group (21.3% vs. 31.7%; hazard ratio: 0.59; 95% confidence interval: 0.43 to 0.82; p = 0.001; and 6.7% vs. 8.2%; hazard ratio: 0.39; 95% confidence interval: 0.17 to 0.90; p = 0.028, respectively). Results were consistent after multivariable regression, propensity-score matching, and inverse probability weighting to adjust for baseline differences. In a multivariable model, multivessel PCI was independently associated with reduced risk of 1-year all-cause death and patient-oriented composite outcome.

CONCLUSIONS Of patients with STEMI and multivessel disease with cardiogenic shock, multivessel PCI was associated with a significantly lower risk of all-cause death and non-IRA repeat revascularization. Our data suggest that multivessel PCI for complete revascularization is a reasonable strategy to improve outcomes in patients with STEMI with cardiogenic shock. (J Am Coll Cardiol 2018;71:844-56) © 2018 by the American College of Cardiology Foundation.

45th Annual International Congress of the EGYPTIAN SOCIETY OF CARDIOLOGY CardioEgypt 2018

Take Home Message

- Support and support …
- Ventilate if mandate …
- Cardiac arrest setup ….
- Minimal amount of dye…
- Be simple…
- Try to be complete … to complete you job !