Intensive Care Medicine

Cigarette Smoke Exposure and the Acute Respiratory Distress Syndrome*

Carolyn S. Calfee, MD, MAS[1,2]; Michael A. Matthay, MD[1,2]; Kirsten N. Kangelaris, MD, MAS[3]; Edward D. Siew, MD[4]; David R. Janz, MD[5]; Gordon R. Bernard, MD[4]; Addison K. May, MD[6]; Peyton Jacob, PhD[7,8]; Christopher Havel, PhD[8]; Neal L. Benowitz, MD[7,8]; Lorraine B. Ware, MD[4,9]

烟雾暴露与ARDS

Objective: The association between cigarette smoke exposure and the acute respiratory distress syndrome in patients with the most common acute respiratory distress syndrome risk factors of sepsis, pneumonia, and aspiration has not been well studied. The goal of this study was to test the association between biomarker-confirmed cigarette smoking and acute respiratory distress syndrome in a diverse cohort.

烟草暴露与由于败血症、肺炎、误吸导致的ARDS患者之间的关系尚未得到深入研究。

目的：探讨在不同的队列研究中，反映烟草暴露的标记物与ARDS之间的关系。

Design ：Prospective cohort. 前瞻性队列研究

Setting ：Tertiary care center. 三级护理中心

Patients: Four hundred twenty-six critically ill patients with acute respiratory distress syndrome risk factors (excluding trauma and transfusion)
426例具有ARDS危险因素的重症患者
（排除外伤和输血）

Interventions: None 无干预

Measurements and Main Results:
We obtained smoking histories and measured urine 4-(methylnitrosamino)-1-(3-pyridyl)-1- butanol (a biomarker of cigarette smoke exposure) on urine samples obtained at the time of study enrollment. The association between cigarette smoke exposure and acute respiratory distress syndrome differed based on acute respiratory distress syndrome risk factor ($p < 0.02$ for interaction). In patients with nonpulmonary sepsis as the primary acute respiratory distress syndrome risk factor ($n = 212$), 39% of those with acute respiratory distress syndrome were current smokers by history compared with 22% of those without acute respiratory distress syndrome (odds ratio, 2.28; 95% CI, 1.24–4.19; $p = 0.008$).

收集研究对象的吸烟史并检测尿液样本中物质（尿4 -（甲基）- 1 -（3-吡啶基）—1—丁醇主要是反映烟草暴露程度的标记物）。
烟草暴露与ARDS之间的关系不同于ARDS与其他危险因素之间的关系。
烟草暴露作为ARDS的首要危险因素，在非肺部脓毒症的患者，与22%没有ARDS的患者相比，39%的ARDS患者有吸烟史

Likewise, cigarette smoke exposure as measured by urine 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanol was significantly associated with acute respiratory distress syndrome in this group. The increased risk of acute respiratory distress syndrome in nonpulmonary sepsis was restricted to patients with 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanol levels consistent with active smoking and was robust to adjustment for other acute respiratory distress syndrome predictors. Cigarette smoke exposure as measured by history or 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanol was not associated with acute respiratory distress syndrome in patients with other risk factors (e.g., pneumonia and aspiration).

同样的，在这个组中，尿中标记物质含量反映烟草暴露程度，与ARDS呈显著相关性。在非肺部脓毒症的患者，反映烟草暴露程度的标记物质的水平与ARDS风险增加的水平一致，标记物质对ARDS具有很好的预测性。反映烟草暴露程度的标记物质与暴露在其他危险因素的ARDS的患者（如肺炎和误吸）无相关性。

Conclusions: Cigarette smoking measured both by history and biomarker is associated with an increased risk of acute respiratory distress syndrome in patients with nonpulmonary sepsis. This finding has important implications for tobacco product regulation and for understanding the pathogenesis of acute respiratory distress syndrome

结论：非肺部脓毒症患者发生ARDS的风险与吸烟史和标记物的水平呈正相关性。这一发现对于烟草产品的监管和理解ARDS发病机制具有重要意义。

Impact of Acute Kidney Injury on Outcome in Patients With Severe Acute Respiratory Failure Receiving Extracorporeal Membrane Oxygenation*

Assad Haneya, MD[1]; Claudius Diez, MD[1]; Alois Philipp, ECCP[1]; Thomas Bein, MD[2]; Thomas Mueller, MD[3]; Christof Schmid, MD[1]; Matthias Lubnow, MD[3]

急性肾损伤对重症急性呼吸衰竭患者体外膜肺氧合治疗预后的影响

Objectives: Extracorporeal lung support is currently used in the treatment of patients with severe respiratory failure until organ recovery and as a bridge to further therapeutic modalities. The aim of our study was to evaluate the impact of acute kidney injury on outcome in patients with acute respiratory distress syndrome under venovenous extracorporeal membrane oxygenation support and to analyze the association between prognosis and the time of occurrence of acute kidney injury and renal replacement therapy initiation.

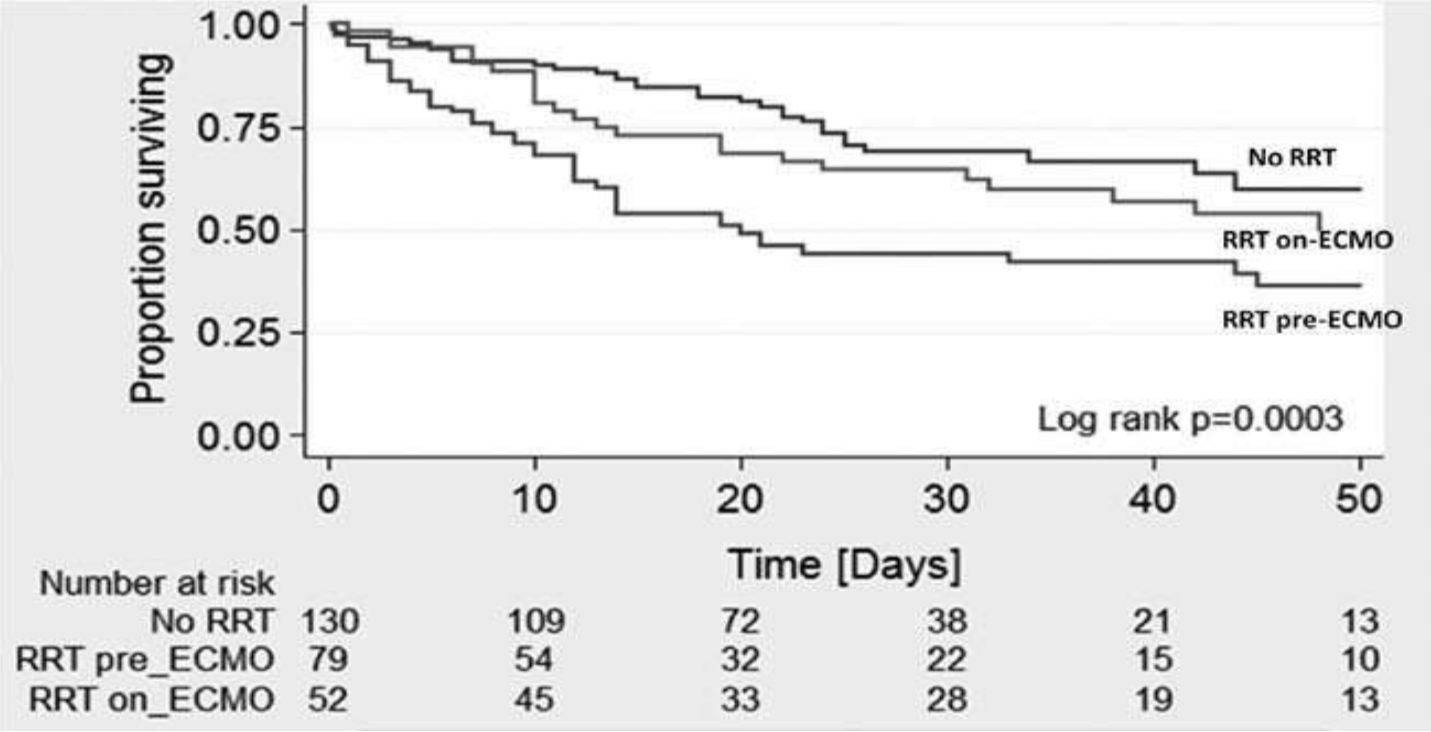
体外肺支持是目前被用于治疗严重呼吸衰竭患者，直到功能的恢复，作为后续一步治疗的桥梁

研究的目的是评估AKI对接受V-V ECMO 治疗的ARDS患者预后影响，分析发生AKI和肾替代治疗开始的时间与患者预后的关系

Design: Retrospective observational study.
回顾性观察研究
Setting: A large European extracorporeal membrane oxygenation center, University Medical Center Regensburg, Germany.
欧洲ECOMO中心，雷根斯堡大学医学中心，德国
Patients: A total of 262 consecutive adult patients with acute respiratory distress syndrome have been treated with extracorporeal membrane oxygenation between January 2007 and May 2012.
2007年1月至2012年5月，共纳入262名患有ARDS并接受ECOMO的成人患者

Interventions: None.

Measurement and Main Results: Patient median age was 49 years (range, 18–78 yr); 183 (69.8%) were male. The leading cause of lung failure was pneumonia. The median Sequential Organ Failure Assessme… …nedian extracorpo… …-three patients (6… …ge. One hundred th… …oreal membrane… …al replaceme… …< 0.001) overall. Th… …ent therapy ve… …ation support (*p*



患者的年… …评分为3.3（3.3–… 183例（6… 181例（5… …代治疗的患者。

未接受肾替代治疗的患者与接受ECOMO治疗的患者的K-M生存曲线明显不同。

Furthermore, the multivariate logistic regression analysis suggests that the necessity of renal replacement therapy prior to extracorporeal membrane oxygenation insertion was an independent risk factor for mortality (95% CI, 0.77–0.88; $p < 0.001$). However, the necessity of renal replacement therapy during extracorporeal membrane oxygenation support was not an independent risk factor for mortality in these patients ($p = 0.37$).

此外，多元逻辑回归分析表明： ECOMO之前的肾替代治疗是死亡的独立危险因素。
然而，在这些病人中行ECOMO的同时行必要的肾脏替代治疗不是死亡的独立危险因素

Conclusions: Acute kidney injury is a major complication in acute respiratory distress syndrome probably mirroring severe systemic disease. In our cohort, development of acute kidney injury requiring renal replacement therapy prior to extracorporeal membrane oxygenation insertion was negatively associated with survival, whereas acute kidney injury that developed during extracorporeal membrane oxygenation support was not.

急性肾损伤是急性呼吸窘迫综合征的主要并发症，可能反映全身疾病的严重程度。研究发现，在AKI病人中，在行ECOMO之前行肾替代治疗与患者存活率呈负相关，而在行ECOMO同时行肾替代治疗则不是

Characteristics, Outcomes, and Predictability of Critically Ill Obstetric Patients: A Multicenter Prospective Cohort Study

Daniela N. Vasquez, MD[1,2]; Andrea V. Das Neves, MD[1]; Laura Vidal, MD[3]; Miriam Moseinco, MD[4]; Jorge Lapadula, MD[5]; Graciela Zakalik, MD[6]; Analía Santa-Maria, MD[7]; Raúl A. Gomez, MD[8]; Mónica Capalbo, MD[9]; Claudia Fernandez, MD[10]; Enrique Agüero-Villareal, MD[11]; Santiago Vommaro, MD[12]; Marcelo Moretti, MD[13]; Silvana B. Soli, MD[14]; Florencia Ballestero, MD[15]; Juan P. Sottile, MD[16]; Viviana Chapier, MD[17]; Carlos Lovesio, MD[18]; José Santos, MD[19]; Fernando Bertoletti, MD[20]; Alfredo D. Intile, MD[2]; Pablo M. Desmery, MD[2]; Elisa Estenssoro, MD[1], for the ProPOC Study Group

危重症产科患者的特点、预后及可预测性的多中心前瞻性队列研究

Objective: To evaluate pregnant/postpartum patients requiring ICUs admission in Argentina, describe characteristics of mothers and outcomes for mothers/babies, evaluate risk factors for maternal-fetal-neonatal mortality; and compare outcomes between patients admitted to public and private health sectors.

评估怀孕/产后需转入ICU患者并描述母亲特点和婴儿、母亲的预后
评估母儿（产妇-胎儿-新生儿）死亡率的危险因素
并且对比公共医疗机构和私人医疗机构的预后

Design: Multicenter, prospective, national cohort study.
多中心，前瞻性，国家队列研究
Setting: Twenty ICUs in Argentina (public, 8 and private, 12).
阿根廷20个ICU，（公共8和私人12）
Patients: Pregnant/postpartum (< 42 d) patients admitted to ICU.
妊娠/产后（小于42天）入院治疗
Interventions: None

Measurements and Main Results: Three hundred sixty-two patients were recruited, 51% from the public health sector and 49% from the private. Acute Physiology and Chronic Health Evaluation II was 8 (4–12); predicted/observed mortality, 7.6%/3.6%; hospital length of stay, 7 days (5–13 d); and fetal-neonatal losses, 17%. Public versus private health sector patients: years of education, 9 ± 3 versus 15 ± 3; transferred from another hospital, 43% versus 12%; Acute Physiology and Chronic Health Evaluation II, 9 (5–13.75) versus 7 (4–9); hospital length of stay, 10 days (6–17 d) versus 6 days (4–9 d); prenatal care, 75% versus 99.4%; fetal-neonatal losses, 25% versus 9% (p = 0.000 for all); and mortality, 5.4% versus 1.7% (p= 0.09).

362名患者被纳入， 51%的病人来着公共医疗机构，49%来自私人医疗机构
APACHEII评分为8分，预测/观察死亡率，7.6% / 3.6%；住院天数，7天（5 - 13天）和胎儿新生儿的死亡，17%
公共和私人企业患者的情况：受教育时间，9 ± 3与15 ± 3；从其它医院转，43%与12%；急性生理和慢性健康评估APACHEII，9（5–13.75）和7（4–9）；住院时间，10天（6–17 d）与6天（4–9 d）；产前保健，75%与99.4%；胎儿新生儿的损失，25%和9%（P = 0）；和死亡率，5.4%和1.7%（P = 0.09）。

Complications in ICU were multiple-organ dysfunction syndrome (34%), shock (28%), renal dysfunction (25%), and acute respiratory distress syndrome (20%); all predominated in the public sector. Sequential Organ Failure Assessment (during first 24 hr of admission) score of at least 6.5 presented the best discriminative power for maternal mortality. Independent predictors of maternal-fetal-neonatal mortality were Acute Physiology and Chronic Health Evaluation II, education level, prenatal care, and admission to tertiary hospitals.

ICU患者发生MODS（34%），SHOCK（28%），肾功能不全（25%），ARDS（20%），主要集中在公共部门.
SOFA评分（在入院的第一个24小时)>6.5能很好的判断孕产妇死亡率。
母儿死亡的独立预测因素是APACHEII、教育水平、产前护理,三级医院

Conclusions: -fetal-neonatal
mortality was ncare aspects like
education, pr Organ Failure
Assessment (iology and Chronic
Health Evalua

患者平均住
母死亡率不
控制，并在
SOFA（前2

教育，产前

妇预后。

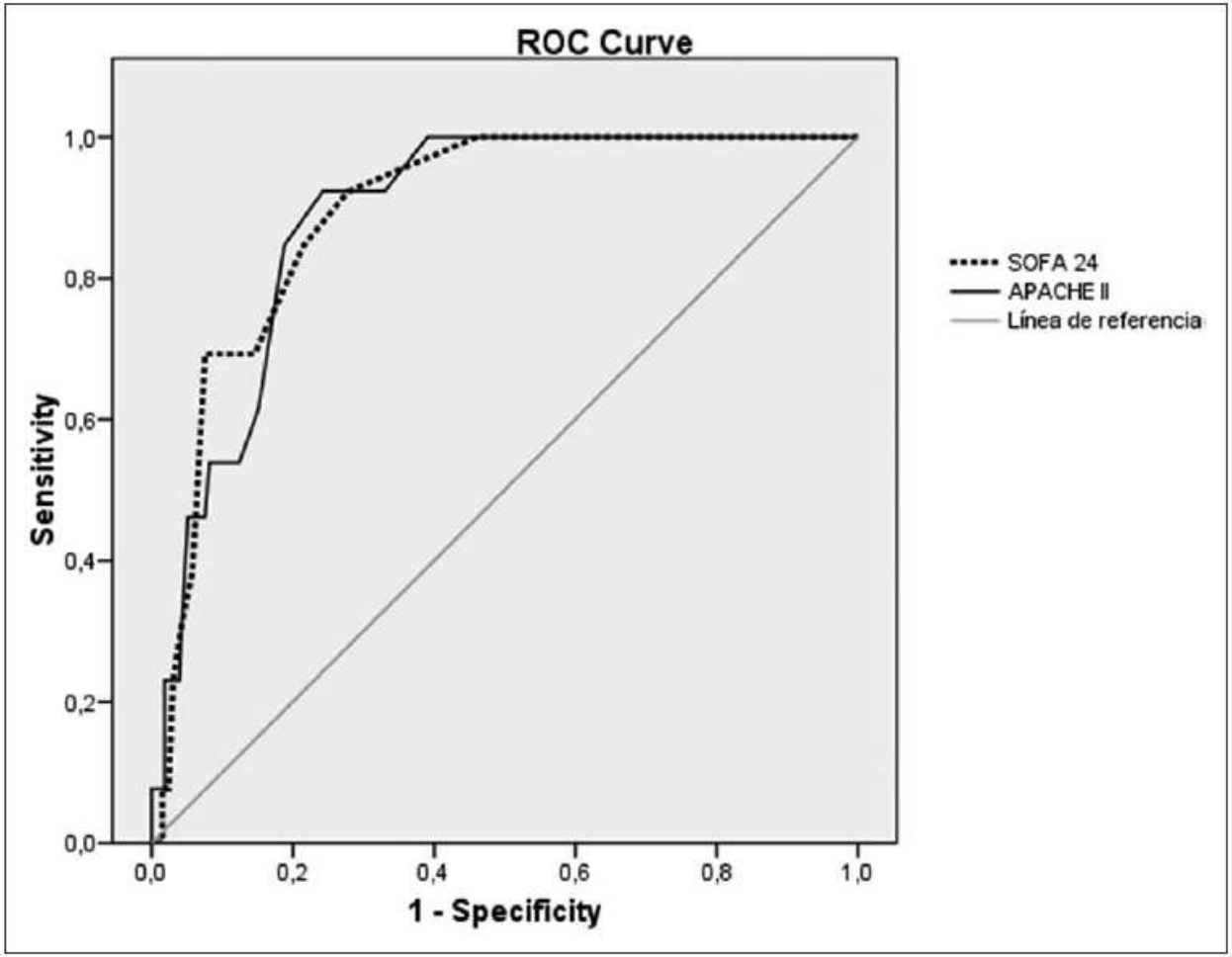


Figure 3. Area under the receiver operating characteristic (ROC) curves for Acute Physiology and Chronic Health Evaluation (APACHE) II and Sequential Organ Failure Assessment (during first 24 hr of admission) ($SOFA_{24}$) scores as predictors of maternal mortality among obstetric patients admitted to 20 ICUs in Argentina in 2012.

Evident health disparities existed between patients admitted to public versus private hospitals: the former received less prenatal care, were less educated, were more frequently transferred from other hospitals, were sicker at admission, and developed more complications; maternal and fetal-neonatal mortality were higher. These findings point to the need of redesigning healthcare services to account for these inequities

在公立与私立医院收治的病人存在明显的健康差异：前较少接受产前保健，教育程度较低，更频繁的转院，病情加重入院，和并发多种并发症；孕妇及胎儿新生儿的死亡率较高。
这些调查结果指出，重新设计医疗服务，需要考虑到这些不平等的因素

Ventilator-Associated Events: Prevalence, Outcome, and Relationship With Ventilator-Associated Pneumonia*

Lila Bouadma, MD, PhD[1–3]; Romain Sonneville, MD[3]; Maité Garrouste-Orgeas, MD, PhD[1,4]; Michael Darmon, MD, PhD[5,6]; Bertrand Souweine, MD, PhD[7]; Guillaume Voiriot, MD[2,3]; Hatem Kallel, MD[8]; Carole Schwebel, MD, PhD[9]; Dany Goldgran-Toledano, MD[10]; Anne-Sylvie Dumenil, MD[11];

呼吸机相关的事件：发生率，结果与VAP关系

TABLE 1. Definitions of Ventilator-Associated Conditions and Infection-Related Ventilator-Associated Complications

Criteria	Ventilator-Associated Condition	Infection-Related Ventilator-Associated Complication
Sustained respiratory deterioration	Two successive sequences: A ≥ 2 d stable or decreasing range of PEEP (≥ 6, ≥ 10, and ≥ 16 mm Hg) and a stable or improved Pao_2/Fio_2 ratio A ≥ 2 d rise in range of PEEP or a decreasing Pao_2/Fio_2 ratio by > 50 mm Hg with the same level of PEEP or by > 100 mm Hg whatever the level of PEEP	Two successive sequences: A ≥ 2 d stable or decreasing range of PEEP (≥ 6, ≥ 10, and ≥ 16 mm Hg) and a stable or improved Pao_2/Fio_2 ratio A ≥ 2 d rise in range of PEEP or a decreasing Pao_2/Fio_2 ratio by > 50 mm Hg with the same level of PEEP or by > 100 mm Hg whatever the level of PEEP
Systemic inflammatory respiratory syndrome	No	At least 2 criteria within 2 calendar days before or after the onset of respiratory deterioration: Body temperature < 36°C or > 38°C Heart rate > 90 beats/min WBC count > 12,000 or < 4,000 cells/mm^3
Antimicrobial treatment	No	At least one new antimicrobial agent prescribed within 2 calendar days before or after the onset of respiratory deterioration and continued for ≥ 4 d or less in case of death, ICU discharge, or withholding or withdrawing life-sustaining medical treatment

PEEP = positive end-expiratory pressure.

Adapted from the Centers for Disease Control and Prevention National Healthcare Safety Network (6). Adaptations are themselves works protected by copyright. So in order to publish this adaptation, authorization must be obtained both from the owner of the copyright in the original work and from the owner of copyright in the translation or adaptation.

Design: Inception cohort study from the longitudinal prospective French multicenter OUTCOMEREA database (1996-2012).
起始队列研究来自法国纵向、前瞻性多中心 OUTCOMEREA数据库
Patients: Patients on mechanical ventilation for greater than or equal to 5 consecutive days were classified as to the presence of a ventilator-associated event episode, using slightly modified Centers for Disease Control and Prevention definitions.
根据疾病控制和预防中心的定义稍加修改，使用呼吸机待机达到或超过5天的患者被认为存在呼吸机相关事件

Intervention: None.

Measurements and Main Results: Among the 3,028 patients, 2,331 patients (77%) had at least one ventilator-associated condition, and 869 patients (29%) had one infection-related ventilator-associated complication episode. Multiple causes, or the lack of identified cause, were frequent. The leading causes associated with ventilator-associated condition and infection-related ventilator-associated complication were nosocomial infections (27.3% and 43.8%), including ventilator-associated pneumonia (14.5% and 27.6%). Sensitivity and specificity of diagnosing ventilator-associated pneumonia were 0.92 and 0.28 for ventilator-associated condition and 0.67 and 0.75 for infection-related ventilator-associated complication, respectively.

3028例患者中，2331例患者（77%）至少存在一个VAP，869例患者（29%）存在一个IVAC事件。
多原因，或缺乏确定的原因，都是比较常见的
VAC和IVAC是院内感染的主要原因，包括VAP
VAV诊断呼吸机相关性肺炎的敏感性和特异性分别为0.92和0.28
IVAC诊断呼吸机相关性肺炎的敏感性和特异性分别为0.67 and 0.75

A good correlation was observed between ventilator-associated condition and infection-related ventilator-associated complication episodes, and ventilator-associated pneumonia occurrence: R^2 = 0.69 and 0.82 (p < 0.0001). The median number of days alive without antibiotics and mechanical ventilation at day 28 was significantly higher in patients without any ventilator-associated event (p < 0.05). Ventilator-associated condition and infection-related ventilator-associated complication rates were closely correlated with antibiotic use within each ICU: R^2 = 0.987 and 0.99, respectively (p < 0.0001).

VAC、VAP、IVAC 具有一个很好的相关性
未使用抗生素和机械通气患者的中位生存时间是28天，明显高于VAC的患者
在每个ICU，VAC与IVAC与抗生素的使用密切相关

Conclusions: Ventilator-associated event is very common in a population at risk and more importantly highly related to antimicrobial consumption and may serve as surrogate quality indicator for improvement programs.

呼吸机相关事件在人群中是非常常见的危险因素，更重要的是与抗生素的使用量高度相关，并可能作为改进方案的重要的质量控制指标

Delayed Emergency Team Calls and Associated Hospital Mortality: A Multicenter Study*

Chen, Jack MBBS, PhD, MBA(Exec)[1]; Bellomo, Rinaldo FRACP, FCICM, PGDipEcho, MD, PhD[2]; Flabouris, Arthas FCICM, FANZCA, AsFASAsM, PGDipAvia, PGDipEcho, MD[3,4]; Hillman, Ken MBBS, FRCA, FACA, FJFICM, MD[1]; Assareh, Hassan BEng, BSc, MSc, MEng, PhD[1]; Qu, Lixin MPH, PhD, MBA[1]

急诊医疗团队的呼叫延误与医院死亡率的相关性分析：一项多中心研究

Objective: We tested the hypothesis that responses to physiologic deterioration in hospital ward patients delayed by more than 15 minutes are associated with increased mortality.

我们对住院病人病情恶化的应急反应时间延误15分钟以上与死亡率增加的相关性假设进行论证

Design, Setting, and Participants: We used data from a 23-hospital cluster randomized trial (January 2004 to December 2004) of implementation of rapid response teams (intervention) versus standard practice with conventional cardiac arrest team-based responses to emergencies (control). We examined emergency calls in all hospitals. In intervention hospitals, we also examined such calls in the period before, during the introduction, and after the full implementation of a rapid response system. We studied the statistical association between such delayed calls and mortality.
Main Outcomes and Measures: Hospital outcomes (mortality, unplanned ICU admissions, and cardiac arrests).

我们的数据来源于23家医院的整群随机对照试验，干预组由快速应急团队实施，对照组由处理急诊心脏骤停事件的传统急救小组组成。我们检查了所有医院的急救电话.在干预的医院，我们调查了例如，在呼叫电话之前的时间，在接入电话期间，和在启动快捷应答系统之后的急救电话状况。我们研究了类似急救呼叫延迟与死亡率之间的统计学意义。
医院方面的结局（死亡、突发的ICU住院和心脏骤停）。

Results: There were 3,135 emergency team calls in all hospitals. Overall, almost one third of such calls were delayed. In intervention hospitals, the proportion of delayed calls was similar before and after implementation of rapid response teams. Compared with control hospitals, in intervention hospitals, there was a significant decrease in the proportion of delayed calls during both the introduction (27.3% vs 34.3% weekly rate; incidence rate ratio, 0.84; p = 0.001) and the full implementation period (29.0% vs 34.5% weekly rate; incidence rate ratio, 0.84; p = 0.023). Delayed calls more likely occurred at night, in high dependence or coronary care units, in patients older than 75 years, in those with a decrease in Glasgow Coma Scale, or in those with hypotension as the reason for the call. Finally, in all hospitals, delayed calls were associated with an increased risk of unplanned ICU admissions (adjusted odds ratio = 1.56; 95% CI, 1.23–2.04; $p \leq 0.001$) and death (adjusted odds ratio = 1.79; 95% CI, 1.43–2.27; $p < 0.001$).

主要结果：在所有的医院一共收到3135个急救电话。总之，大约三分之一的急救电话被延迟。在实施干预的医院，启动快速应急团队前后的呼救延迟所占的比例是相似的。与对照组医院相比，实施干预的医院，从接入到全面实施急救期间所发生的呼叫延迟所占的比例明显降低。呼叫延迟更多的发生在夜间、加护病房或冠心病监护病房和年龄超过75岁，GCS评分降低或以低血压为理由的呼叫。最后，在调查的所有医院，呼叫延迟与突发ICU住院和死亡增加 相关。

Conclusions: Among ward patients, emergency team activation in response to acute deterioration triggered more than 15 minutes after detection and documentation of instability is independently associated with an increased risk of ICU admission and death

应对住院病人病情急剧恶化，进行分类和识别之后启动急救团队的时间超过15分钟，分别与入住ICU和死亡的风险增加有关。

Atrial Fibrillation Is an Independent Predictor of Mortality in Critically Ill Patients*

Shaver, Ciara M. MD, PhD[1]; Chen, Wei MD[2]; Janz, David R. MD, MSc[3]; May, Addison K. MD[4]; Darbar, Dawood MD[5]; Bernard, Gordon R. MD[1]; Bastarache, Julie A. MD[1]; Ware, Lorraine B. MD[1,6]

房颤是否是ICU中死亡的独立危险因素

Objectives: Atrial fibrillation has been associated with increased mortality in critically ill patients. We sought to determine whether atrial fibrillation in the ICU is an independent risk factor for death. A secondary objective was to determine if patients with new-onset atrial fibrillation have different risk factors or outcomes compared with patients with a previous history of atrial fibrillation.

心房颤动与危重病人死亡率增加有关,

本研究旨在探讨房颤是否是ICU中死亡的独立危险因素,

其次探讨与既往有房颤病史的患者相比，新发房颤患者是否有不同的风险因素或预后。

Design: Prospective observational cohort study.前瞻性观察队列研究。

Setting: Medical and general surgical ICUs in a tertiary academic medical center.

一家三级学术医疗中心的内科和普外icu

Patients: One thousand seven hundred seventy critically ill patients requiring at least 2 days in the ICU.

1170例需要在ICU治疗超过2天的危重症患者。
Interventions: None.

Measurements and Main Results: Demographics, medical history, development of atrial fibrillation, fluid balance, echocardiographic findings, medication administration, and hospital mortality were collected during the first 4 days of ICU admission. Atrial fibrillation occurred in 236 patients (13%) (Any AF). Of these, 123 patients (7%) had no prior atrial fibrillation (New-onset AF) while the remaining 113 (6%) had recurrent atrial fibrillation (Recurrent AF). Any AF was associated with male gender, Caucasian race, increased age, cardiac disease, organ failures, and disease severity.

主要是收集入院4天内的人口统计、病史、房颤病史，液体平衡、超声心动图检查、用药及住院死亡率
纳入了236例房颤病人，其中123例 是新发房颤，而113例是复发房颤
房颤与男性，白人种族，年龄增加，心脏病，器官衰竭，疾病严重程度相关

Patients with Any AF had increased mortality compared with those without atrial fibrillation (31% vs 17%; $p < 0.001$), and Any AF was independently associated with death (odds ratio, 1.62; 95% CI, 1.14–2.29; $p = 0.007$) in multivariable analysis controlling for severity of illness and other confounders. The association of atrial fibrillation with death was magnified in patients without sepsis (odds ratio, 2.92; 95% CI, 1.52–5.60; $p = 0.001$). Treatment for atrial fibrillation had no effect on hospital mortality. New-onset AF and Recurrent AF were each associated with increased mortality. New-onset AF, but not Recurrent AF, was associated with increased diastolic dysfunction and vasopressor use and a greater cumulative positive fluid balance.

用多变量分析控制了疾病严重程度和其他混杂因素后，房颤依然是死亡的独立相关因素
在非脓毒症患者中，房颤和死亡的关系更为突出
心房颤动的治疗对住院死亡率无影响
新发AF和AF复发都与死亡率增加有关
新发房颤而非复发房颤，与增加舒张功能受限和升压药物的使用及液体过负荷有关

Conclusions: Atrial fibrillation in critical illness, whether new-onset or recurrent, is independently associated with increased hospital mortality, especially in patients without sepsis.

危重病的房颤，无论是新发还是复发，都与住院死亡率增加独立相关，特别是在无脓毒症患者中。

Practice Patterns and Outcomes Associated With Choice of Initial Vasopressor Therapy for Septic Shock*

Fawzy, Ashraf MD, MPH[1]; Evans, Stephen R. MPH[2]; Walkey, Allan J. MD, MSc[1,3]

治疗感染性休克的初始血管升压药的选择与实践模式和预后的关系

Objectives: Clinical guidelines recommend norepinephrine as initial vasopressor of choice for septic shock, with dopamine suggested as an alternative vasopressor in selected patients with low risk of tachyarrhythmias and absolute or relative bradycardia. We sought to determine practice patterns and outcomes associated with vasopressor selection in a large, population-based cohort of patients with septic shock that allows for assessment of outcomes in clinically important subgroups.

临床指南推荐，选择去甲肾上腺素作为初始血管升压药，用于感染性休克的治疗，多巴胺被建议作为可选择的血管升压药，用于低风险心律失常和绝对或相对心动过缓患者。

我们想探讨，在临床重要亚组中，以能评估预后的感染性休克患者为基础的一项大型队列研究中，与血管升压药的选择相关的临床实践和结果

Design: We performed a retrospective cohort study to determine factors associated with choice of dopamine as compared with norepinephrine as initial vasopressor for patients with septic shock. We used propensity score matching to compare risk of hospital mortality based on initial vasopressor. We performed multiple sensitivity analyses using alternative methods to address confounding and hospital-level clustering. We investigated interaction between vasopressor selection and mortality in clinical subgroups based on arrhythmia and cardiovascular risk.

我们进行了一项回顾性队列研究，对比感染性休克病人选择多巴胺和去甲肾上腺素作为初始血管升压药的相关决定因素。
我们采用倾向得分匹配来比较，基于选择不同的初始升压药对医院死亡率的风险
我们处理了混杂因素和医院水平的偏倚，采用多因素敏感性分析。
我们调查了在临床亚组中，基于心律失常和心血管风险，升压药的选择与死亡率之间的相互关系

Setting: Enhanced administrative data (Premier, Charlotte, NC) from 502 U.S. hospitals during the years 2010–2013.

从2010-2013年期间，我们从美国的502家医院收集整理数据

Subjects: A total of 61,122 patients admitted with septic shock who received dopamine or norepinephrine as initial vasopressor during the first 2 days of hospitalization.

一共纳入了61122名在入院后前2天，接受多巴胺或去甲肾上腺素作为初始血管升压素治疗的感染性休克患者

Interventions: None.

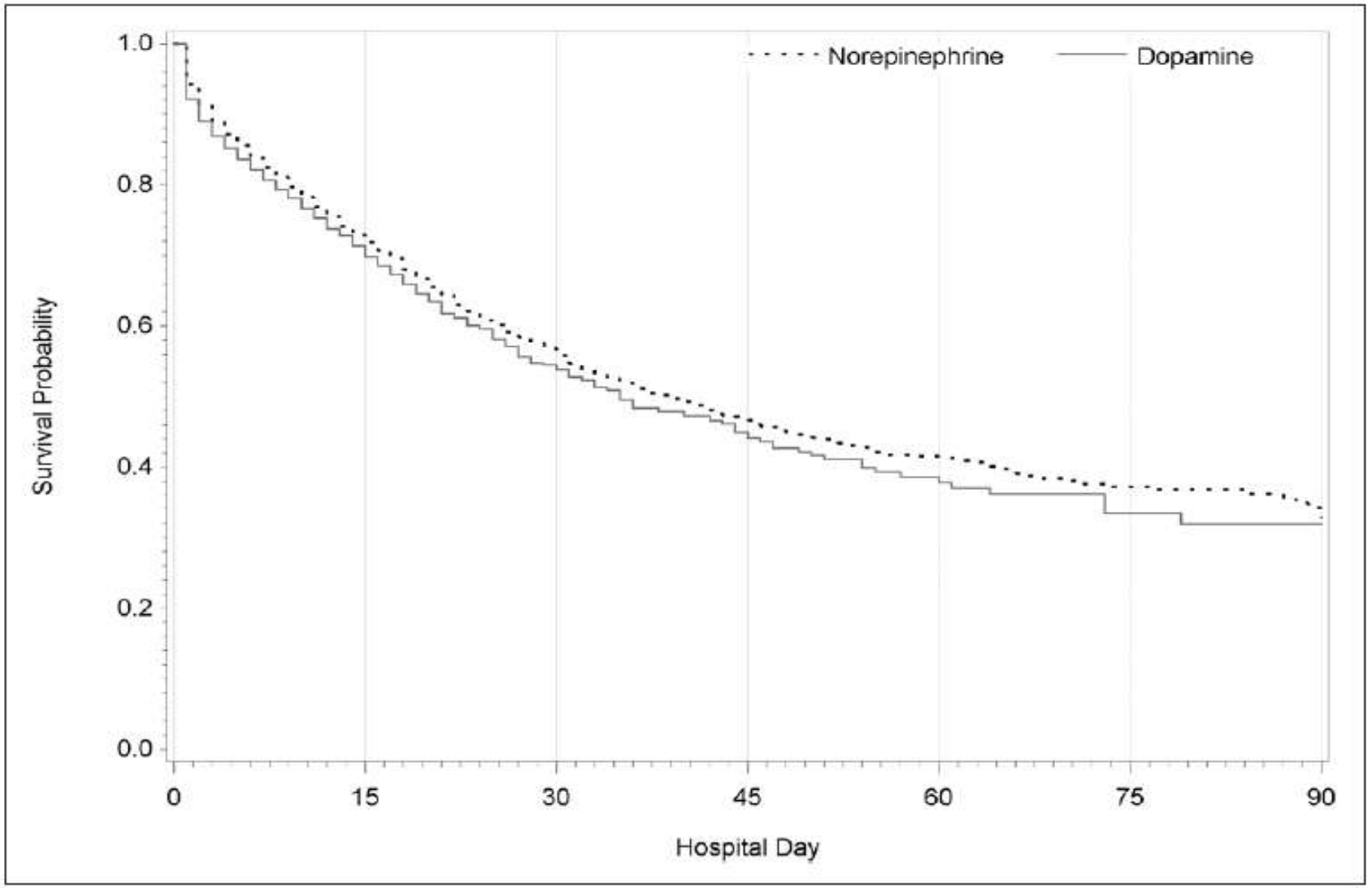


Figure 2. Kaplan-Meier curves for in-hospital mortality comparing patients with septic shock receiving norepinephrine ($n = 15{,}243$) or dopamine ($n = 5{,}081$) on the first day of hospitalization in a 1:3 propensity score–matched sample (Wilcoxon $p = 0.0001$).

Conclusions: In a large population-based sample of patients with septic shock in the United States, use of dopamine as initial vasopressor was associated with increased mortality among multiple clinical subgroups. Areas where use of dopamine as initial vasopressor is more common represent potential targets for quality improvement intervention

在美国一项纳入以感染性休克患者为样本的大型人口调查中，多巴胺作为初始血管升压药使用与多临床亚组死亡率增加相关。在这些使用多巴胺作为初始血管升压药的区域，更常见的有代表性的潜在目标是临床质量的提高。