Hemodiafiltración veno-venosa continua en el Síndrome de Disfunción Multiorgánica.

Continuous veno-venous hemodiafiltration in the Multiple Organ Dysfunction Syndrome.

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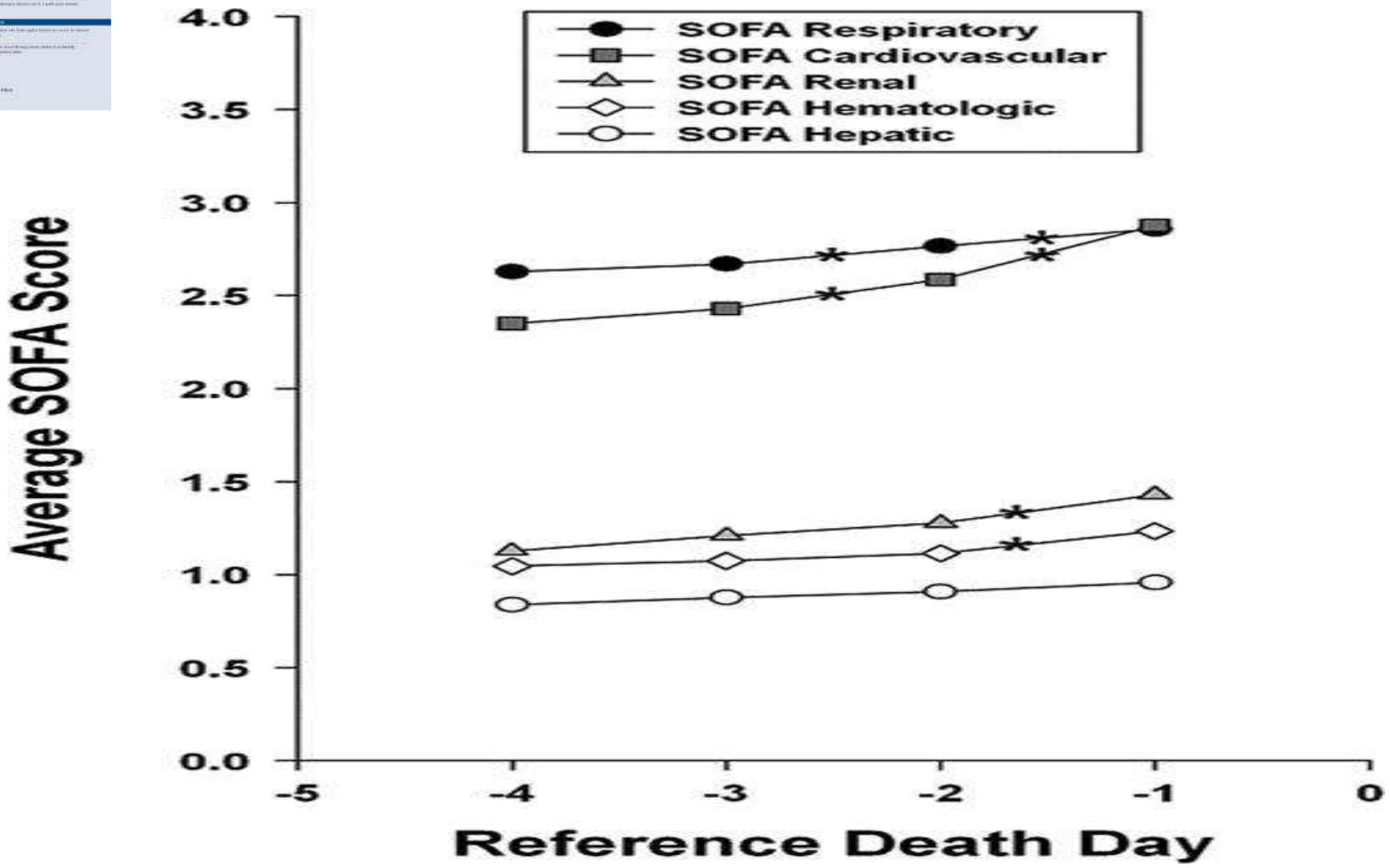
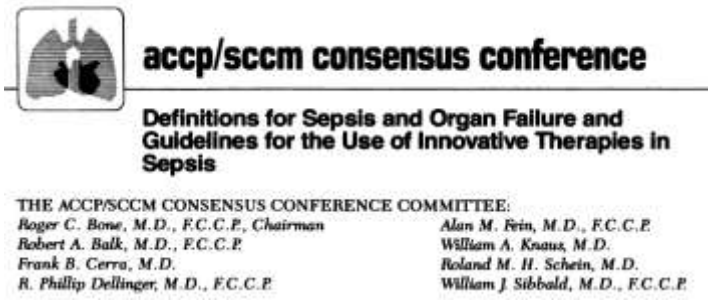
Is worsening multiple organ failure the cause of death in patients with severe sepsis?



Vincent JL. Critical Care Medicine
Issue: Volume 39(5), May 2011, pp 1050-1055

SIRS UCIs

% probability



accp/sccm consensus conference

Definitions for Sepsis and Organ Failure and Guidelines for the Use of Innovative Therapies in Sepsis

THE ACCP/SCCM CONSENSUS CONFERENCE COMMITTEE:

Roger C. Bone, M.D., F.C.C.P., Chairman
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CHEST / 101 / 6 / JUNE, 1992

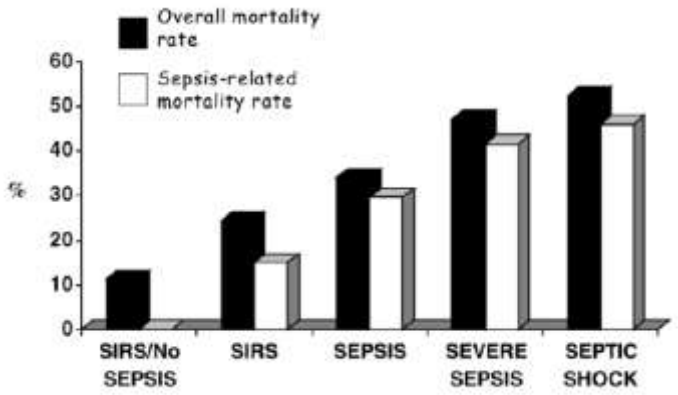
MODS

Septic shock

Severe sepsis

Sepsis

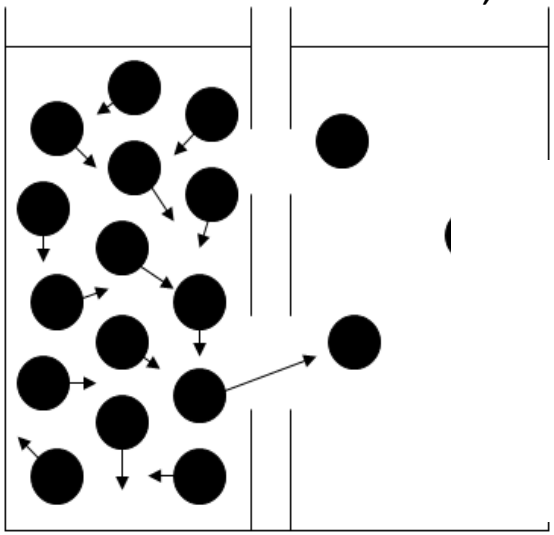
SIRS



days stay

Kramer P, et al. Arteriovenous hemofiltration: A new and simple method for treatment of overhydratated patients resistant to diuretics.

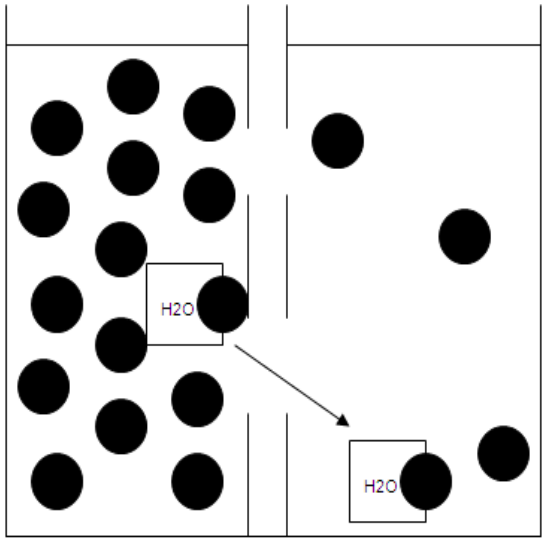
Klin Wochenschr **1977**; 55: 1121-22.



Dyalisis = Diffusive transport

< 10 kDa

Adsorption



Hemofiltration = Convective transport

> 10 kDa < 30 kDa

Tumor Necrosis Factor – α (52 kDa) ????

Interleukin-6 (26 kDa)

Interleukin-1 (17 kDa)

Interleukin-8 (8 kDa)

Anaphylatoxin

Studies for multiple organ failure without acute renal failure

Author	Condition	n	Mortality (%)
Consentino	ARDS	9	44
Garzia	ARDS	14	64
Koperna	ARDS	7	0
Gotloib	ARDS	24	8
Hoffman	ARDS, septic	16	81
Gotloib	Septic	35	37
Wakabayashi	Septic	6	50
Braun	Septic shock	15	33
Wiles	Septic shock	2	50

Effects of different doses in continuous veno-venous haemofiltration on outcomes of acute renal failure: a prospective randomised trial

Claudio Ronco, Rinaldo Bellomo, Peter Homel, Alessandra Brendolan, Maurizio Dan, Pasquale Piccinni, Giuseppe La Greca

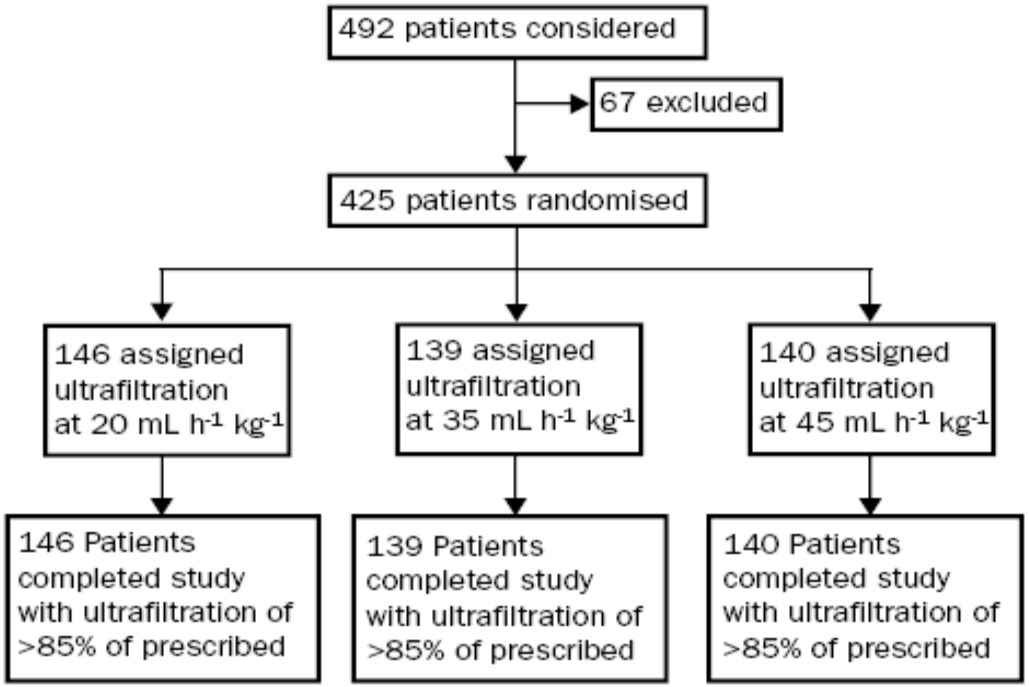


Figure 1: **Trial profile**

Lancet 2000; **355:** 26–30

Effects of different doses in continuous veno-venous haemofiltration on outcomes of acute renal failure: a prospective randomised trial

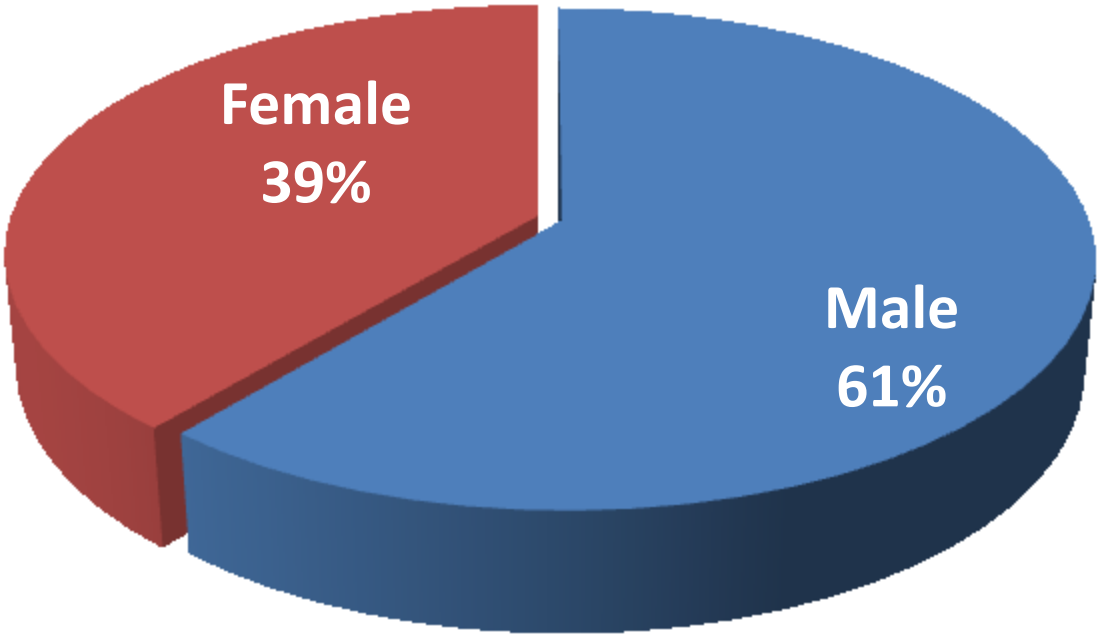
Claudio Ronco, Rinaldo Bellomo, Peter Homel, Alessandra Brendolan, Maurizio Dan, Pasquale Piccinni, Giuseppe La Greca

Trial group	No sepsis (%)	Sepsis (%)	p
Group 1	55/126 (44%)	5/20 (25%)	0·90
Group 2	76/122 (62%)	3/17 (18%)	0·001
Group 3	74/125 (59%)	7/15 (47%)	0·256

Table 3: **Survival rates stratified by trial group and presence of sepsis**

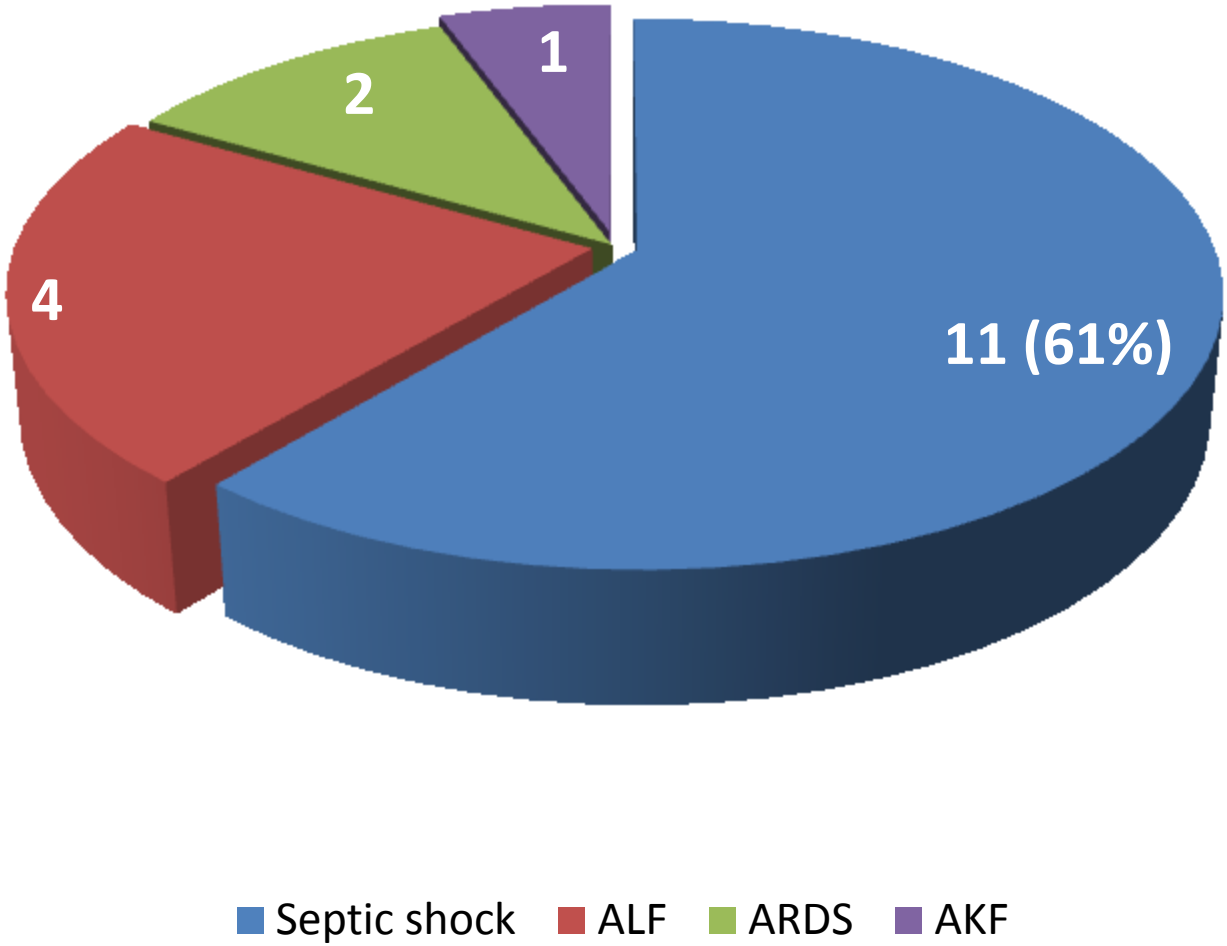
Lancet 2000; **355:** 26–30

Demographic characteristic

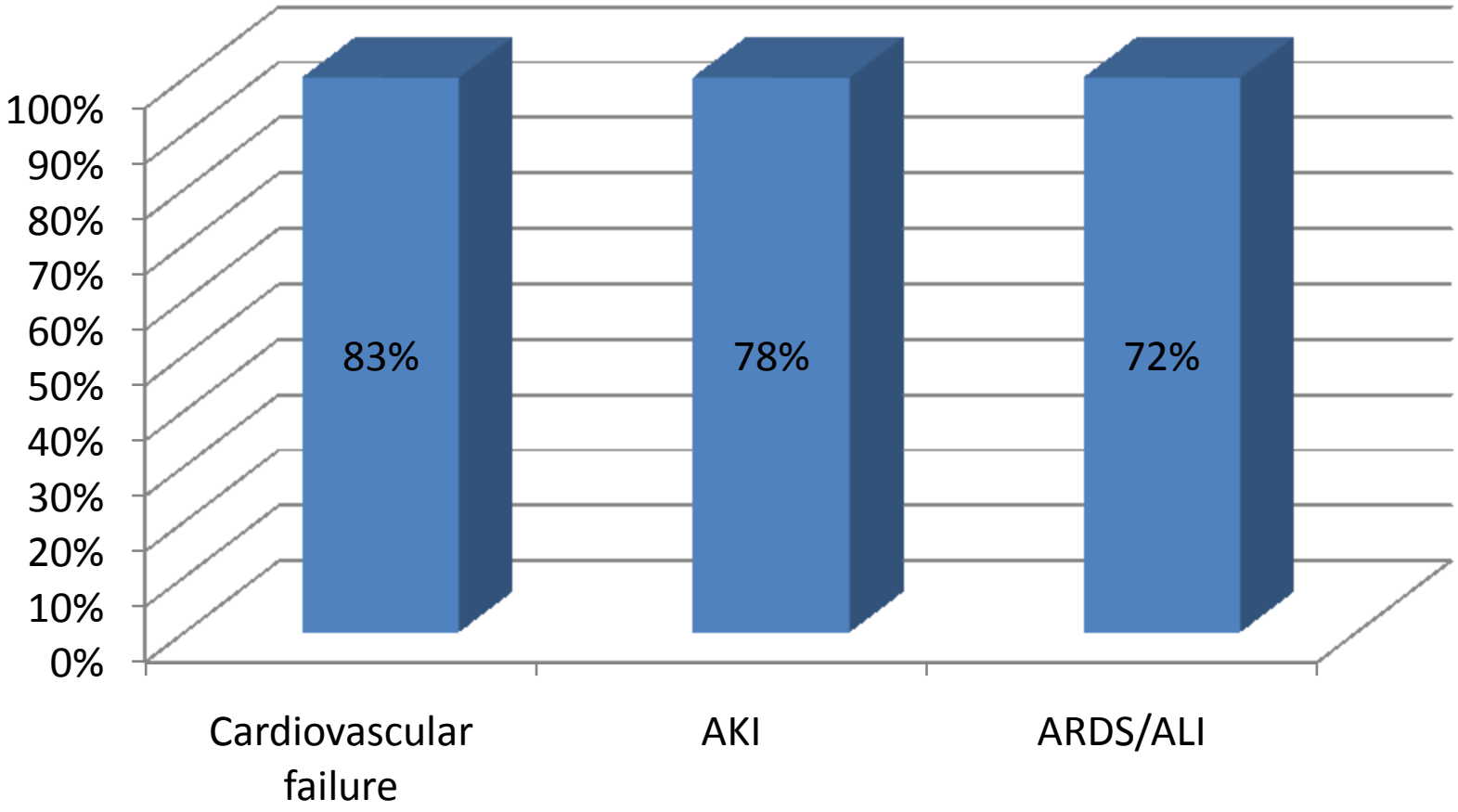


Age : 49.28 years old (24 – 78)
APACHE II: 25.5 (7 – 38)
Death risk : 51.9 (7.6 – 88.4)

Diagnoses



Organic dysfunction



Prismaflex (Gambro – Hospal)

Dialysis solution:
Dialisan B2GD
Substitution solution :
Hemosol B0

Filter: **M100 (AN69) membrane of poliacrilonitrilo biocompatible 0,9m^2**

Half dose of dialysis:
31.22 ml/kg/min (17 – 50)

Evolutive variation of variables (value means) of systemic and cerebral hemodinamy, oxygenation and metabolic, to the beginning of proceeding and at the 12 hours of initiate, in the total group of patient.

Variable	Beginning (ED)	PostCVVHD (ED)	p
HF (beats/minute)	116 (25.9)	96 (17.2)	0.011
MAP (mmHg)	75 (18.2)	82 (14.8)	0.127
Norepinefrine (µg/kg/min)	0.6 (0.7)	0.4 (0.5)	0.243
SaO_2 (%)	95 (4.6)	99 (2.3)	0.002
FiO_2 (%)	51 (14.4)	48 (15.9)	0.293
Creatinine (mmol/l)	322 (224.9)	193 (112.0)	0.002
BUN (mmol/l)	22 (13.8)	16 (8.4)	0.007
Bicarbonate (meq/l)	19 (5.4)	21 (5.1)	0.049
$ACMD_{VM}$ (cm/seg)	55 (18.2)	54 (19.2)	0.831
$ACMD_{IP}$ (cm/seg)	1.4 (0.5)	1.6 (1.8)	0.676
Temperature (°C)	37 (1.2)	35 (0.2)	0.000

Evolutive variation of variables (value means) of systemic and cerebral hemodinamy, oxygenation and metabolic, to the beginning of proceeding and at the 12 hours of initiate, in the group of patient with diagnose different to septic shock.

Variable	Beginning (ED)	PostCVVHD (ED)	p
HF (beats/minute)	104 (20.4)	87 (20.1)	0.192
MAP (mmHg)	73 (16.0)	74 (16.4)	0.952
Norepinefrine (µg/kg/min)	0.4 (0.6)	0.6 (0.7)	0.175
SaO_2 (%)	93 (4.0)	97 (3.4)	0.069
FiO_2 (%)	61 (19.0)	58 (21.7)	0.744
Creatinine (mmol/l)	164 (57.5)	141 (58.2)	0.336
BUN (mmol/l)	13 (8.4)	11 (7.7)	0.309
Bicarbonate (meq/l)	18 (6.4)	18 (6.4)	0.959
$ACMD_{VM}$ (cm/seg)	60 (15.9)	55 (25.3)	0.831
$ACMD_{IP}$ (cm/seg)	1.5 (0.6)	2.1 (2.4)	0.574
Temperature (°C)	**37 (1.2)**	**35 (0.2)**	**0.000**

Evolutive variation of variables (value means) of systemic and cerebral hemodinamy, oxygenation and metabolic, to the beginning of proceeding and at the 12 hours of initiate, in the group of patient with diagnosis of septic shock.

Variable	Beginning (ED)	PostCVVHD (ED)	p
HF (beats/minute)	124 (26.5)	101 (13.2)	0.038
MAP (mmHg)	76 (20.6)	89 (9.9)	0.041
Norepinefrine (µg/kg/min)	0.7 (0.7)	0.3 (0.3)	0.050
SaO_2 (%)	95 (4.8)	99 (0.6)	0.018
FiO_2 (%)	45 (4.4)	40 (3.7)	0.042
Creatinine (mmol/l)	422 (235.5)	225 (127.5)	0.001
BUN (mmol/l)	28 (13.9)	19 (7.9)	0.011
Bicarbonate (meq/l)	19 (5.0)	23 (3.0)	0.005
$ACMD_{VM}$ (cm/seg)	50 (20.7)	52 (10.5)	0.722
$ACMD_{IP}$ (cm/seg)	1.3 (0.3)	1.1 (0.2)	0.051
Temperature (°C)	37.2 (1.1)	36 (0.5)	0.001

Means value of APACHE II, risk of death to the entrance, percent of deceaseds and values of SMR according to groups.

Group	APACHE II (DE)	Death risk(DE)	Deceaseds (%)	SMR
Total (n=18)	24.5 (8.2)	51.9 (24.2)	61.1	1.17
Sepsis (n=11)	**25.6 (7.7)**	**55.0 (23.8)**	**36.4**	**0.66**
No sepsis (n=7)	22.7 (9.2)	47.0 (25.9)	100	2.12

SMR: Standardized Mortality Rate