Vliv Guidelines 2002 na výsledky léčby

Fedora M

KDAR LF a MU Brno

Special Article

Clinical practice parameters for hemodynamic support of pediatric and neonatal patients in septic shock*

Joseph A. Carcillo, MD; Alan I. Fields, MD; Task Force Committee Members

Crit Care Med 2002; 30:1365–1378

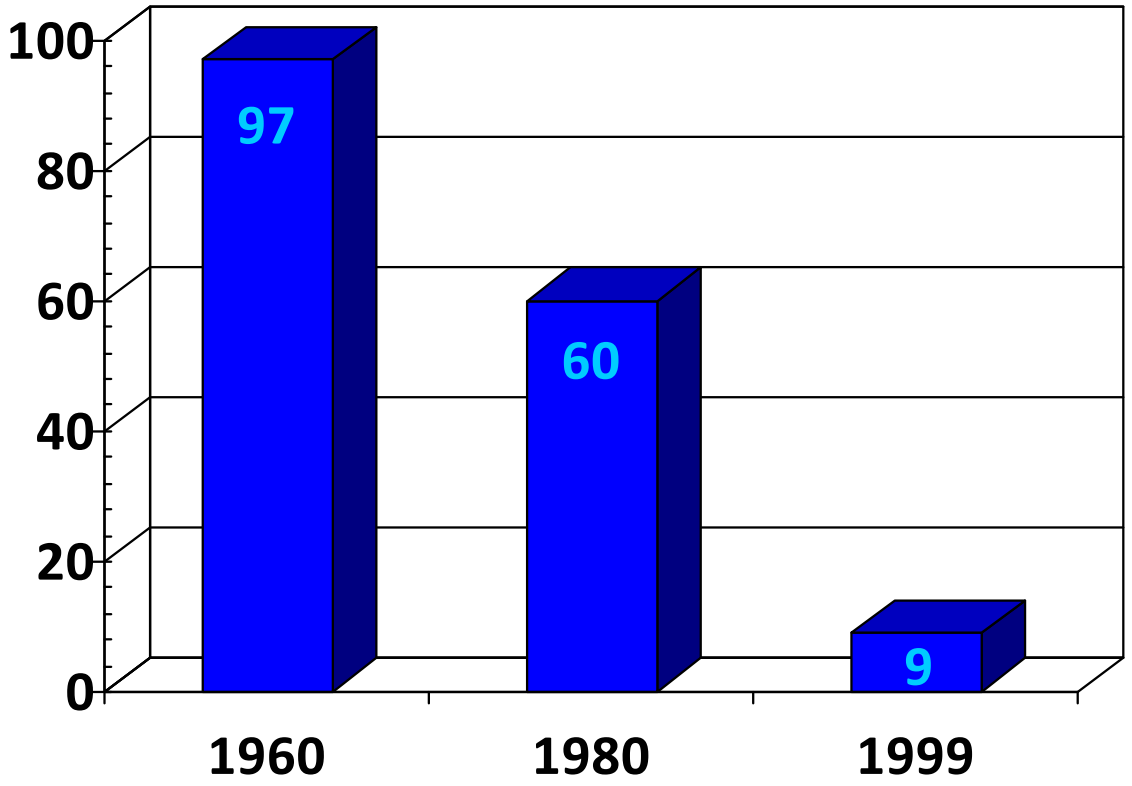
Min M, U T, Aye M, Shwe TN, Swe T:
Hydrocortison in the management of dengue shock syndrome
Southeast Asian J Trop Med Public Health 1975; 6: 573 – 579

Sumarmo:
The role of steroids in dengue shock syndrome
Southeast Asian J Trop Med Public Health 1987; 18: 383 – 389

Lauterbach R, Pawlik D, Kowalczyk D, Ksycinski W et al:
Effect of the immunomodulating agent, pentoxifylline, in the treatment of sepsis
In prematurely delivered infants: a placebo-controlled, double-blind trial
Crit Care Med 1999; 27: 807 – 814

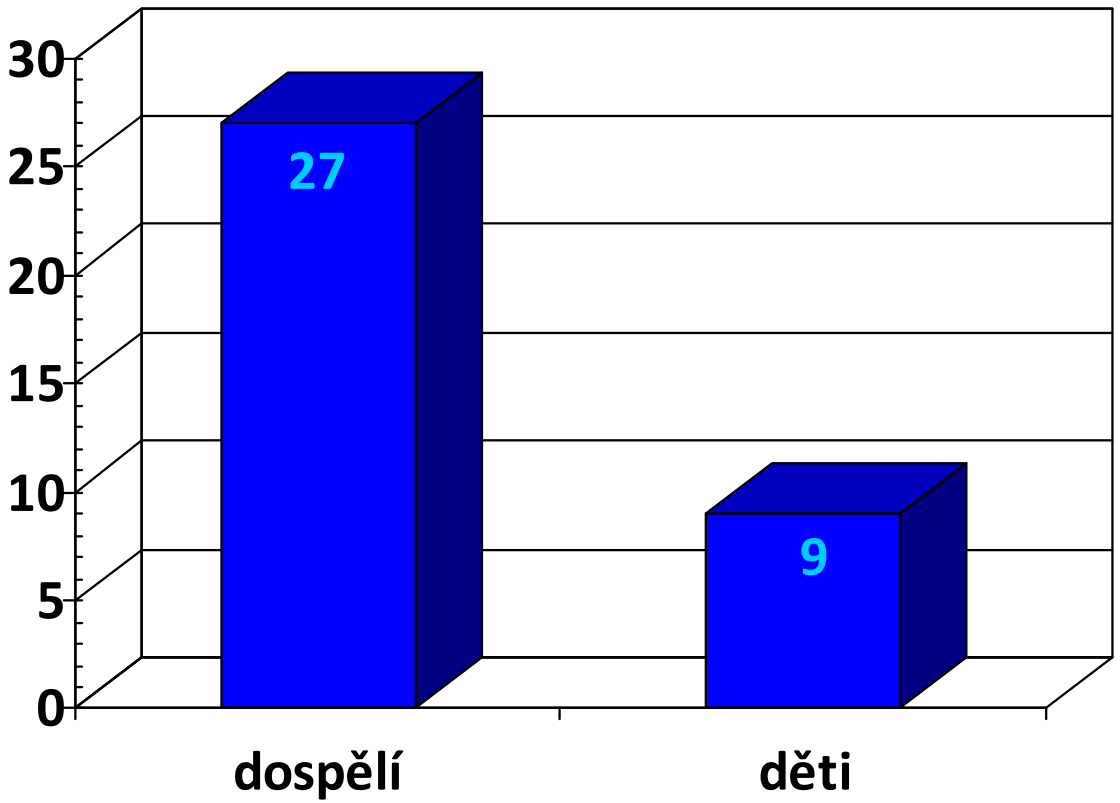
Nhan NT, Phuong CXT, Kneen R et al:
Acute management of dengue shock syndrome: A randomized double-blind comparison of 4 intravenous fluid regimens in the first hour
Clin Infect Dis 2001; 32: 204 – 212

Mortalita septického šoku v U.S.

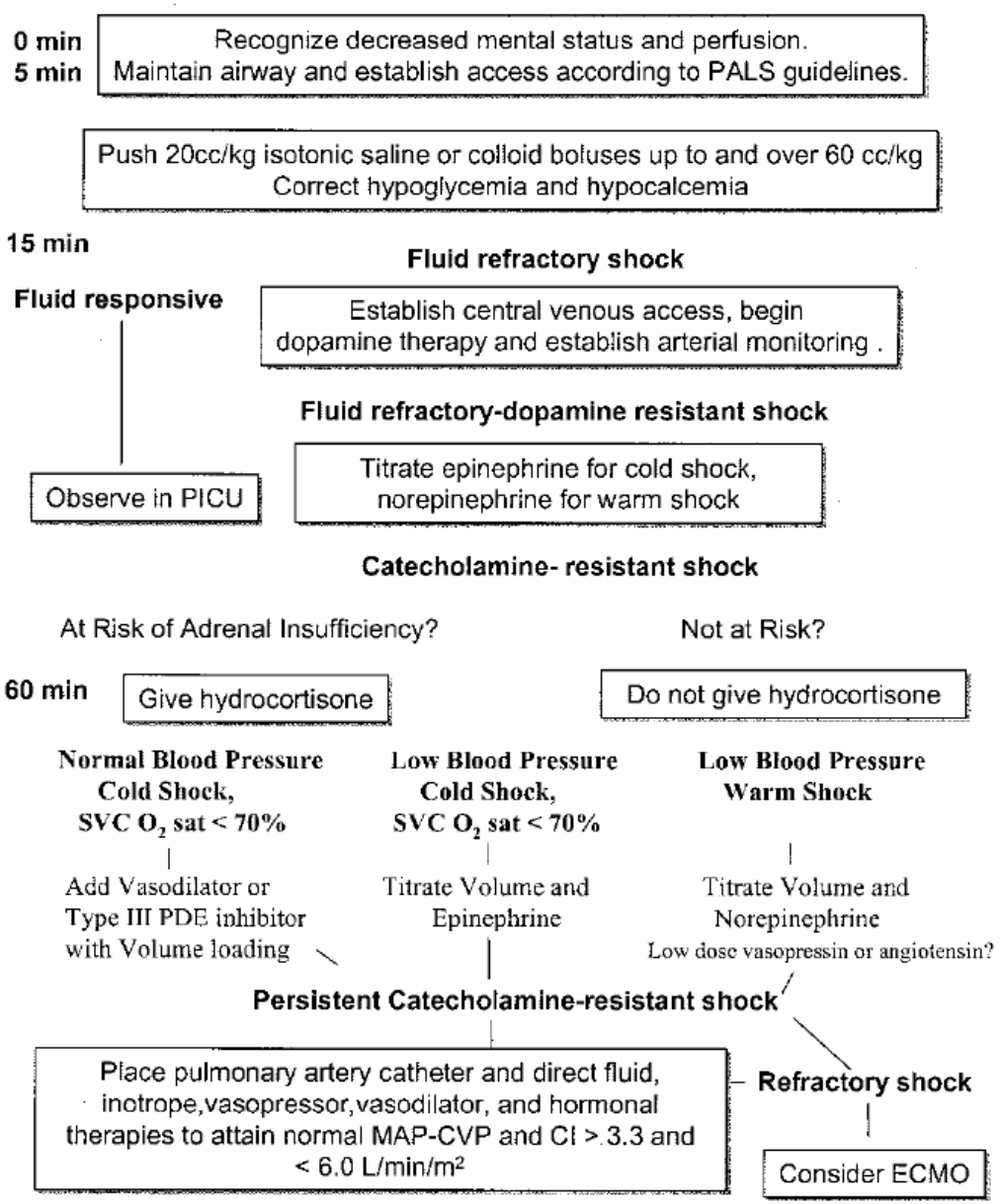


Carcillo JA et al, *Crit Care Med* 2002; 30: 1365 – 1378

Mortalita septického šoku v U.S. v roce 1999

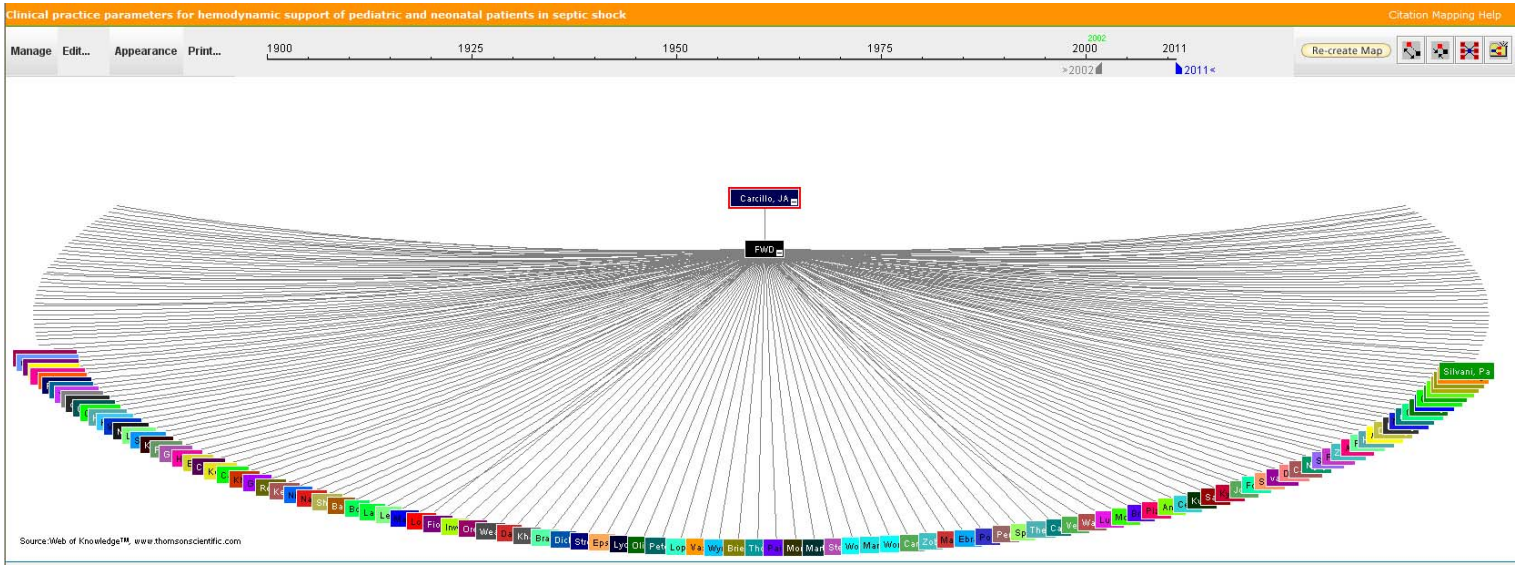


Carcillo JA et al, *Crit Care Med* 2002; 30: 1365 – 1378



Carcillo JA et al, *Crit Care Med* 2002; 30: 1365 – 1378

Web of Science: 210 citací



The NEW ENGLAND JOURNAL of MEDICINE

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Comparison of Three Fluid Solutions for Resuscitation in Dengue Shock Syndrome

Bridget A. Wills, M.R.C.P., Nguyen M. Dung, M.D., Ha T. Loan, M.D., Dong T.H. Tam, M.D., Tran T.N. Thuy, M.D., Le T.T. Minh, M.D., Tran V. Diet, M.D., Nguyen T. Hao, M.D., Nguyen V. Chau, M.D., Kasia Stepniewska, Ph.D., Nicholas J. White, F.R.C.P., and Jeremy J. Farrar, F.R.C.P.

Table 2. Primary and Secondary Outcome Measures.*

Outcome	Dextran	Starch	Ringer's Lactate	P Value†
Total fluid volume — ml/kg				
Group 1				0.76
Median	100	100	100	
90% range	66–142	70–163	65–157	
Group 2				0.70
Median	104	106	—	
90% range	63–178	66–202	—	
Groups combined				0.17
Median	100	100	—	
90% range	64–152	70–166	—	

Mortalita 1/383, < 0.2%

Randomized Trial of Volume Expansion with Albumin or Saline in Children with Severe Malaria: Preliminary Evidence of Albumin Benefit

Kathryn Maitland,[1,2] Allan Pamba,[1] Michael English,[1,4] Norbert Peshu,[1] Kevin Marsh,[1,5] Charles Newton,[1,3] and Michael Levin[2]

[1]The Centre for Geographic Medicine Research, Coast, Kenya Medical Research Institute, Kilifi, Kenya; [2]Department of Paediatrics, Faculty of Medicine and the Wellcome Trust Centre for Clinical Tropical Medicine, Imperial College, and [3]Neurosciences Unit, Institute of Child Health, University College, London, and [4]Department of Paediatrics and [5]Nuffield Department of Medicine, University of Oxford, Oxford, United Kingdom

Table 2. Primary and secondary outcomes of a study of volume expansion with albumin or saline in children with severe malaria.

Outcome, group	Albumin recipients	Saline recipients	Control subjects	*P*
Status at 8 h				
Base deficit reduction, % (95% CI)				
Patients with MA	22 (8–37)	24 (10–39)	33 (23–43)	.37
Patients with SA	35 (25–45)	28 (19–36)	…	.93
Rescue therapy received,[a] *n/N* (%)				
Patients with MA	0/33	0/35	5/33 (15)	.004
Patients with SA	4/23 (17)	3/25 (12)	…	.45
Volume received, mL/kg (95% CI)				
As boluses				
Patients with MA	21 (18–24)	22 (18–26)	3 (0–7)	<.001
Patients with SA	38 (31–45)	46 (39–53)	…	.06
Total volume				
Patients with MA	45 (39–51)	48 (44–52)	35 (31–39)	.14
Patients with SA	63 (55–70)]	69 (62–78)	…	.19
Final status, *n/N* (%)				
Fatal outcome	2/56 (3.6)	11/61 (18)	2/33 (6)	.02
Pulmonary edema	0	2/61 (3)	0	.35
Neurological deterioration	1/56 (1.8)	9/61 (15)	0/33	.02
Neurological sequelae	6/54 (11)	3/50 (6)	0/31	.09

Maitland K et al, *Clin Infect Dis* 2005; 40: 538 – 545

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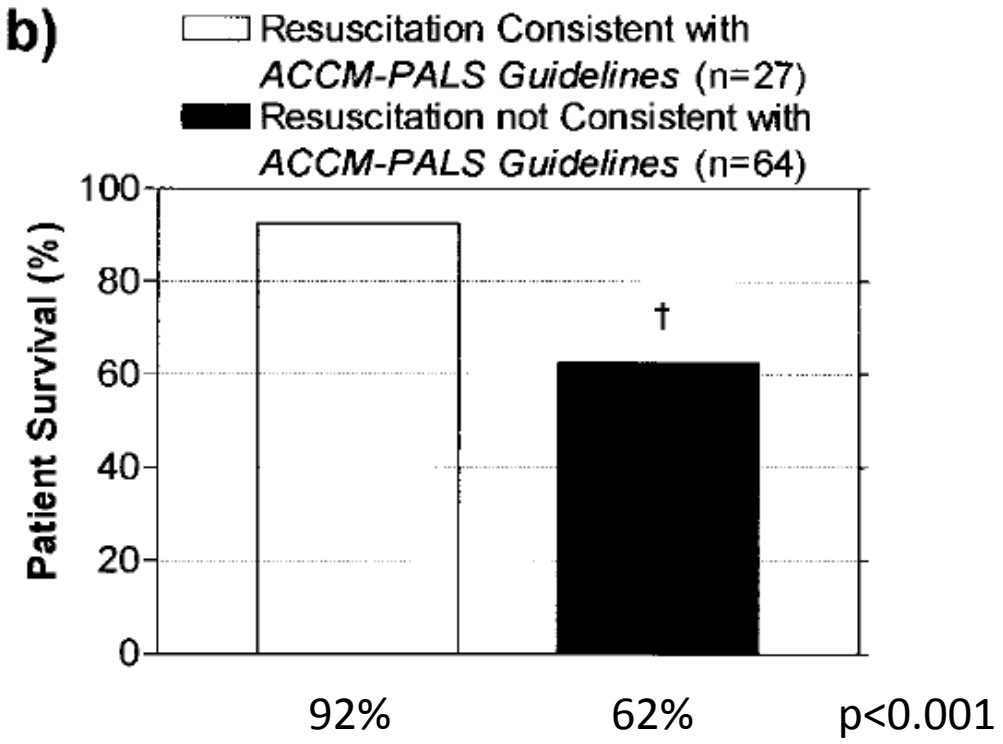
Table 3. Mortality in children with severe falciparum malaria complicated by metabolic acidosis.

Reference	Study type	Year	Clinical subgroup	Mortality rate, % *(n/N)*
[6]	Observational	1993	Coma and acidemia	28
[8]	Observational	1996	Respiratory distress	24
			Coma	28
[10]	Observational	1997	Coma/respiratory distress	41
[23]	Retrospective	2000	Acidosis	15
			Acidosis/coma	40
[15][a]	Intervention	2003	Albumin arm (9 of 16 patients had coma)	0 (0/16)
			Saline arm (3 of 10 patients with coma died)	16 (4/25)
PR[a]	RCT	2004	Albumin arm, no coma	3 (1/35)
			Albumin arm, coma	5 (1/21)
			Saline arm, no coma	0 (0/37)
			Saline arm, coma	46 (11/24)

Maitland K et al, *Clin Infect Dis* 2005; 40: 538 – 545

Early Reversal of Pediatric-Neonatal Septic Shock by Community Physicians Is Associated With Improved Outcome

Yong Y. Han, MD*§; Joseph A. Carcillo, MD*‡§; Michelle A. Dragotta, RN§; Debra M. Bills, RN§; R. Scott Watson, MD, MPH*‡§; Mark E. Westerman, RT§; and Richard A. Orr, MD*‡§



Han YY et al, *Pediatrics* 2003; 112: 793 – 799

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TABLE 2. Multiple Logistic Regression Analyses: Survival and Mortality Odds Ratios With 95% Confidence Intervals (Adjusted for PRISM Score)

Variable	Survival Odds Ratio	Mortality Odds Ratio	95% Confidence Interval
Shock reversed	9.49	—	1.07–83.89
Resuscitation consistent with *ACCM-PALS Guidelines*	6.81	—	1.26–36.80
Duration of persistent shock (per 1-h increment)	—	2.29	1.19–4.44
Delay resuscitation consistent with *ACCM-PALS Guidelines* (per 1-h increment)	—	1.53	1.08–2.16

Han YY et al, *Pediatrics* 2003; 112: 793 – 799

The role of healthcare delivery in the outcome of meningococcal disease in children: case-control study of fatal and non-fatal cases

Nelly Ninis, Claire Phillips, Linda Bailey, Jon I Pollock, Simon Nadel, Joseph Britto, Ian Maconochie, Andrew Winrow, Pietro G Coen, Robert Booy, Michael Levin

What this study adds

The quality of healthcare delivery in hospital for children with meningococcal disease differs in fatal and non-fatal cases

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Optimal early management of septicaemia and meningitis at the admitting hospital can improve outcome

---

Improved outcome is associated with children being managed by paediatric teams and junior doctors being supervised by consultants

---

Doctors should follow published protocols of care for fluid resuscitation, inotrope therapy, and referral to paediatric intensive care units

Ninis N et al, *BMJ* 2005; 330: 1475

The role of healthcare delivery in the outcome of meningococcal disease in children: case-control study of fatal and non-fatal cases

Nelly Ninis, Claire Phillips, Linda Bailey, Jon I Pollock, Simon Nadel, Joseph Britto, Ian Maconochie, Andrew Winrow, Pietro G Coen, Robert Booy, Michael Levin

	Full model (R^2=79%)	
Variable	**OR (95% CI)**	**P value**
Potential confounders		
GMSPS:		
6-10 *v* 0-5	8.53 (1.4 to 53)	0.021
11-15 *v* 0-5	18 (2.3 to 139)	0.006
Septicaemia *v* meningitis	0.1 (<0.01 to 3.9)	0.19
Both *v* meningitis	0.01 (<0.01 to 0.8)	0.039
Serogroup C *v* B	2.1 (0.6 to 8.1)	0.27
Other serogroup *v* B	1.6 (0.5 to 5.1)	0.45
Organ failure	1070 (0.7 to ∞)	0.063
Need inotropes	19.6 (2.5 to 151)	0.004
Need fluid	18.9 (0.2 to 1490)	0.19
Management failures		
Not under care of paediatrician	66.0 (3.6 to 1210)	0.005
Failure of supervision by consultant	19.5 (1.8 to 213)	0.015
Patient assessment failures		
Recognise complications	3.33 (0.7 to 17)	0.14
Recognise severity	0.51 (0.1 to 2.5)	0.40
Clinical practice failures		
Administration of inotropes	23.7 (2.6 to 213)	0.005
Administration of fluids:		
Too little *v* adequate	1.49 (0.2 to 12)	0.59
Too much *v* adequate	19.4 (0.2 to 1560)	0.19

Ninis N et al, *BMJ* 2005; 330: 1475

SOCIETY OF CRITICAL CARE MEDICINE, 34TH CRITICAL CARE CONGRESS
PHOENIX, ARIZONA, USA
JANUARY 15-19, 2005

ACCM RESUSCITATION GUIDELINES USE, CORRECT ANTIBIOTIC THERAPY, AND IMMUNOSUPPRESSANT WITHDRAWAL ARE ASSOCIATED WITH IMPROVED OUTCOMES IN PEDIATRIC SEPSIS, SEVERE SEPSIS, AND SEPTIC SHOCK

(CNS infection, thrombocytopenia, PELOD score, p<0.001). Controlling for these three **PIRO** groups, three recommended strategies were found to be independently associated with improved outcome (p<0.001): ACCM resuscitation guideline use (mortality 1/88 vs 4/4, p<0.001), correct antibiotics for infection (mortality 4/161 vs 1/1, p<0.001), withdrawal of immunosuppression (mortality 0/23 vs 2/2, p<0.001). **Conclusions:** Use of presently recommended strategies is associated with improved outcome in pediatric sepsis, severe sepsis, and septic shock. These therapies should be recommended for future clinical trials and present practice. [1]Levy MM. Crit Care Med. 2003. [2]Leteurtre S. Lancet. 2003. [3]Han YY, Crit Care Med. 2003.

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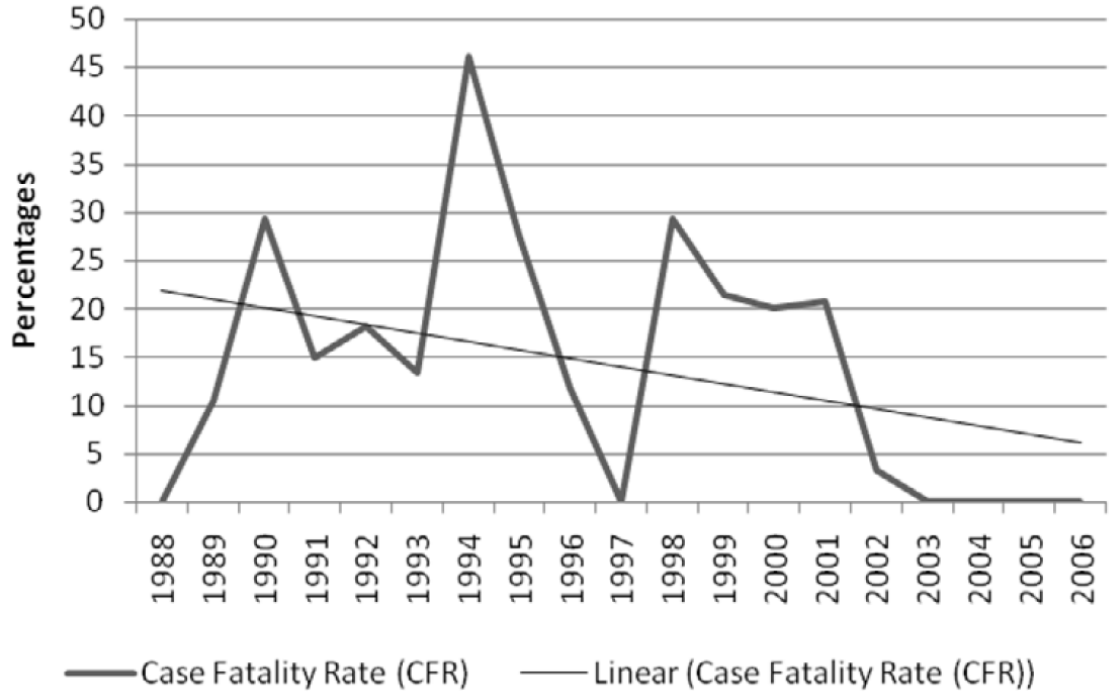
Karapinar B et al, *Crit Care Med* 2004; 32 (12 Suppl 3): A161

Research

Open Access

Improved survival of children with sepsis and purpura: effects of age, gender, and era

Martine Maat[1], Corinne MP Buysse[2], Marieke Emonts[1], Lodewijk Spanjaard[3], Koen FM Joosten[2], Ronald de Groot[4] and Jan A Hazelzet[2]



Case fatality rate (CFR) and CFR trend line during the study period.

Maat M et al, *Crit Care* 2007; 11: 172

The Epidemiology of Severe Sepsis in Children in the United States

R. Scott Watson, Joseph A. Carcillo, Walter T. Linde-Zwirble, Gilles Clermont, Jeffrey Lidicker, and Derek C. Angus

Am J Respir Crit Care Med Vol 167. pp 695–701, 2003

Patient and Hospital Correlates of Clinical Outcomes and Resource Utilization in Severe Pediatric Sepsis

Folafoluwa O. Odetola, Achamyeleh Gebremariam and Gary L. Freed

Pediatrics 2007;119;487
DOI: 10.1542/peds.2006-2353

TABLE 2. ANNUAL INCIDENCE, CASE FATALITY, AND NATIONAL ESTIMATES OF SEVERE SEPSIS BY AGE

1999

Age	Incidence (*Per 1,000 Population*)	National Estimate of Cases	Case Fatality (%)	National Estimate of Deaths
Less than 1 Year*	5.16	20,145	10.6	2,135
0–28 Days†	3.60	14,049	10.3	1,361
29–364 Days†	1.56	6,096	13.5	774
1–4 Years*	0.49	7,583	10.4	786
5–9 Years*	0.22	4,168	9.9	413
10–14 Years*	0.20	3,836	9.6	368
15–19 Years*	0.37	6,633	9.7	644
All children	0.56	42,364	10.3	4,383

TABLE 1 Distribution of Hospitalizations for Severe Pediatric Sepsis and Mortality According to Patient and Hospital Characteristics

2003

Characteristic	No. (%) of Hospitalizations	% of all Deaths	% Mortality	*P*
Age, y				
<1	3017 (24.0)	22.9	4.0	
1–4	4214 (33.7)	25.9	3.2	
5–9	1588 (12.7)	10.6	3.5	
10–14	1424 (11.4)	16.2	5.9	
15–19	2358 (18.3)	24.4	5.6	<.01
Gender				
Male	6663 (52.9)	52.8	4.2	
Female	5914 (47.1)	47.2	4.2	.95