

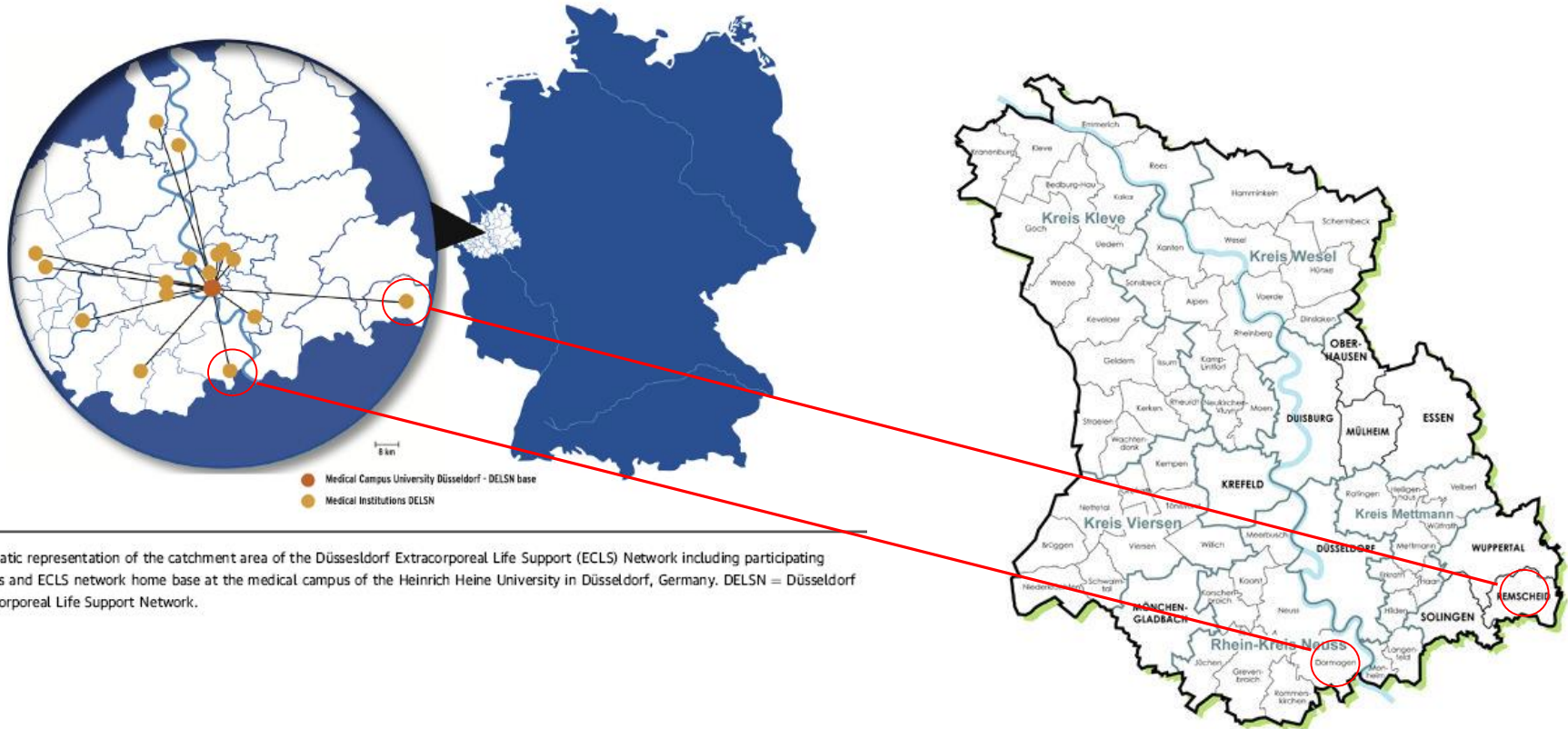


A SupraInstitutional Network for Remote Extracorporeal Life Support

A Retrospective Cohort Study

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Schematic representation of the catchment area of the Düsseldorf Extracorporeal Life Support (ECLS) Network including participating centers and ECLS network home base at the medical campus of the Heinrich Heine University in Düsseldorf, Germany. DELSN = Düsseldorf Extracorporeal Life Support Network.

Juli 2011 bis Oktober 2014



1. Distale Perfusionskanüle
2. Gefäßdoppler
3. Ganzkörper-CT
4. TEE
5. HKU
6. Switch auf stationäres System
7. Optimale linksventrikuläre Entlastung



1. Inotropie

2. IABP

3. frühzeitige Intervention / OP

bei unklarer Neurologie

4. Impella

5. chirurgische LV-Entlastung

bei gesicherter neurologischer Situation

6. LVAD



130 Anfragen

10 direkte Ablehnungen + 5 Ablehnungen vor Ort

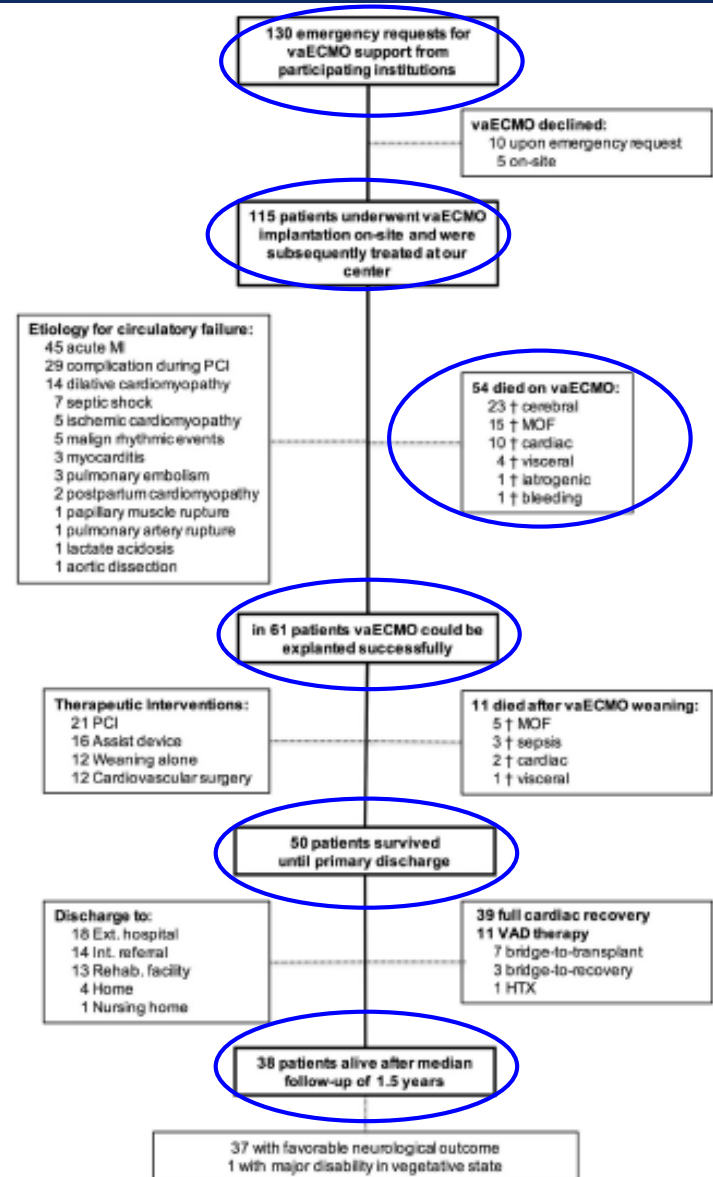
115 vaECMO-Implantationen

46 % Mortalität an ECMO

54 % Weaning

44 % Survival

33 % Survival nach 1,5 Jahren

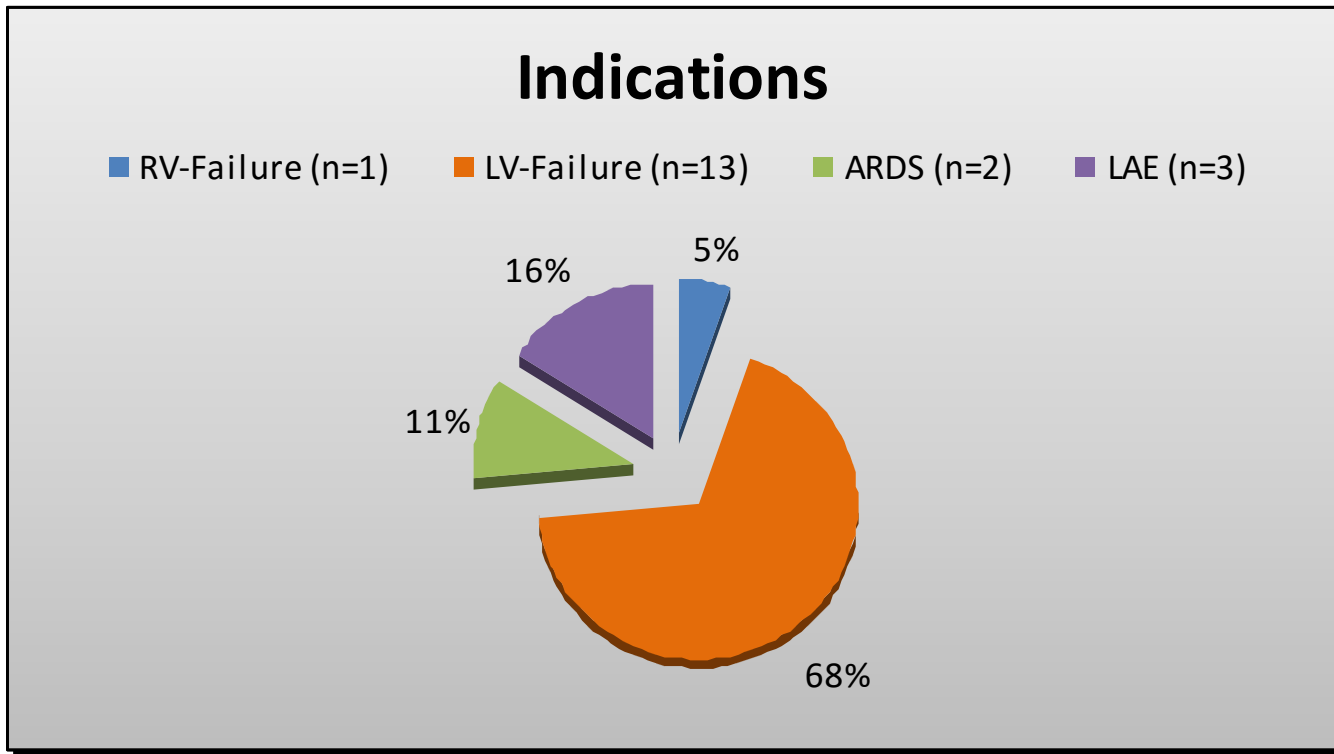




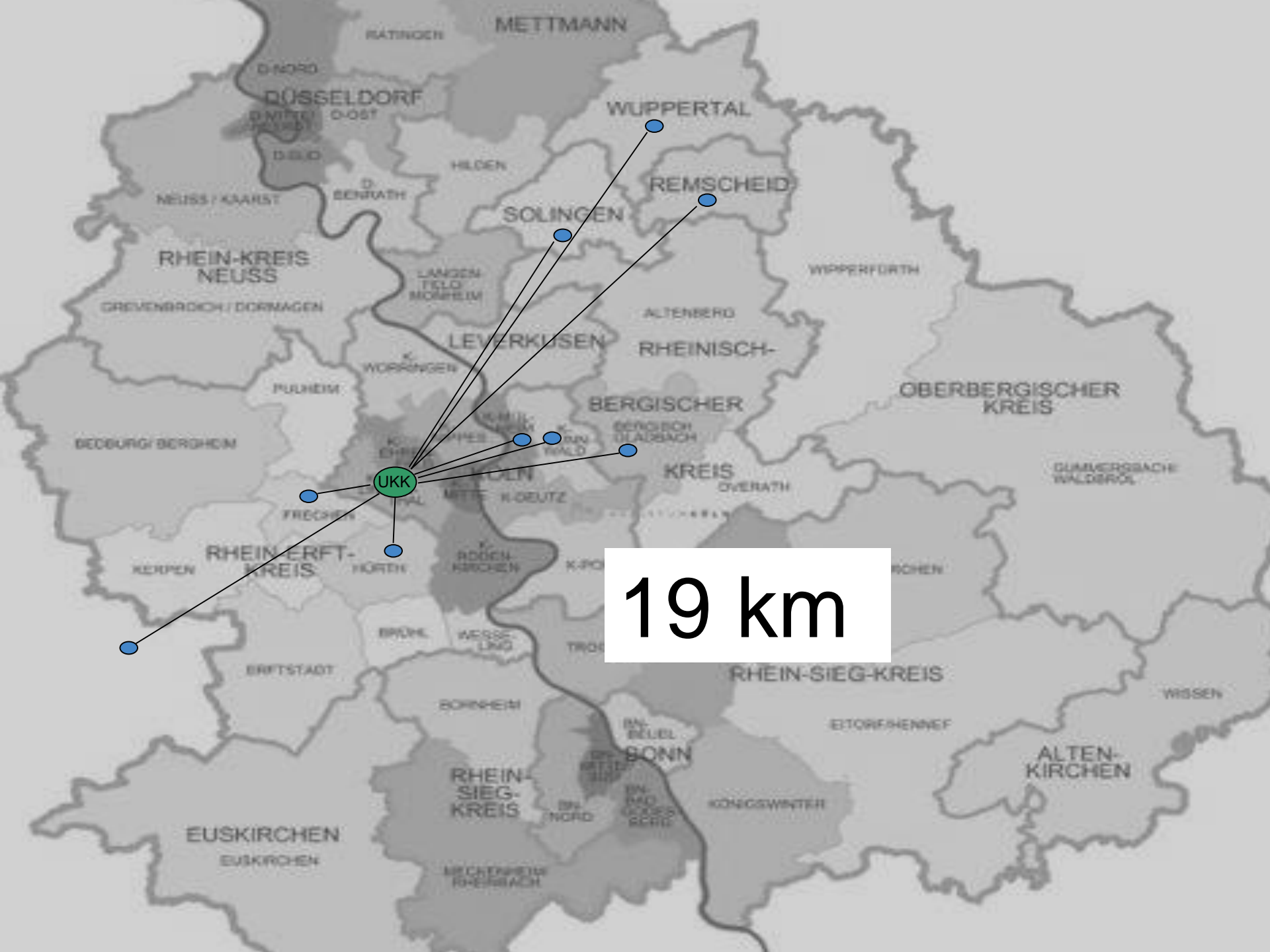
	All (n=115)	Survivors (n=38)	Nonsurvivors (n=77)	p Value*
Baseline characteristics at vaECMO implantation				
Age, yrs	56 ± 15	51 ± 15	58 ± 15	0.035
Sex				
Male	74%	71%	75%	0.624
Female	26%	29%	25%	
CPR during implant	77%	74%	79%	0.504
CPR duration, min	45 (5-90)	30 (0-60)	60 (15-90)	0.018
Distance to implantation site, km	2.1 (0.5-10.0)	2.1 (0.5-11.2)	2.1 (0.5-10.0)	0.274
Outcome				
vaECMO weaned	54%	100%	31%	<0.0001
Time on vaECMO, days	4 (2-7)	6 (3-6)	3 (1-8)	0.048
In-center stay, days	10 (2-26)	22 (10-46)	5 (1-15)	<0.0001
Survival to primary discharge	44%	100%	16%	n.a.
Costs				
Treatment costs, €	53,933 (28,859-106,249)	68,981 (50,772-142,815)	39,905 (21,500-92,047)	0.001



	No or Short CPR (n = 59)	Prolonged CPR		Adjusted p Value ^a		
		Adolescent or Young (n = 12)	Advanced Age (n = 44)	p ¹	p ²	p ³
Baseline characteristics at vaECMO implantation						
Age, yrs	57 ± 13	30 ± 11	60 ± 11	0.000	0.780	0.000
Sex						
Male	73%	50%	82%	0.537	0.867	0.072
Female	27%	50%	18%			
Body surface area, m ²	2.03 ± 0.23	1.93 ± 0.41	2.03 ± 0.17	0.897	1.000	1.000
Etiology of circulatory failure						
Myocardial ischemia	61%	33%	88%	0.207	0.015	0.001
Cardiomyopathy	20%	17%	5%			
Other cardiac	3%	17%	5%			
Other noncardiac	15%	33%	2%			
CPR during implant.	56%	100%	100%	0.009	0.000	n.a.
CPR duration, min	10 (0-30)	98 (60-160)	90 (63-120)	0.000	0.000	1.000
Distance to implantation site, km	2.1 (0.5-10.0)	10.3 (0.6-16.0)	0.5 (0.5-9.7)	0.540	0.756	0.129
Clinical course						
Lactate at arrival, mmol/l	7.1 (3.5-13)	9.1 (3.5-16)	14 (8-16)	1.000	0.003	0.603
Complications†	80%	67%	88%	1.000	0.018	0.018
Surgical interventions‡	68%	33%	25%	0.072	0.225	0.732
vaECMO weaned	69%	67%	30%	1.000	0.000	0.057
Time on vaECMO, days	5 (2-12)	5 (2-7)	2 (1-6)	1.000	0.006	0.750
In-center stay, days	17 (5-35)	10 (8-14)	2 (1-9)	0.633	0.000	0.210
Outcome						
Mortality to primary discharge	44%	33%	80%	1.000	0.001	0.012
Overall mortality	54%	50%	89%	1.000	0.001	0.024
Costs						
Treatment costs, €	82,576 (46,412-142,815)	53,262 (31,682-79,985)	31,383 (19,885-58,111)	0.423	0.000	0.330



Durchschnittsalter 57 Jahre



19 km

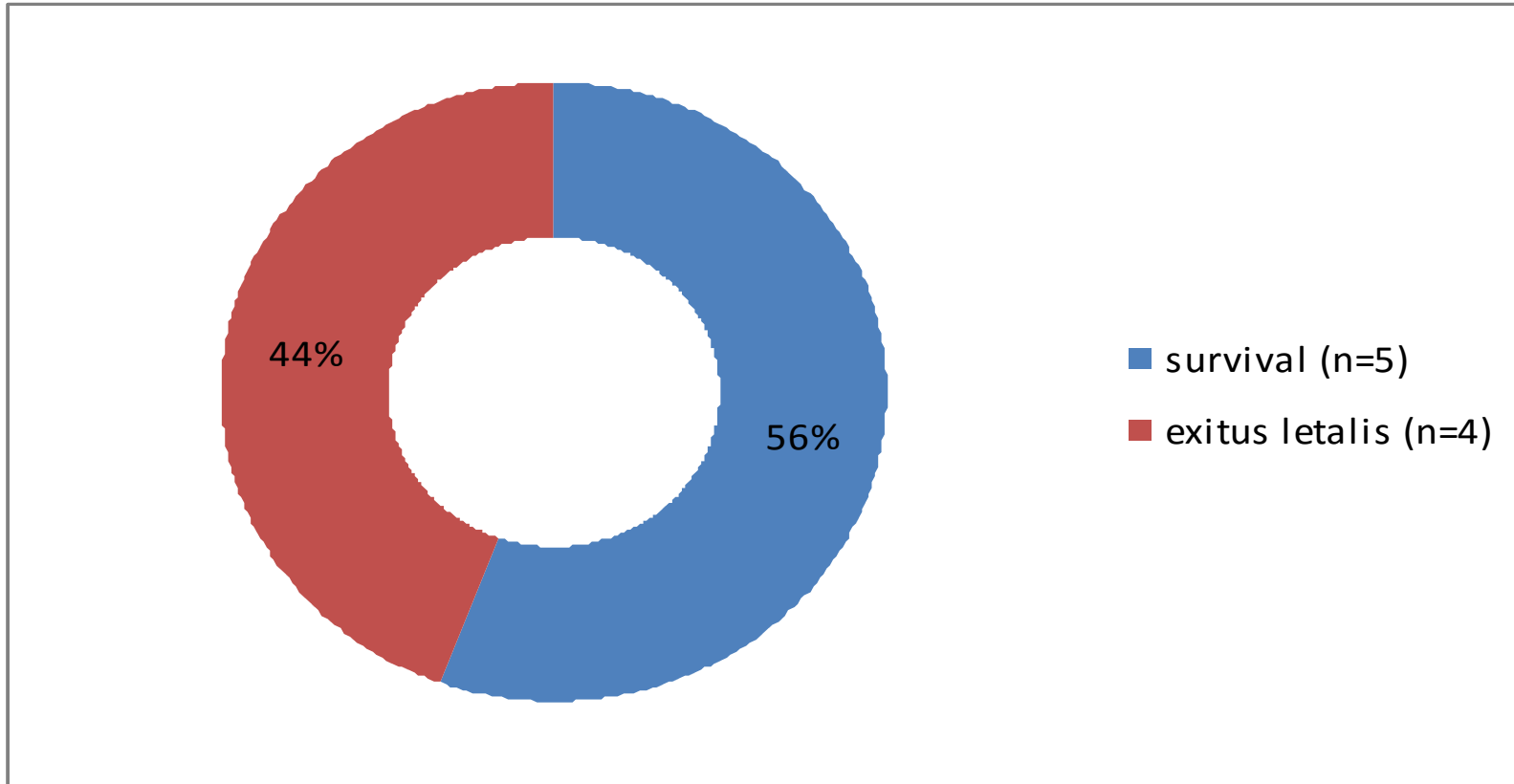


Weaning 32 % (6/19)

Survival 26 % (5/19)

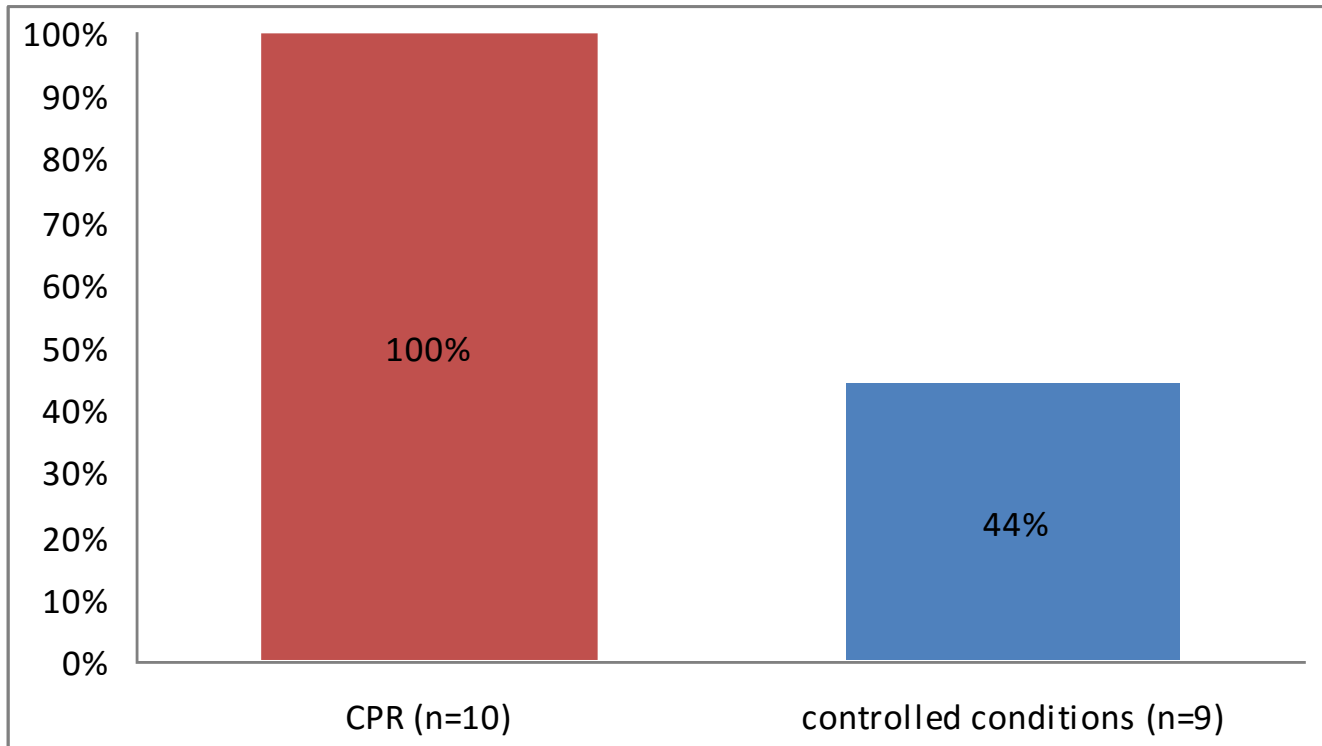


controlled conditions





Mortalität





1. Optimale infrastrukturelle Organisation im Hinblick auf den Faktor Zeit
2. Reanimationsdauer bis 10-15 Minuten mit vielversprechenden Ergebnissen
3. LV-Dekompression als wichtige pathophysiologisch-therapeutische Komponente

DANKE!



EXTRACORPOREAL MEMBRANE OXYGENATION