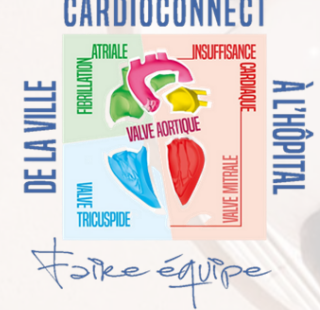




Prise en charge des urgences cardiologiques avec ou sans ECMO : ce qui a changé

Pr R. Gallet (Mondor)



6^{ème} édition

SAMEDI, 2 DECEMBRE 2023

SALONS VARENNE, NOISY-LE-GRAND

**Prise en charge des urgences
cardiologiques avec ou
sans ECMO : ce qui a changé**

Pr Romain GALLET
CHU Henri Mondor

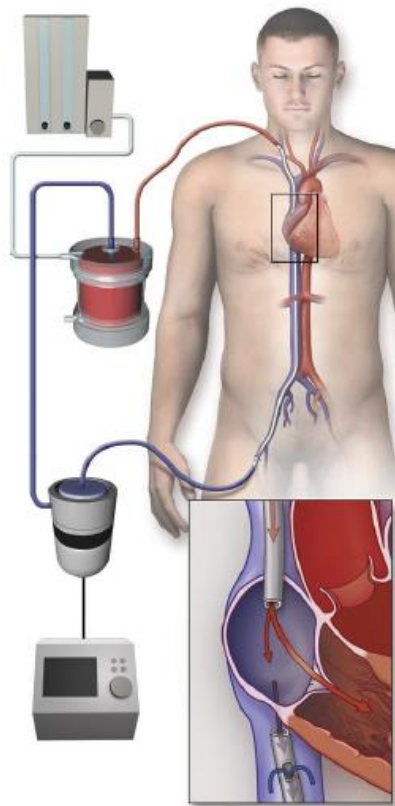




ECMO

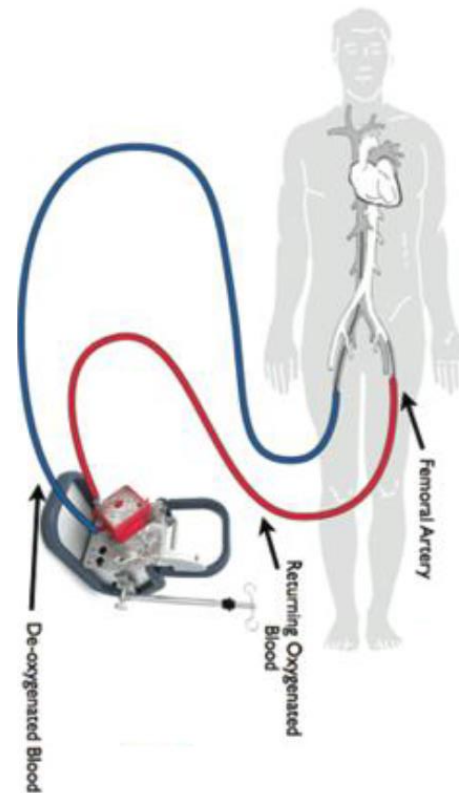
ECMO V-V

fonction oxymétrique pure



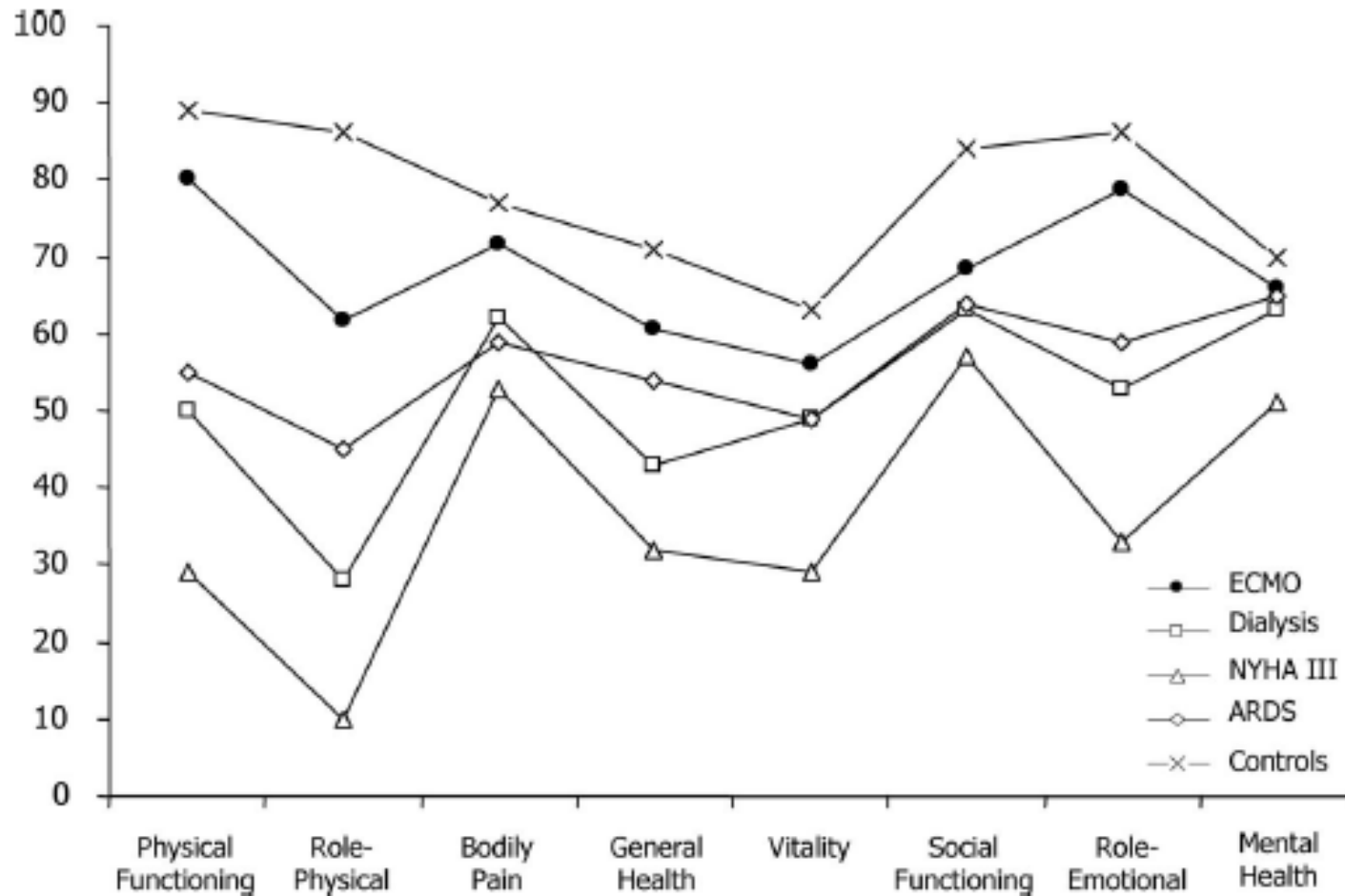
ECMO V-A

fonction pompe et oxymétrique



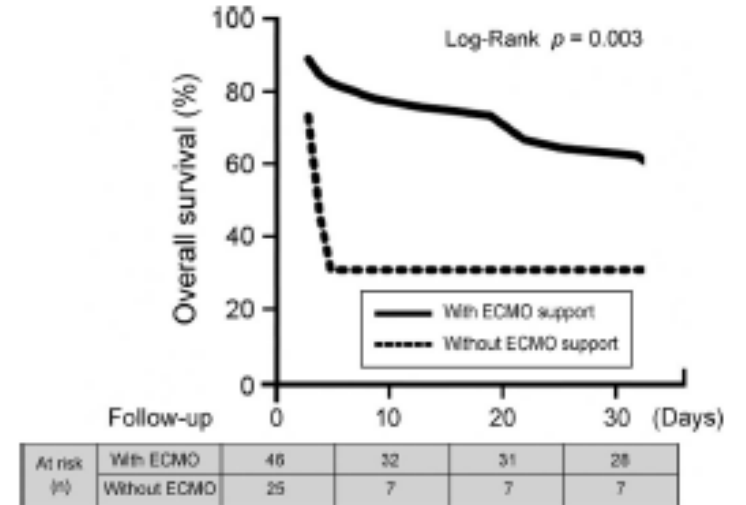
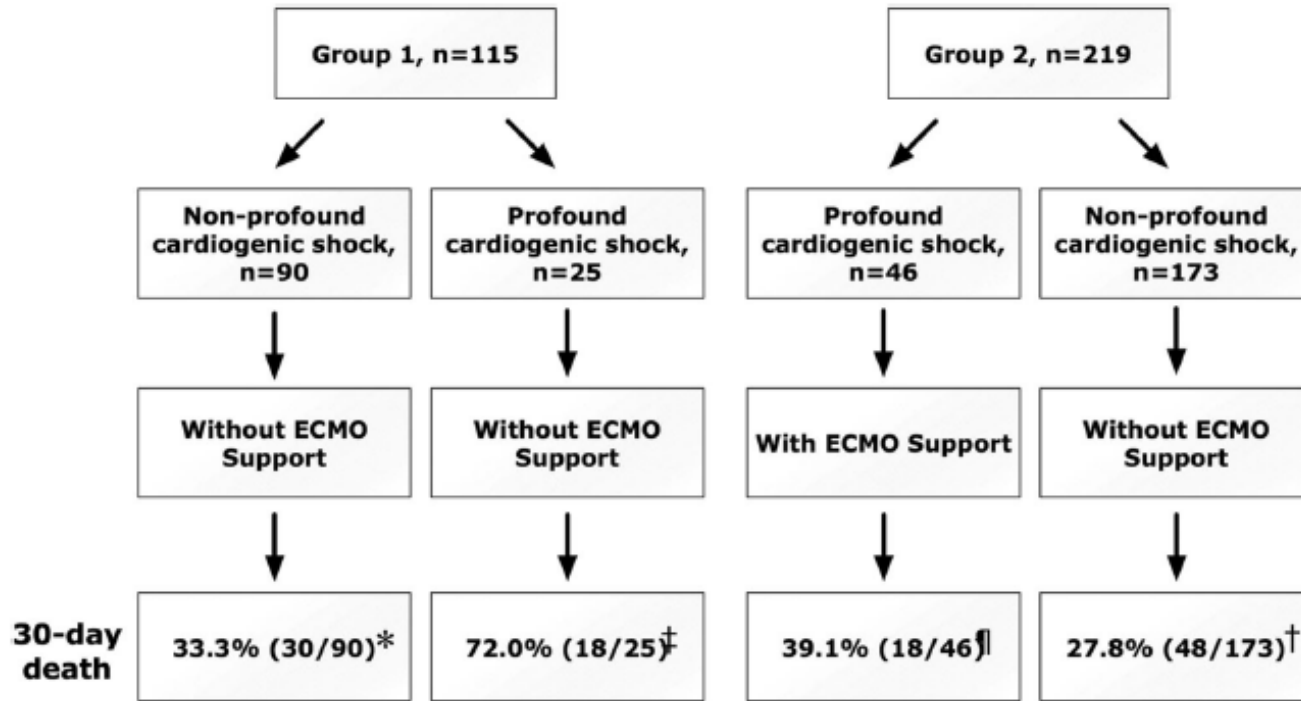


ECMO: très agressif?



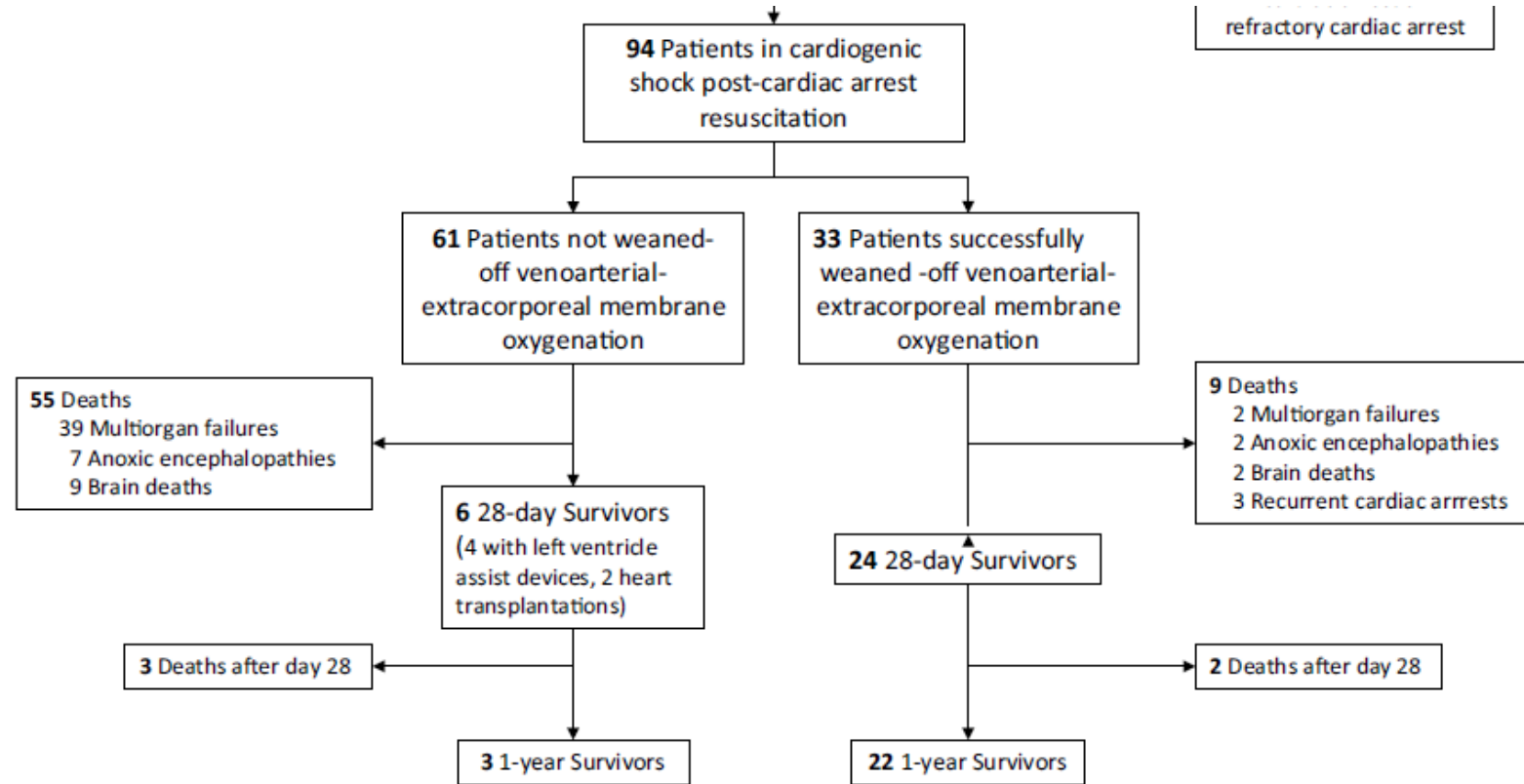


ECMO: efficacité





Post arrêt cardiaque





Efficacité

	Survival				
	Hospital (%)	5-Year (%)	HR (95% CI)	5-Year Conditional to Hospital Discharge (%)	
PGF	>50%	73.3	57.3	0.30 (0.22-0.42)*	78.2
DCM		53.2	45.3	0.60 (0.45-0.80)*	85.2
Drug overdose		58.6	54.0	0.63 (0.32-1.24)	92.2
Arrhythmic storm		51.6	50.0	0.73 (0.40-1.31)	96.9
Massive PE	30-50%	46.8	38.3	0.93 (0.58-1.50)	81.2
Sepsis-induced CS		44.4	42.4	1.04 (0.61-1.77)	95.5
Fulminant myocarditis		37.9	32.9	0.65 (0.40-1.06)	86.8
AMI		37.3	31.5	1.05 (0.83-1.33)	84.4
Postcardiotomy excluding PGF	<30%	34.6	33.3	1.09 (0.89-1.42)	96.2
Refractory vasoplegia shock		11.1	0.0	3.92 (1.92-7.99)*	0.0
Other/unknown etiology		25.7	22.8	1.64 (1.25-2.14)*	88.7



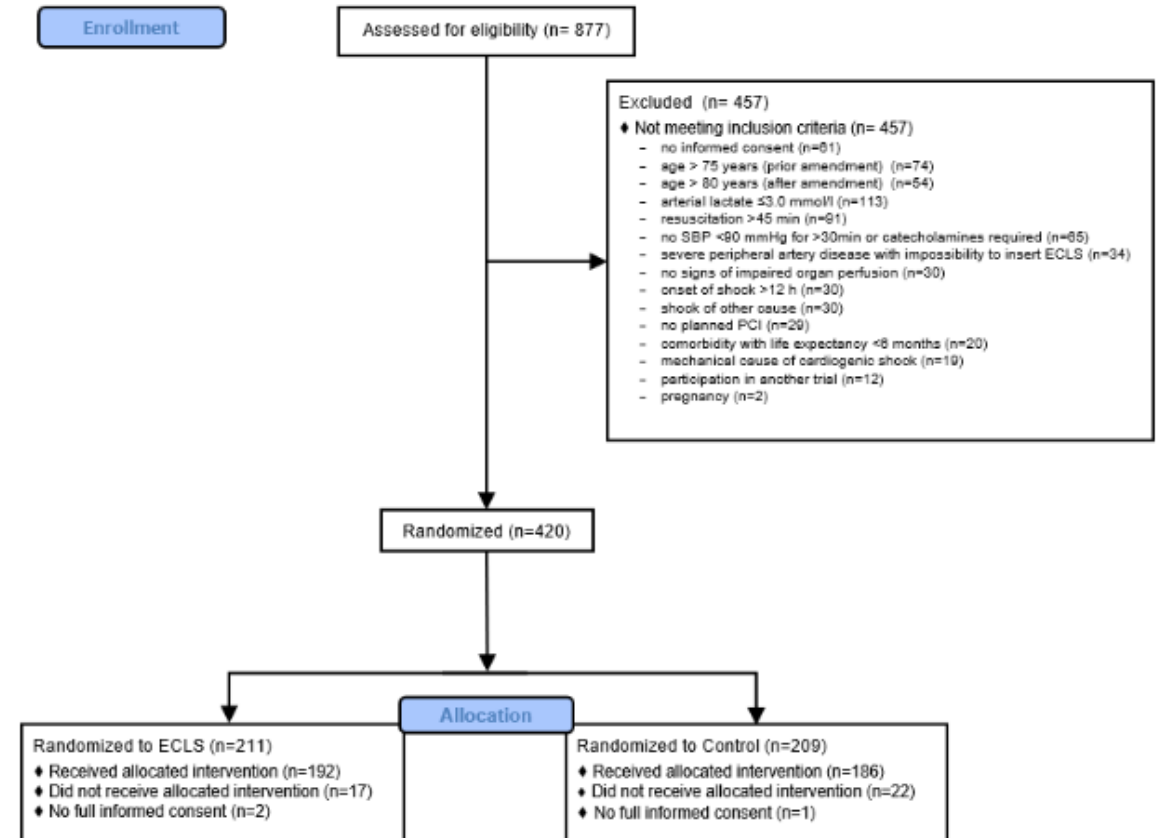
ORIGINAL ARTICLE

Extracorporeal Life Support in Infarct-Related Cardiogenic Shock

Holger Thiele, M.D., Uwe Zeymer, M.D., Ibrahim Akin, M.D., Michael Behnes, M.D., Tienush Rassaf, M.D., Amir Abbas Mahabadi, M.D., Ralf Lehmann, M.D., Ingo Eitel, M.D., Tobias Graf, M.D., Tim Seidler, M.D., Andreas Schuster, M.D., Ph.D., Carsten Skurk, M.D., et al., for the ECLS-SHOCK Investigators*

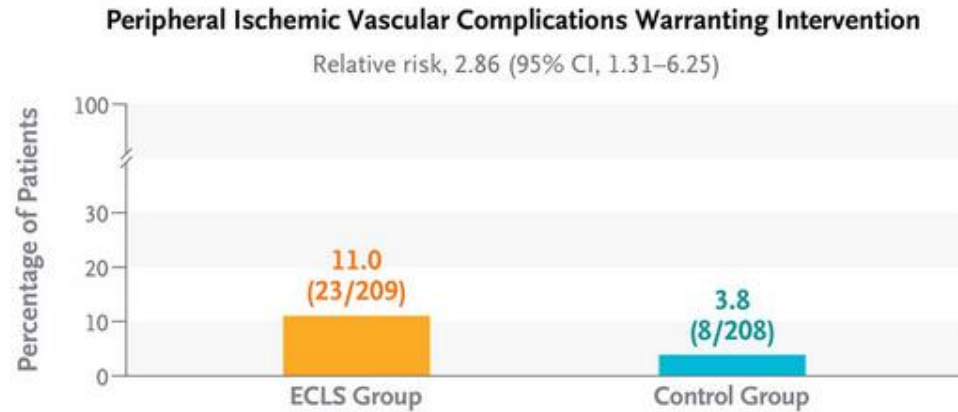
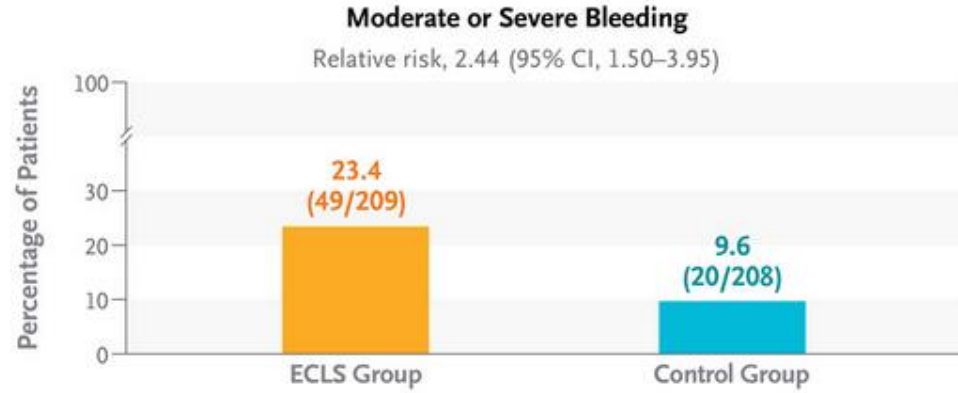
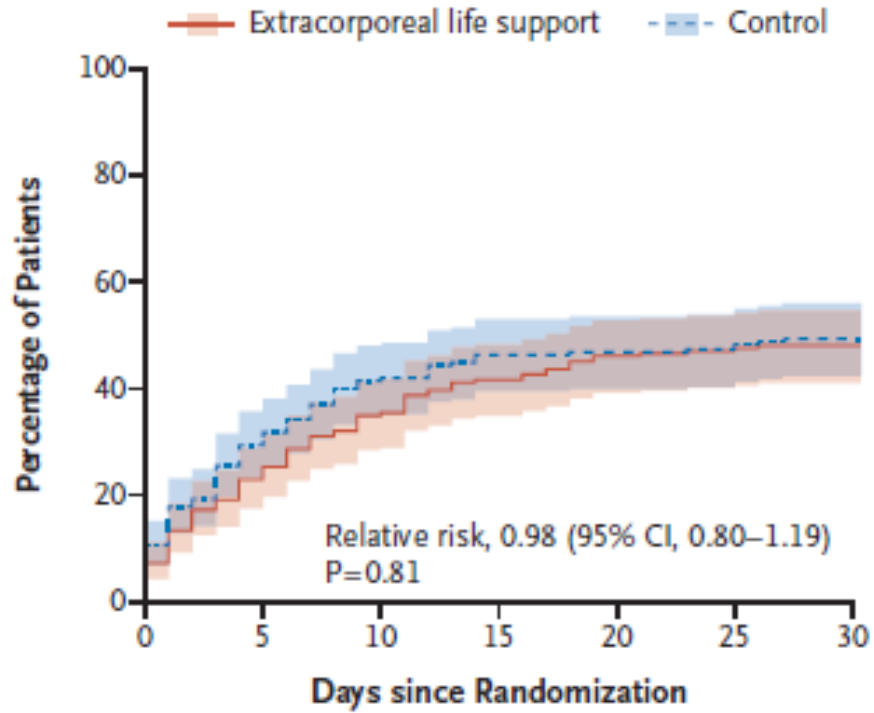
- Infarctus aigu
- Revascularisation
- Choc cardiogénique

Randomisation ECMO vs. Ttt med.





Résultats





Venoarterial extracorporeal membrane oxygenation in patients with infarct-related cardiogenic shock: an individual patient data meta-analysis of randomised trials

Uwe Zeymer*, Anne Freund*, Matthias Hochadel, Petr Ostadal, Jan Belohlavek, Richard Rokyta, Steffen Massberg, Stefan Brunner, Enzo Lüsebrink, Marcus Flather, David Adlam, Kris Bogaerts, Amerjeet Banning, Manel Sabaté, Ibrahim Akin, Alexander Jobs, Steffen Schneider, Steffen Desch, Holger Thiele

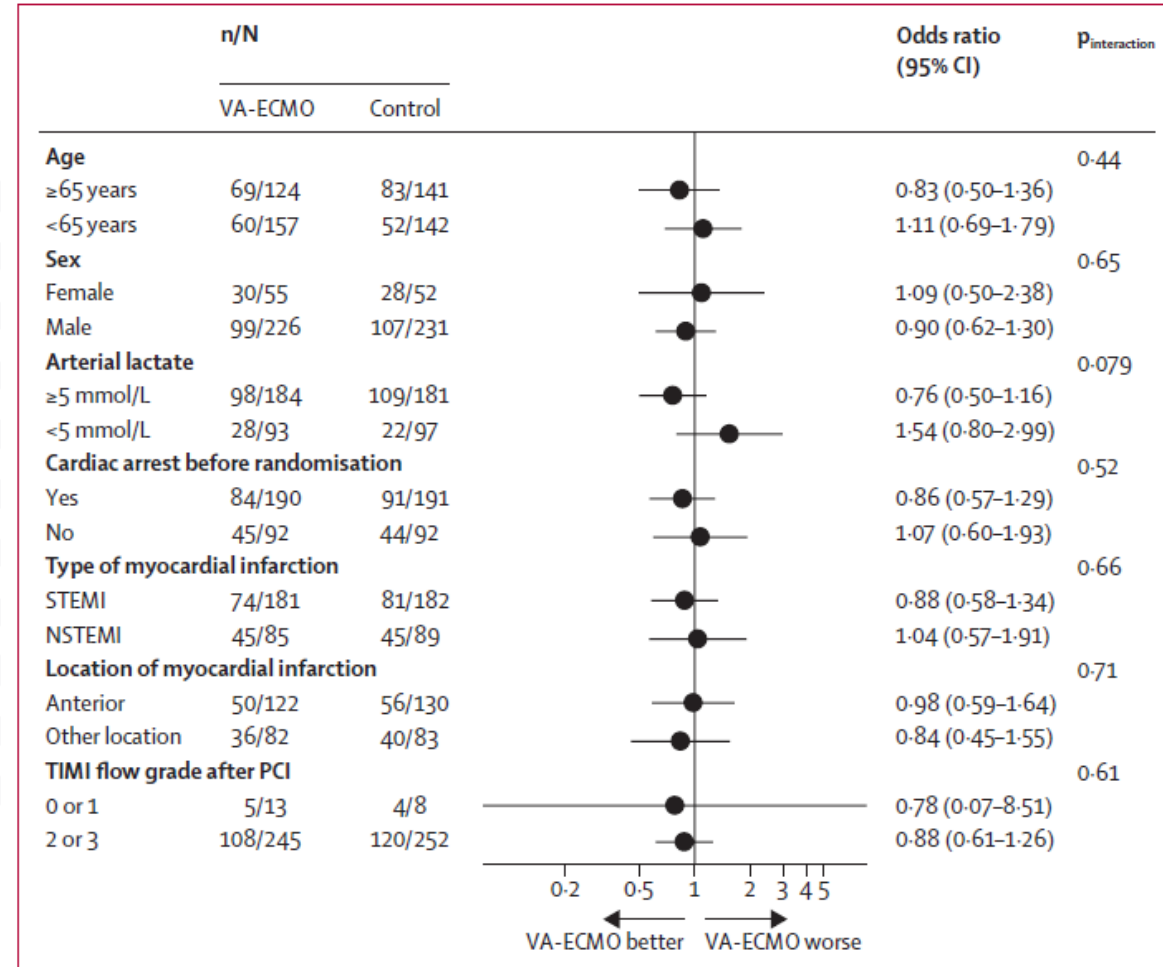
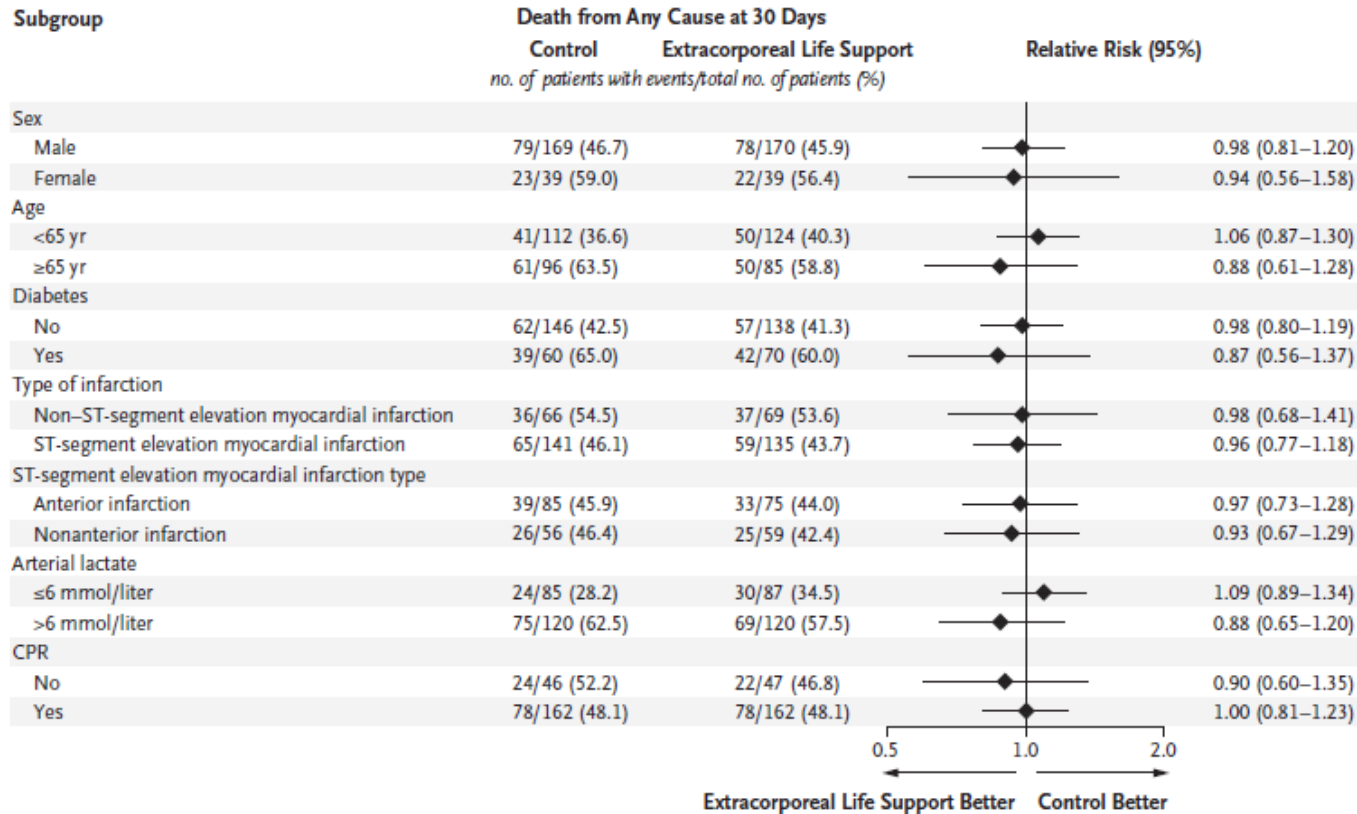
	Total (n=567)	VA-ECMO (n=284)	Control (n=283)	Effect size (95% CI)
Primary outcome				
All-cause death at day 30	264/565 (47%)	129/282 (46%)	135/283 (48%)	OR 0.93 (0.66–1.29)
Secondary outcomes				
Moderate or severe bleeding (BARC type 3–5) ¹⁷ within 30 days	104/565 (18%)	70/282 (25%)	34/283 (12%)	OR 2.44 (1.55–3.84)
Stroke within 30 days	19/565 (3%)	11/282 (4%)	8/283 (3%)	OR 1.41 (0.56–3.57)
Peripheral ischaemic vascular complication within 30 days	42/564 (7%)	32/281 (11%)	10/283 (4%)	OR 3.53 (1.70–7.34)
Sepsis within 30 days	87/532 (16%)	45/267 (17%)	42/265 (16%)	OR 1.08 (0.66–1.76)
Additional outcomes				
Poor neurological outcome (CPC 3 or 4) ¹⁸ in survivors	72/267 (27%)	38/134 (28%)	33/133 (25%)	OR 1.20 (0.70–2.07)
Length of intensive care treatment, days	9 (4–15) [n=537]	11 (5–17) [n=268]	8 (4–14) [n=269]	HLE 1.5 (0.0–3.0)
Length of hospital stay, days	12 (5–22) [n=556]	13 (5–22) [n=276]	11 (4–22) [n=280]	HLE 1.5 (0.0–3.0)

Categorical data are shown as n/N (%), where the denominator is the number of patients with valid data. Continuous data are shown as median (IQR) [number of patients with valid data]. Outcome data in the primary studies are shown in the appendix (p 10). The overall OR was calculated in the meta-analytic regression models. ORs were generated by using individual-level data. BARC=Bleeding Academic Research Consortium. CPC=Cerebral Performance Category. HLE=Hodges-Lehmann estimate. OR=odds ratio. VA-ECMO=venoarterial extracorporeal membrane oxygenation.

Table 3: Clinical outcomes at 30 days



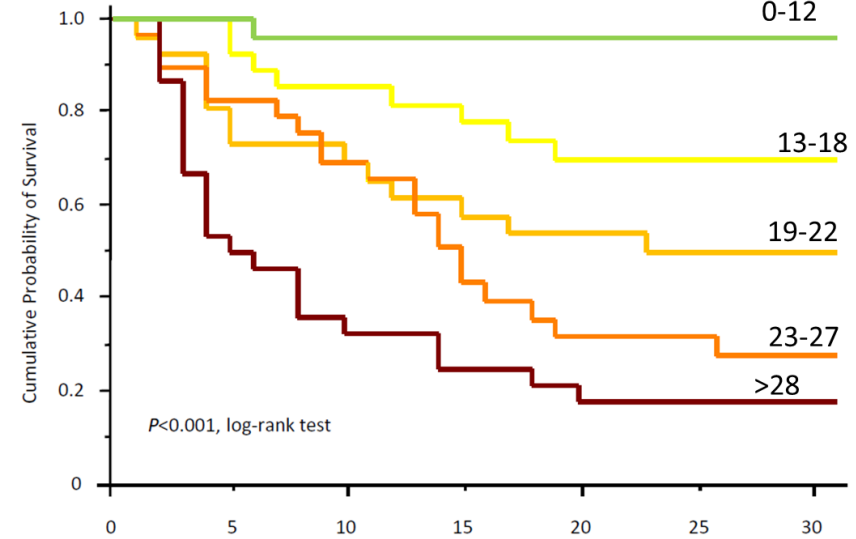
Sous-groupes





Pour qui?

The ENCOURAGE mortality risk score and analysis of long-term outcomes after VA-ECMO for acute myocardial infarction with cardiogenic shock



Parameter	β Coefficient	OR (95 % CI)	P value	ENCOURAGE component score
Age >60 years	0.966	2.63 (1.01–6.85)	0.048	5
Female	1.470	4.35 (1.29–14.72)	0.018	7
Body mass index >25 kg/m ²	1.131	3.10 (1.21–7.92)	0.018	6
Glasgow coma score <6	1.128	3.09 (1.19–8.05)	0.021	6
Creatinemia >150 μ mol/L	0.957	2.60 (1.05–6.49)	0.040	5
Serum lactate				
<2 mmol/L	0	1		0
2–8 mmol/L	1.551	4.71 (1.31–17.01)	0.020	8
>8 mmol/L	2.165	8.71 (1.76–43.10)	0.004	11
Prothrombin activity <50 %	1.029	2.80 (1.01–7.77)	0.049	5

SAMEDI, 2 DECEMBRE
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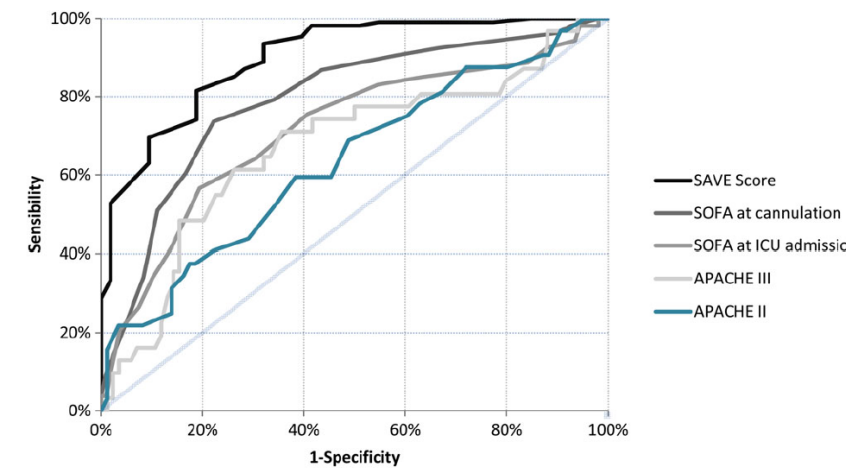
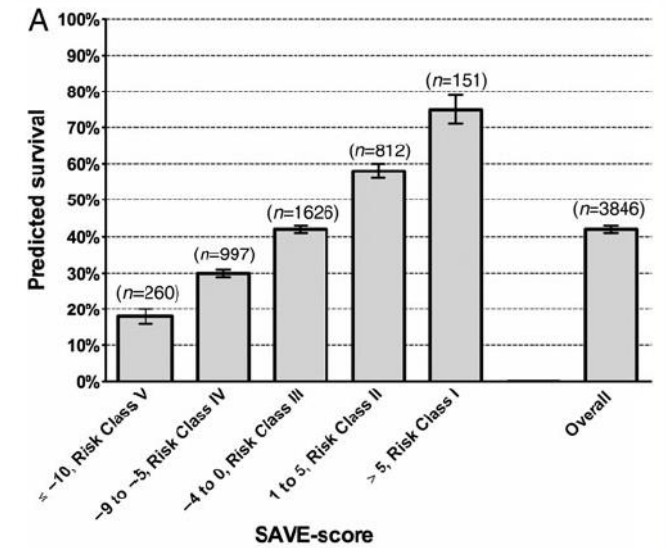
Table 4 The survival after veno-arterial-extracorporeal membrane oxygenation-score

Parameter	Score	
Acute cardiogenic shock diagnosis group (select one or more)		
Myocarditis	3	
Refractory VT/VF	2	
Post heart or lung transplantation	3	
Congenital heart disease	-3	
Other diagnoses leading to cardiogenic shock requiring VA-ECMO	0	
Age (years)		
18-38	7	
39-52	4	
53-62	3	
≥ 63	0	
Weight (kg)		
≤ 65	1	
65-89	2	
≥ 90	0	
Acute pre-ECMO organ failures (select one or more if required)		
Liver failure ^a	-3	
Central nervous system dysfunction ^b	-3	
Renal failure ^c	-3	
Chronic renal failure ^d		
Duration of intubation prior to initiation of ECMO (h)		
≤ 10	0	
11-29	-2	
≥ 30	-4	
Peak inspiratory pressure ≤ 20 cmH ₂ O	3	
Pre-ECMO cardiac arrest	-2	
Diastolic blood pressure before ECMO ≥ 40 mmHg ^e	3	
Pulse pressure before ECMO ≤ 20 mmHg ^e	-2	
HCO ₃ before ECMO ≤ 15 mmol/L ^e	-3	
Constant value to add to all calculations of SAVE-score	-6	
Total score	-35 to 17	
Total SAVE-score	Risk class	
Hospital survival by risk class		
> 5	I	75
1-5	II	58
-4 to 0	III	42
-9 to -5	IV	30
≤ -10	V	18

dition

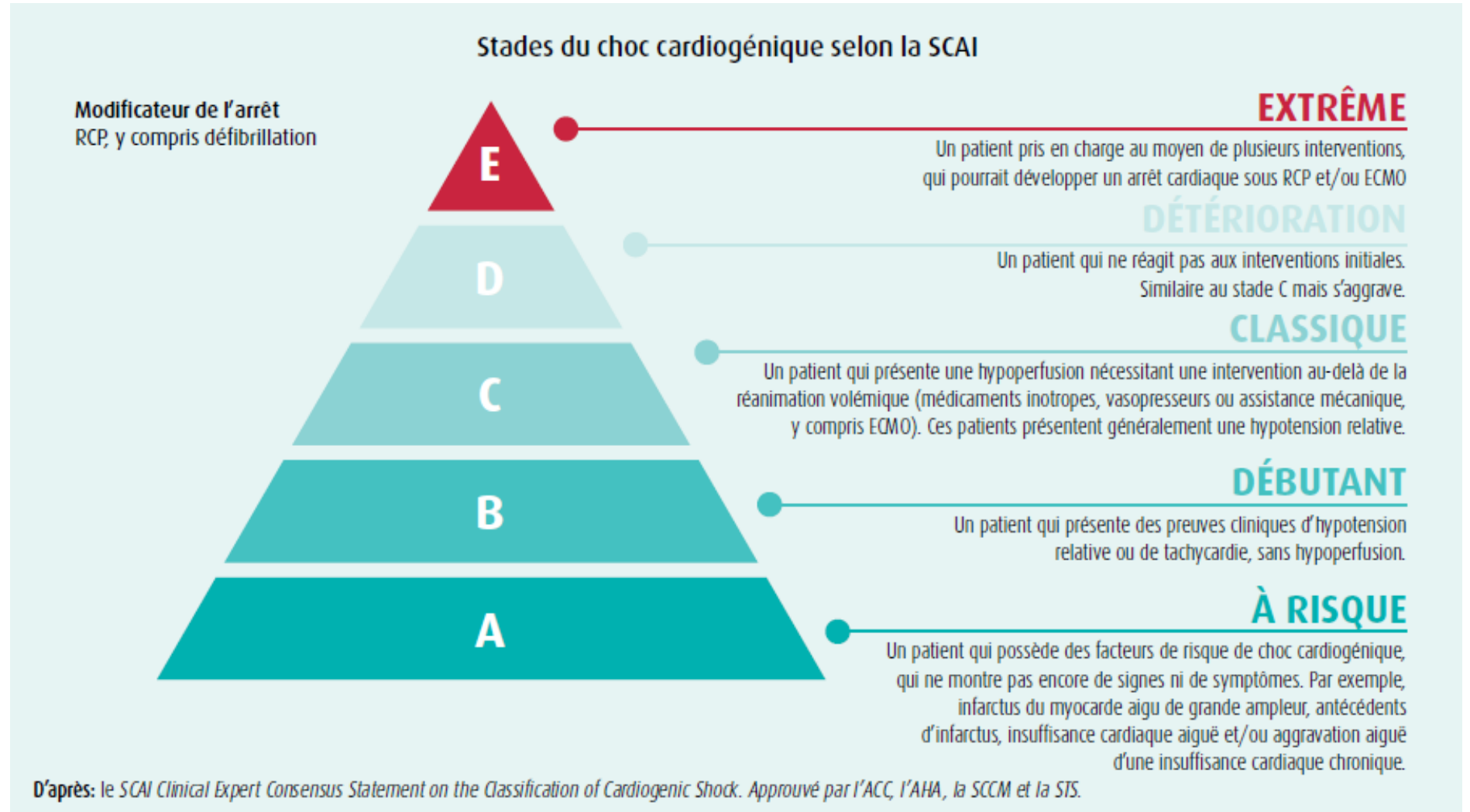


Pour qui?





Selon la gravité





Quels patients?

Characteristic	ECLS (N = 209)	Control (N = 208)
SCAI shock stage — no. (%)‡		
C	104 (49.8)	111 (53.4)
D	38 (18.2)	18 (8.7)
E	67 (32.1)	79 (38.0)



Conclusion

- L'ECMO systématique dans le choc cardiogénique post-infarctus ne modifie pas le pronostic
- Identifier la population de patients pouvant en bénéficier: choc réfractaire non dépassé?
- Prévenir les complications: techniques d'implantation, décharge VG
- Pas de données randomisées dans les autres indications