

IABP Shock II

No Benefits Time to Rethink?

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IABP in Cardiogenic Shock

History:

- 1962** Animal studies
Moulopoulos et al. Am Heart J 1962;63:669-675
- 1968** First clinical description in shock
Kantrowitz et al. JAMA 1968;203:135-140
- 1973** Hemodynamic effects in shock,
Mortality unchanged
Scheidt et al. NEJM 1973;288:979-984
- > 40 years** > 1 Million patients treated, low complication rate,
Benchmark registry
Ferguson et al. JACC 2001;38:1456-1462



Mechanism of IABP

IABP

Inflation Diastole

Deflation Systole

- Augmentation of diastolic pressure
- Increase coronary perfusion
- Increase myocardial oxygen supply



- Decrease cardiac work
- Decrease afterload
- Increase cardiac output

Main reasons for the use of Left Ventricular Assist Devices for STEMI Intervention

Reduce infarct size

Save Life

Anterior STEMI without Shock

Inclusion Criteria

- Anterior STEMI
2 mm in 2 contiguous leads or
at least 4 mm in the anterior
leads
- Planned Primary PCI within 6 hrs
- Adult able to consent

Intra-aortic Balloon
Counterpulsation prior to PCI

Randomize
Open Label
(n ~ 300)

Standard of Care Primary PCI

At least 12 hours of IABC post PCI

Routine Post PCI care

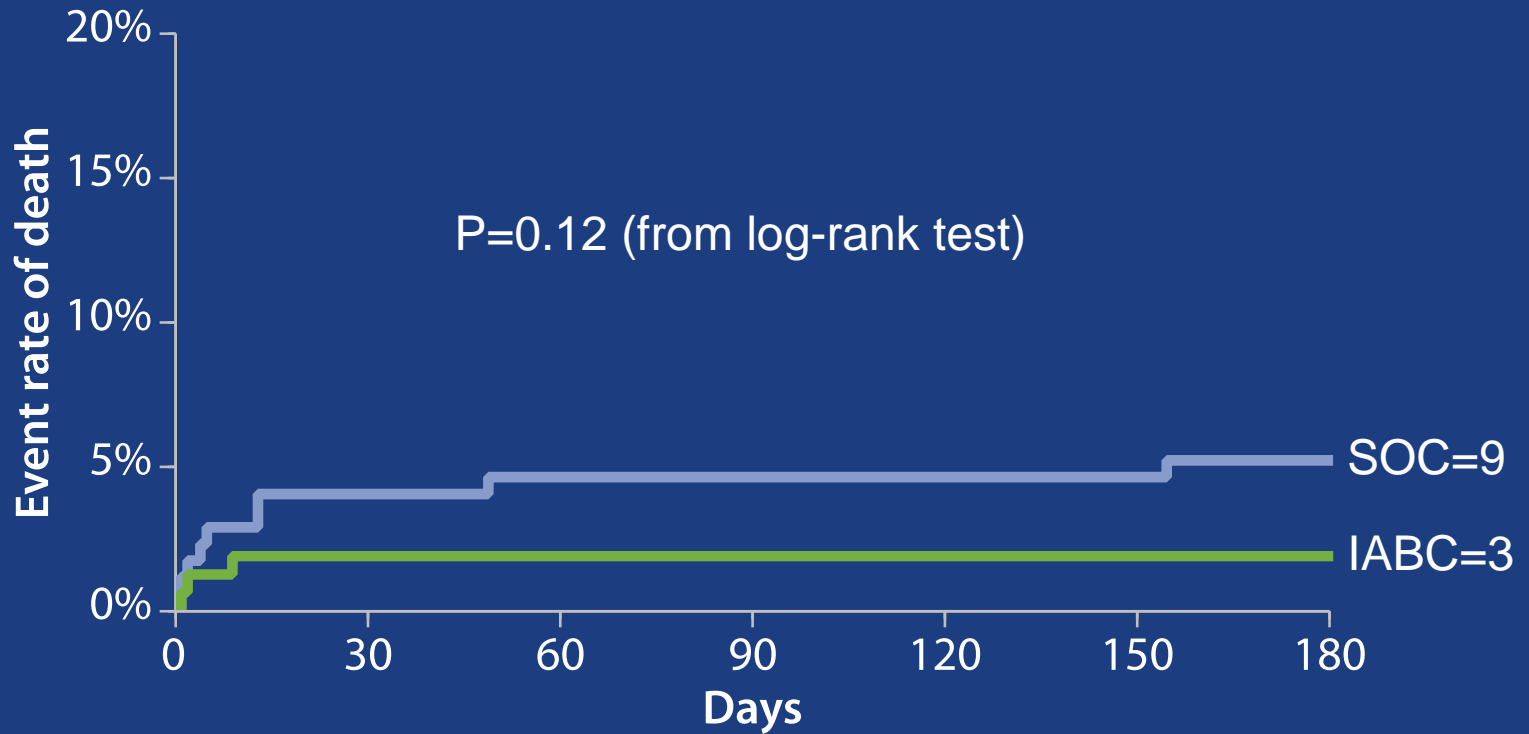
Cardiac MRI performed day 3-5 post PCI

Primary Endpoint: Infarct Size on CMR

1. All Patients with CMR data
2. Patients with Prox LAD occlusion TIMI 0/1 flow

Clinical Events – 6 months

All Cause Death – 6 months



	IABC (N=161)	SOC (N=176)	P Value
Death, %	1.9*	5.2*	0.12*
Death/recurrent MI/new or worsening CHF, %	6.3*	10.9*	0.15*
Death/shock/new or worsening CHF, %†	5.0*	12.0*	0.03*

*From KM curves and log-rank test. †Exploratory analysis.

Conclusion

Among Patients with Acute Anterior STEMI without cardiogenic shock use of Intra-aortic counterpulsation prior to PCI compared with standard of care PCI:

1. Does not reduce infarct size
2. All cause mortality at 6 months was not different
3. Exploratory composite clinical endpoint favored IABC

These findings do not support the routine use of IABC prior to PCI in Anterior STEMI patients without cardiogenic shock