CRITICAL CARE IMPACT FACTOR 4.48

读 书 报 告

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期刊荟萃

- 液体：预后
- Sepsis：诊断&Meta-analysis
- 肺炎：预后
- 早期运动：初步特征描述

Relationship between a perioperative intravenous fluid administration strategy and acute kidney injury following off-pump coronary artery bypass surgery: an observational study

- **Introduction**
  - Saline-based and hydroxyethyl starch solutions are associated with increased risk of renal dysfunction.
  - Balanced solutions and a limited volume of hydroxyethyl starch solution (RPF)
    - decrease the incidence of postoperative acute kidney injury (AKI)
    - improve clinical outcomes
- **Methods**
  - 783 patients who underwent elective OPCAB.
    - control group: between 1 January 2010 and 4 July 2012 ,saline-based solutions and unlimited volumes of colloid solutions.
    - RPF group:between 5 July 2012 and 31 December 2013 ,intravenous fluids with RPF.

Table 2 Perioperative fluid administration in the study groups

Variable	Control group	RPF group	*P* value
Number of patients	554	229	
Intraoperative data			
Crystalloid (L)	1.6 [1.2–2.0]	2.2 [1.8–2.8]	<0.001
Crystalloid per weight (ml/kg)	24.2 [18.4–31.5]	34.3 [25.3–44.5]	<0.001
Colloid (L)	1.2 [1.0–1.5]	1.0 [0.6–1.0]	<0.001
Colloid per weight (ml/kg)	18.5 [14.8–22.4]	14.4 [10.1–17.4]	<0.001
Colloid-to-crystalloid volume ratio	0.8 [0.6–1.0]	0.4 [0.3–0.6]	<0.001
Cell salvage blood (ml)	237.4 ± 328.0	138.7 ± 208.1	<0.001
Data in intensive care unit			
Colloid (L)	1.0 [0.5–1.5]	0 [0–0.2]	<0.001
Colloid per weight (ml/kg)	16.1 [8.5–24.8]	0 [0–3.1]	<0.001
Cumulative colloid (L)[a]	2.3 [1.8–2.8]	1.0 [0.8–1.5]	<0.001
Cumulative colloid per weight (ml/kg)[a]	35.0 [27.1–44.7]	16.0 [11.0–20.1]	<0.001
Packed red blood cell (unit)[a]	2.8 ± 2.6	2.1 ± 1.9	<0.001
Use of fresh frozen plasma[a]	265 (47.8)	77 (33.6)	<0.001
Use of platelet concentrate[a]	181 (32.7)	34 (14.8)	<0.001
Use of cryoprecipitate[a]	31 (5.6)	6 (2.6)	0.110
Weight gain (%)	1.9 ± 2.2	2.6 ± 2.1	<0.001

RPF renal protective fluid management

Data are expressed as number of patients (%), mean ± standard deviation, or median [interquartile range]

[a]Used during surgery and within 48 h postoperatively

Relationship between a perioperative intravenous fluid administration strategy and acute kidney injury following off-pump coronary artery bypass surgery: an observational study

- **Main Results**
  - AKI :RPF group VS. control group ($P < 0.001$):33 (14.4 %) VS.210(37.9 %)
  - severe AKI and persistent AKI: significantly lower
  - Postoperative extubation time , duration of hospital stay : Shorter
  - Adjustment by multivariate regression analyses and inverse probability of treatment weighting adjustment , the RPF group was independently associated with
    - Lower incidence of postoperative AKI , severe AKI, and persistent AKI
    - Shorter postoperative extubation time ,duration of hospital stay.

Conclusion : Improve outcomes in patients undergoing OPCAB With residual confounding may be present

Impact of intravenous fluid composition on outcomes in patients with systemic inflammatory response syndrome

- **Introduction**
  - Fluids with high chloride concentrations(eg.0.9 % saline)have been associated with adverse outcomes
  - To inform selection of fluid type in clinical practice
    - if the type of IV fluid administered to patients with systemic inflammatory response syndrome (SIRS) is associated with outcome.
- **Methods**
  - Propensity-matched cohort study
  - Hospitalized patients receiving at least 500 mL IV crystalloid within 48 hours of SIRS
  - Primary outcome : in-hospital mortality.
  - Secondary outcomes : length of stay, readmission, and complications

Impact of intravenous fluid composition on outcomes in patients with systemic inflammatory response syndrome

- **Results**
  - 1558 patients in each cohort.
  - The saline cohort(Compared with calcium-free balanced cohort)
    - Greater in-hospital mortality (3.27 % vs. 1.03 %, *P* <0.001)
    - Longer length of stay (4.87 vs. 4.38 days, *P* = 0.016),
    - Higher frequency of readmission at 60 (13.54 vs. 10.91, *P* = 0.025) and 90 days (16.56 vs. 12.58, *P* = 0.002)
    - Higher frequency of cardiac, infectious, and coagulopathy complications (all *P* <0.002). No differences were found in acute renal failure.
    - More chloride received and electrolyte abnormalities requiring replacement more frequently (*P* <0.001).

Conclusion :

- **signal of harm associated with 0.9 % saline in surgery and critical care setting**
- **Confer treatment implications and bring in large clinical trials.**

Discordant identification of pediatric severe sepsis by research and clinical definitions in the SPROUT international point prevalence study

- **Introduction**
  - Only moderate overlap of physician diagnosis of severe sepsis with consensus criteria
  - Compare differences in pediatric severe sepsis patients characteristics, treatment strategies, and outcomes identified by consensus criteria VS.physician diagnosis.
- **Methods**
  - A point prevalence study involving 128 PICUs in 26 countries across 6 continents. Over the course of 5 study days, 6925 PICU patients <18 years of age were screened
  - 706 with severe sepsis defined either by physician diagnosis or on the basis of 2005 International Pediatric Sepsis Consensus Conference consensus criteria were enrolled.

Discordant identification of pediatric severe sepsis by research and clinical definitions in the SPROUT international point prevalence study

- **Methods**
  - The primary endpoint
    - Agreement of pediatric severe sepsis between physician diagnosis and consensus criteria
  - Secondary endpoints
    - Characteristics and clinical outcomes for patients identified using physician diagnosis versus consensus criteria.

Discordant identification of pediatric severe sepsis by research and clinical definitions in the SPROUT international point prevalence study

- **Results**
  - Only 301 patients (42.6 %) were identified by both physician diagnosis and consensus criteria (κ 0.57 ± 0.02).
  - Of the 438 patients with a physician's diagnosis of severe sepsis, only 69 % meet the consensus criteria.
  - The 31% of patients with physician-diagnosed severe sepsis who did not meet consensus criteria were younger, had a lower severity of illness, and a lower PICU mortality than those who met consensus criteria or both definitions.
  - After controlling for some factors,patients identified with severe sepsis by physician diagnosis alone or by consensus criteria alone did not have PICU mortality significantly different from that of patients identified by both physician diagnosis and consensus criteria.

Conclusion :

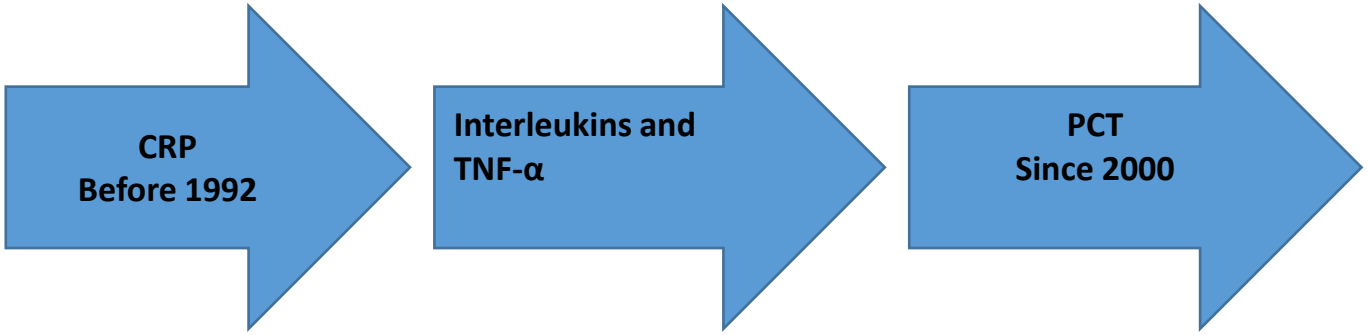
- **physicians diagnose severe sepsis more broadly.**
- **The validity of results of a research with enrollment based only on current consensus criteria may be affected**

Inflammatory mediators in intra-abdominal sepsis or injury – a scoping review

- **Introduction**
  - The role of Inflammatory and protein mediators in the morbidity and mortality of intra-abdominal sepsis/injury was still not completely understood
  - This reviewed evaluate these mediators
    - function as diagnostic/prognostic/ therapeutic biomarkers
    - Illuminate the pathogenesis mechanisms of sepsis or injury-related organ dysfunction.
- **Methods**
  - MEDLINE, PubMed, EMBASE,Cochrane Library.
  - Original studies assessing mediators in intra-abdominal sepsis/injury.
  - Two investigators independently reviewed

Inflammatory mediators in intra-abdominal sepsis or injury – a scoping review

- **Results**
  - 182 studies:79 preclinical and 103 clinical studies.
  - Clinical studies:



    - PCT&CRP
      - useful to rule out infection or monitor therapy
      - To be established : the diagnostic and prognostic value of mediators for complications/outcomes of sepsis or injury

Inflammatory mediators in intra-abdominal sepsis or injury – a scoping review

- Preclinical studies
  - balance of inflammatory mediators
  - two-hit models
  - targeted therapies
- Both preclinical and clinical studies have shown the peritoneal mediator levels are much higher than the blood levels
- Normal postoperative clearance kinetics of CRP,PCT, or IL-6 may help rule out infection or complications.
- High-quality clinical trials are warranted to determine the role of mediators in intra-abdominal sepsis and injury.

Likelihood of infection in patients with presumed sepsis at the time of intensive care unit admission: a cohort study

- **Introduction**
  - Although the clinical suspicion of infection is a crucial factor in making a sepsis diagnosis, little is known about the accuracy of this diagnosis in the context of critically ill patients who present to the ICU with signs and symptoms of a “sepsis syndrome”.
  - Assessed the likelihood of infection in patients who were treated for sepsis upon admission to the ICU
  - Quantified the association between plausibility of infection and mortality.

Likelihood of infection in patients with presumed sepsis at the time of intensive care unit admission: a cohort study

- **Methods**
  - Critically ill patients admitted with clinically suspected sepsis
  - Infection category as none, possible, probable or definite by post-hoc assessment.
  - Multivariable competing risks survival analyses to determine the association of the plausibility of infection with mortality.

Likelihood of infection in patients with presumed sepsis at the time of intensive care unit admission: a cohort study

- Results

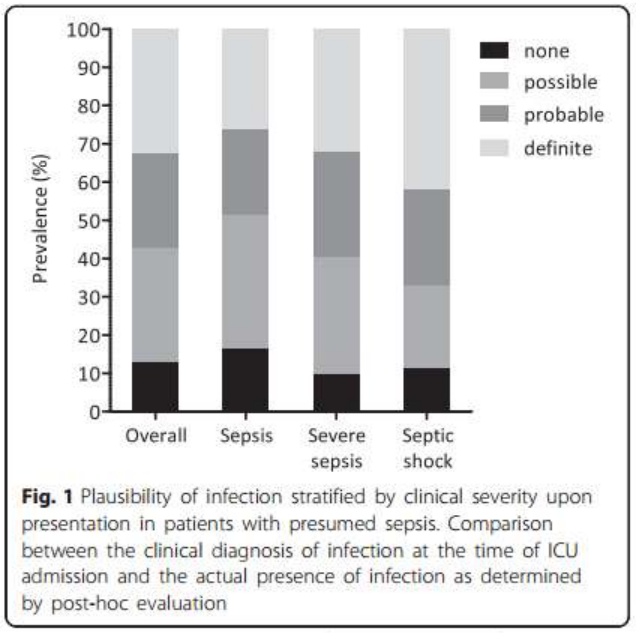


Fig. 1 Plausibility of infection stratified by clinical severity upon presentation in patients with presumed sepsis. Comparison between the clinical diagnosis of infection at the time of ICU admission and the actual presence of infection as determined by post-hoc evaluation

Among 2579 patients treated for sepsis, 13% "none", 30% of only "possible". 25 % "probable ",33 % "definite"

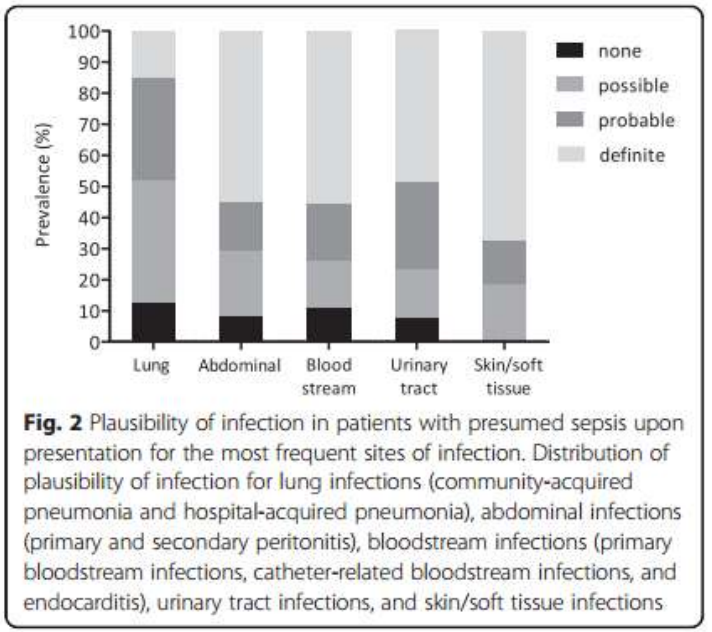
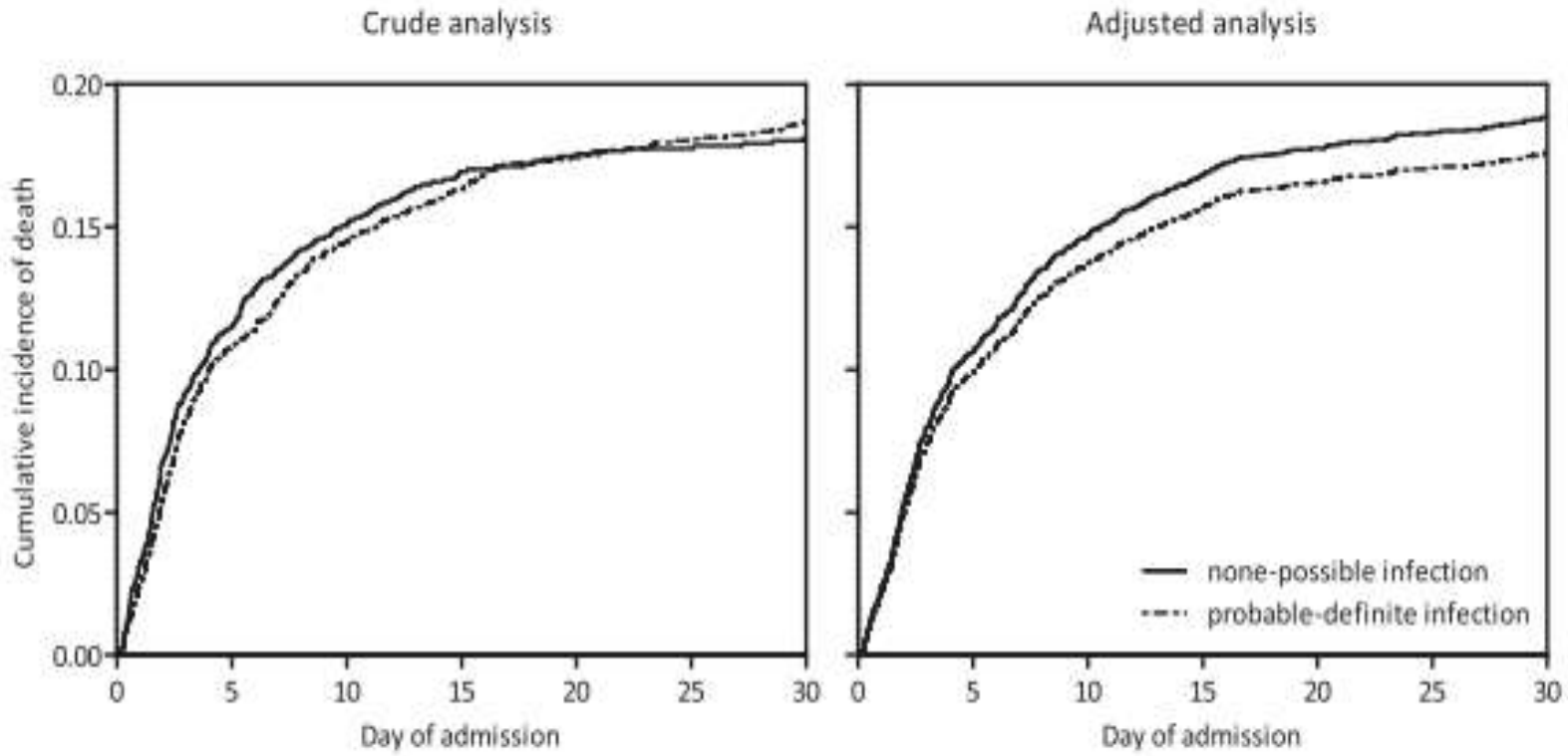


Fig. 2 Plausibility of infection in patients with presumed sepsis upon presentation for the most frequent sites of infection. Distribution of plausibility of infection for lung infections (community-acquired pneumonia and hospital-acquired pneumonia), abdominal infections (primary and secondary peritonitis), bloodstream infections (primary bloodstream infections, catheter-related bloodstream infections, and endocarditis), urinary tract infections, and skin/soft tissue infections

These percentages were largely similar for different suspected sites of infection.

Likelihood of infection in patients with presumed sepsis at the time of intensive care unit admission: a cohort study

- Results
  - In multivariable analysis, patients with an unlikely infection had a higher mortality rate compared to patients with a definite infection



Likelihood of infection in patients with presumed sepsis at the time of intensive care unit admission: a cohort study

- Conclusion
  - up to 43 % of patients treated for sepsis were unlikely to have had an infection on post-hoc assessment
  - A higher likelihood of infection does not negatively impact the mortality of patients treated for sepsis

Outcomes associated with bacteremia in the setting of methicillin-resistant*Staphylococcus aureus* pneumonia: a retrospective cohort study

- **Introduction**
  - Bacteremia may secondarily complicate MRSA pneumonia.
  - Describe the prevalence of bacteremia in MRSA pneumonia and its impact on hospital mortality and length of stay
- **Methods**
  - Single-center retrospective cohort study (2008–2013)
  - Adult patients hospitalized with pneumonia caused by MRSA.
  - MRSA bacteremia :positive blood cultures.
  - Bacteremic and non-bacteremic groups
  - Examine the impact of bacteremia on hospital mortality and post-pneumonia onset LOS

Outcomes associated with bacteremia in the setting of methicillin-resistant*Staphylococcus aureus* pneumonia: a retrospective cohort study

- **Results**
  - Among the 765 patients with MRSA pneumonia,12.2 % had concurrent bacteremia.
  - Bacteremia VS.non-bacteremic subjects
    - Higher frequency of a hospitalization within prior 180 days (48.4 % vs.37.7 %)
    - Higher prevalence of chronic liver disease (17.2 % vs. 9.5 %)
    - Higher mean APACHE II score at the onset of pneumonia (17.5 ± 6.0 vs. 16.1 ± 6.0).
    - Higher unadjusted mortality (33.7 % vs. 23.8)
    - Higher median post-pneumonia LOS (18.2 vs. 12.2 days)
  - Bacteremia did not appear to independently impact mortality

Outcomes associated with bacteremia in the setting of methicillin-resistant*Staphylococcus aureus* pneumonia: a retrospective cohort study

- **Results**

Table 5 Attributable hospital length of stay in days

Parameter	*Point estimate*	*95 % CI*	*P value*
Bacteremia	10.3	6.7 to 13.9	<0.001
Mechanical ventilation	6.8	3.8 to 9.8	<0.001
Vasopressors	5.6	3.0 to 8.1	<0.001
Time from admission to pneumonia onset (per 1 day)	0.11	0.06 to 0.15	<0.001
Time to anti-MRSA treatment (per 1 hour)	0.03	0.01 to 0.05	0.002
In-hospital mortality	−5.8	−8.4 to −3.2	<0.001

- Bacteremia complicating MRSA pneumonia added between 1 and 2 weeks to the hospital LOS.

Improvement of antibiotic therapy and ICU survival in severe non-pneumococcal community-acquired pneumonia: a matched case–control study

- **Introduction**
  - The trend in CAP mortality over recent decades remains unclear.
  - Compare
    - Intensive care unit mortality due to non-pneumococcal severe community-acquired pneumonia between the periods 2000–2002 and 2008–2014
    - The impact of the improvement in antibiotic strategies on outcomes.
- **Methods**
  - Matched case–control study
  - patients with non-pneumococcal severe pneumonia: 72 patients from the 2000–2002 database (CAPUCI I group) VS.72 from the 2008–2014 period (CAPUCI II group)

Improvement of antibiotic therapy and ICU survival in severe non-pneumococcal community-acquired pneumonia: a matched case–control study

- **Results**

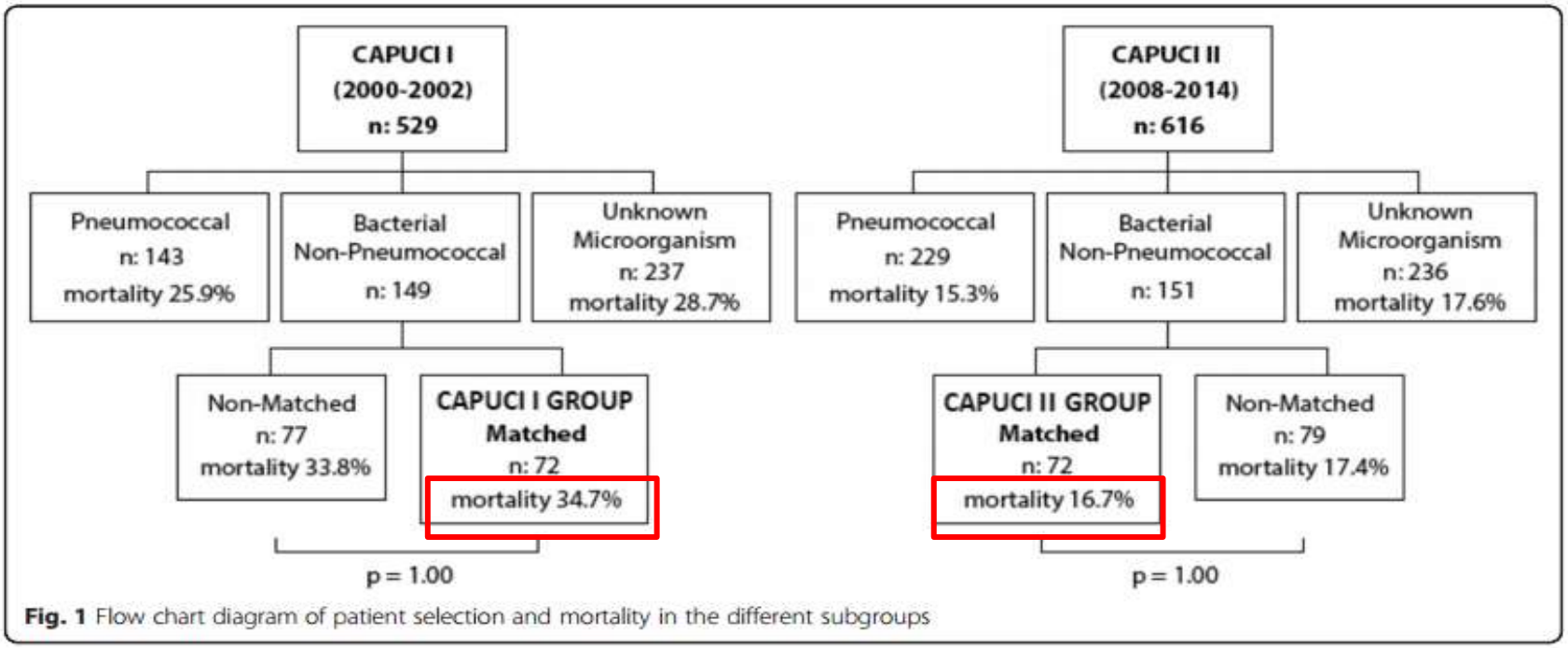


Fig. 1 Flow chart diagram of patient selection and mortality in the different subgroups

Improvement of antibiotic therapy and ICU survival in severe non-pneumococcal community-acquired pneumonia: a matched case–control study

- **Results**
  - The most frequent microorganism was methicillin-susceptible *Staphylococcus aureus* (22.1 %) followed by *Legionella pneumophila* and *Haemophilus influenzae* (each 20.7 %);
  - Combined therapy and early antibiotic treatment were significantly higher in CAPUCI II (76.4 versus 90.3； 37.5 versus 63.9 %).
  - In the multivariate analysis, combined antibiotic therapy (OR 0.23, 95 % CI 0.07–0.74) and early antibiotic treatment (OR 0.07, 95 % CI 0.02–0.22) were independently associated with decreased intensive care unit mortality.

Conclusion

- **A significant reduction in ICU mortality**
- **Early and combining antibiotic administration : significant improved survival**

Early mobilisation in intensive care units in Australia and Scotland: a prospective, observational cohort study examining mobilisation practises and barriers

- **Introduction**
  - Little data on baseline mobilisation practises and the barriers
  - The objectives(in Australian and Scottish ICUs)
    - Quantify and benchmark baseline levels of mobilization
    - Compare mobilisation practises
    - Identify barriers to mobilisation

- **Methods**
  - Prospective, observational, cohort study
  - Patients were included if they were >18 years of age, admitted to an ICU and received mechanical ventilation in the ICU.

Early mobilisation in intensive care units in Australia and Scotland: a prospective, observational cohort study examining mobilisation practises and barriers

Table 3 Mobilisation results for the Australian and Scottish cohorts

	Australia	Scotland	*p* value
Percentage of patients who mobilised	60.2 % (209/347)	40.1 % (68/167)	<0.001[a]
Number of activities (total)	870	446	
Number of activities per patient mobilised per ICU day	1.0 (0.4–1.8)	0.7 (0.3–3.0)	0.882
Number of episodes (total)	484	263	
Number of episodes per patient mobilised per ICU day	0.6 (0.3–1.0)	0.4 (0.2–1.3)	0.322
Percentage of patients who weight bear	47.0 %	29.3 %	<0.001[a]
Minutes per episode	105 (14–191)	157 (103–239)	<0.001[a]
Percentage of activities carried out on MV	12.9	35.9	<0.001[a]
Percentage of activities carried out with ETT	3.4	2.2	0.228
Percentage of episodes on MV	16.3	41.1	<0.001[a]
Percentage of episodes with ETT	2.1	2.7	.602
Day first mobilised (median)	2 (1–4)	3.5 (1–9)	<0.033[a]

Abbreviations: *ETT* endotracheal tube, *ICU* intensive care unit, *MV* mechanical ventilation
[a]Statistically significant

Early mobilisation in intensive care units in Australia and Scotland: a prospective, observational cohort study examining mobilisation practises and barriers

- **Results&Conclusion**
  - Sedation is the most commonly reported.Physiological instability and the presence of an endotracheal tube were also frequently reported

文献浏览

生物标记物

- **Interleukin-27: a novel biomarker in predicting bacterial infection among the critically ill**
- 白介素27用于预测重症患者发生细菌性感染的价值：中等

- **Prognostic significance of the angiopoietin-2/angiopoietin-1 and angiopoietin-1/Tie-2 ratios for early sepsis in an emergency department**
- 血管生成素2/血管生成素1（高）以及血管生成素1/Tie-2（低）比值在急诊科早期脓毒症病人中用于评估预后：与不良预后相关

- **Decreased serum concentrations of sphingosine-1-phosphate in sepsis**
- 磷酸盐鞘氨醇（S1P)在sepsis的病人血浆浓度是减少的：减少导致血管渗漏，损伤组织灌注，加重器官衰竭

生物标记物

- **Biomarkers from distinct biological pathways improve early risk stratification in medical emergency patients: the multinational, prospective, observational TRIAGE study**
- 独特生物学途径所产生的生物标记物可以提高急诊病人的早期危险分层：多中心，前瞻性，观察性的研究：预测结局，提高疗效
- **Procalcitonin and mortality in status epilepticus: an observational cohort study**
- 癫痫持续状态病人的血浆PCT水平用于预测死亡率：预测死亡率，不能预测感染
- **Glial fibrillary acidic protein as a biomarker in severe traumatic brain injury patients: a prospective cohort study**
- 胶质纤维酸性蛋白作为严重创伤性脑损伤病人的生物标记物：前瞻性队列研究：增加，预测6个月神经功能

其他

- **Incidence and predisposing factors for the development of disturbed glucose metabolism and DIabetes mellitus AFter Intensive Care admission: the DIAFIC study：**
- ICU后的糖代谢紊乱与糖尿病：发生率和危险因素：**50%，高的FINDRISC以及SAPS3评分**

- **Monitoring of serum lactate level during cardiopulmonary resuscitation in adult in-hospital cardiac arrest：**
- 成人院内心脏停搏进行心肺复苏过程中监测乳酸水平：**＜9mmol/L可以预估不同结局**

其他

- **The efficacy of recombinant human soluble thrombomodulin for obstetric disseminated intravascular coagulation: a retrospective study**
- 重组人血栓调节蛋白用于产科DIC：回顾性研究：一定治疗前景
- **Safety and efficacy of regional citrate anticoagulation in continuous venovenous hemodialysis in the presence of liver failure: the Liver Citrate Anticoagulation Threshold (L-CAT) observational study**
- 持续静脉血透的肝衰竭患者采用枸橼酸进行局部抗凝的有效性与安全性：其阈值研究：**72小时滤网存留率96%，无内环境紊乱**

其他

- **Ventilator-derived carbon dioxide production to assess energy expenditure in critically ill patients: proof of concept**
- 重症患者能量消耗的评估：通过呼吸机产生的二氧化碳量进行计算：精确，持续

- **Validation and analysis of prognostic scoring systems for critically ill patients with cirrhosis admitted to ICU**
- ICU内肝硬化的病人采用预后评分系统的可靠性分析：高AUC

- **Associations of arterial carbon dioxide and arterial oxygen concentrations with hospital mortality after resuscitation from cardiac arrest**
- 心肺复苏后动脉二氧化碳分压与氧分压与住院死亡率之间的关系：分别预测，无协同

其他

- **Predictors for mechanical ventilation and short-term prognosis in patients with Guillain-Barré syndrome**
- 格林巴利综合症病人行机械通气以及短期预后的预测：面神经麻痹，舌咽神经和迷走神经功能障碍，无前期感染，静脉强的松和静脉免疫球蛋白：多种因素
- **Microvascular reactivity and clinical outcomes in cardiac surgery**
- 心脏手术中微血管反应性和临床结局的关系：第一天低血管反应性与并发症及住院时间长短相关
- **A randomized controlled proof-of-concept trial of early sedation management using Responsiveness Index monitoring in mechanically ventilated critically ill patients**
- 机械通气的重症患者在早期镇静管理中采用应答指数监测（RI）：实时，简单，定量