PLACE 2026
PLATFORM OF LABORATORIES FOR ADVANCES IN CARDIAC EXPERIENCE

CONGRESSO
ROMA, 25 - 27 Giugno 2026

HOW SHOULD I TREAT?": CARDIOGENIC SHOCK

Background & caso clinico

Cristina Aurigemma
Fondazione Policlinico Universitario A. Gemelli IRCCS Roma

Cardiogenic shock

Cardiogenic shock (CS) complicates roughly 1 in 12 acute myocardial infarctions and still carries 40–50% mortality despite early revascularisation. It is profoundly heterogeneous in aetiology (AMI-CS vs heart-failure-CS), phenotype and severity.

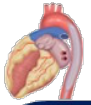
≈8%

of acute MI develop cardiogenic shock

40–50%

mortality at 30–180 days, despite reperfusion

Device benefit

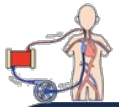


IABP SHOCK II

Mostly (indirect data)

Resuscitation was 42.2% and 47.8% in IABP and controls as was lactate (3.6 vs. 4.7 mmol/L)

Routine intra-aortic balloon pump use doesn't reduce mortality



ECLS-SHOCK

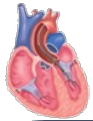
32% in ECLS group & 38% in control group

18% in ECLS group & 9% in control group

49% in ECLS group & 53% in control group

78% had prior cardiac arrest
Median lactate: 6.9 mmol/L
→ advanced shock state

Routine early VA-ECMO use doesn't reduce mortality



DanGer Shock

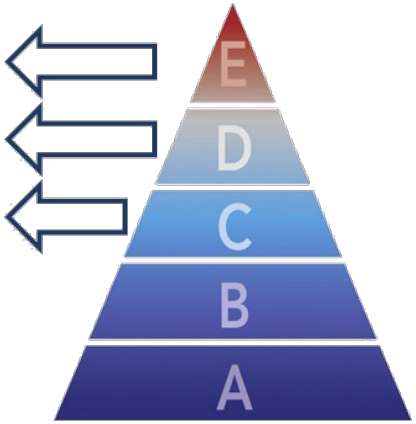
16% in mAFP group & 17% in control group

29% in mAFP group & 28% in control group

56% in mAFP & 55% in control group

Excluded comatose cardiac arrest & non-STEMI or other forms of CS
20% had resuscitated prior cardiac arrest, but GCS ≥8
Median lactate: 4.5 mmol/L

In selected STEMI-related CS early Impella CP use reduced all-cause mortality



Aurigemma C et al J. Clin. Med. 2026

MCS in AMI cardiogenic shock

Trial (Year)	Population (n)	Device vs Control	Primary Endpoint	Mortality Outcome	Major Complications
IABP-SHOCK II (2012)	AMI-CS post-PCI (n=600)	IABP vs medical therapy	30-day mortality	39.7% vs 41.3% (RR 0.96, p=0.69) – no benefit	No difference in major bleeding or stroke; IABP safe, but no hemodynamic advantage
DanGer Shock (2024)	STEMI-CS pre/post-PCI (n=355)	Impella CP vs medical	180-day mortality	45.8% vs 58.5% (HR 0.74, p=0.04) – ↓mortality **NNT 8**	↑ Bleeding: 22% vs 12%; Limb ischemia: 5.6% vs 1.1%; RRT: 42% vs 27%; Sepsis ↑ (12% vs 5%)
ECLS-SHOCK (2023)	AMI-CS + PCI planned (n=417)	VA-ECMO (ECLS) vs medical	30-day mortality	47.8% vs 49.0% (RR 0.98, p=0.81) – no benefit	↑ Bleeding: 23% vs 10%; Vascular injury: 11% vs 4%; Longer vent support with ECMO

NNH 6

STEMI-DTU trial

PRIMARY ENDPOINT — INFARCT SIZE (% LV MASS)

30.8% vs. **31.9%**

U-DR (Impella) *control*

P = 0.50 · primary endpoint not met

ALL-CAUSE MORTALITY AT 12 MONTHS

4.0% vs. **5.1%**

U-DR (Impella) *control*

HR 0.76 (P = 0.51) · no significant difference

SAFETY · MAJOR BLEEDING OR VASCULAR COMPLICATIONS (30 d, post-hoc ITT)

34.0% vs. **6.0%** Driven by access-site events (31.7% vs. 2.3%)

TAKE-HOME: LV unloading + 30-min delayed reperfusion did not reduce infarct size in anterior STEMI without shock.

Clinical presentation

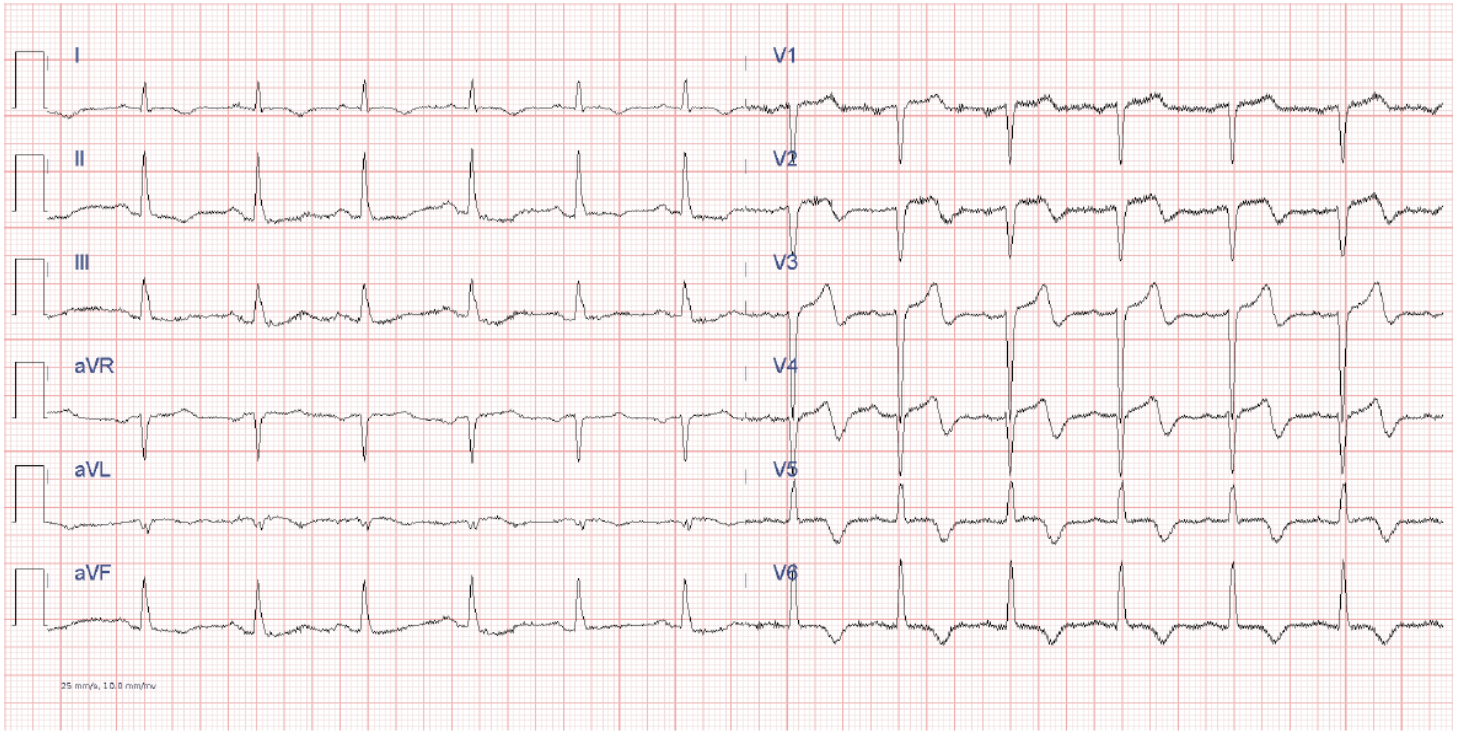
70 yo Male

Cardiovascular risk factors: previous smoking history, BMI 28

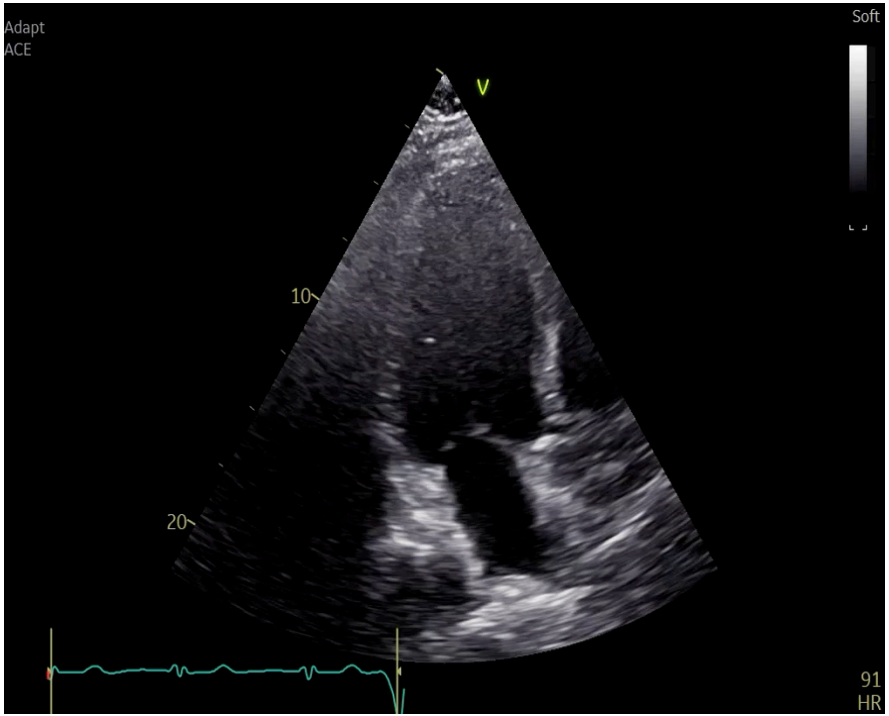
No previous cardiovascular history

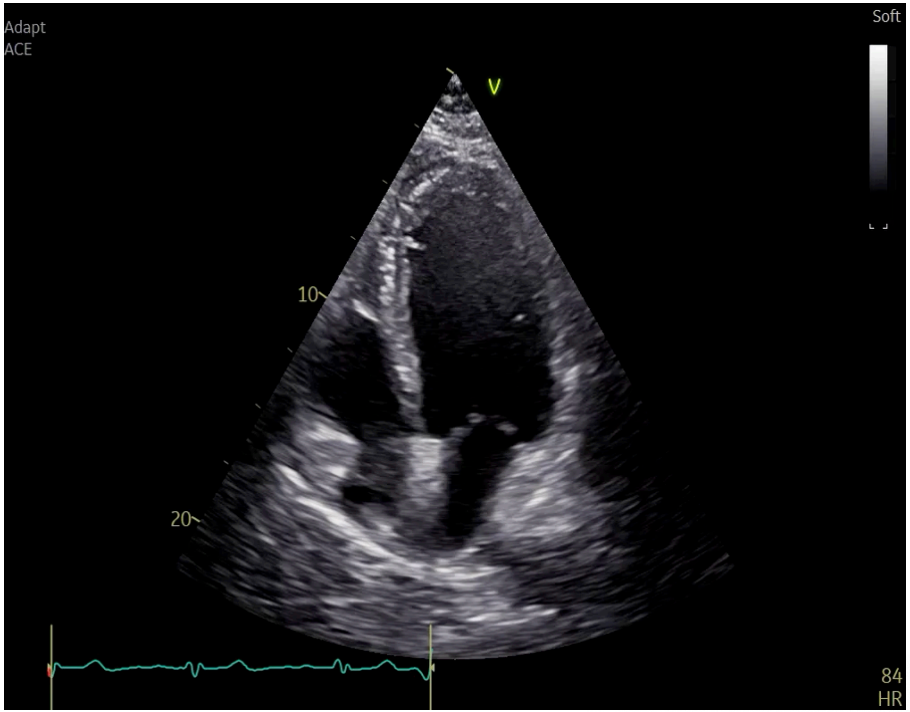
Admitted to our hospital for worsening dyspnea over several days and chest pain, initially exertional, now persistent at rest.

ECK

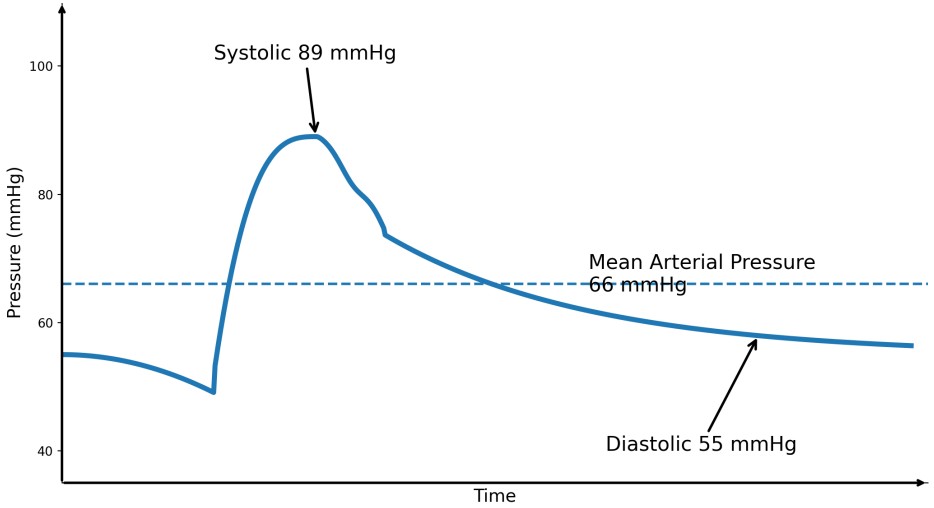


Echocardiogramm





Hemodynamic parameters, ABG & Lab test



pH: 7.33

PaO_2: 80 mmHg

$PaCO_2$: 34 mmHg

HCO_3^-: 18 mmol/L

BE (base excess): –9 mmol/L

SaO_2: 95%

Lactate: 1.8 mmol/L

Hb 15, PLT 167,
WBG 10.41, PCR 6,
TnI 10611,
NtproBNP 5128,
creatinine 1.34

WHAT WOULD YOU DO?

What to do?

- ✓ Inotropic support for stabilization
- ✓ Urgent coronary angiography
- ✓ Mechanical circulatory support implantation
- ✓ Inotropic support plus urgent coronary angiography
- ✓ Mechanical circulatory support implantation plus urgent coronary angiography