四川大学
华西临床医学院 | 华西医院
West China Medical School . West China Hospital , Sichuan University

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wangshouping
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End-of-Life Expenditure in the ICU and Perceived Quality of Dying
ICU中临终费用和临终生存质量

OBJECTIVE: Although end-of-life care in the ICU accounts for a large proportion of health-care costs, few studies have examined the association between costs and satisfaction with care. The objective of this study was to investigate the association of ICU costs with family- and nurse-assessed quality of dying and family satisfaction.
目的：在ICU中，虽然临终医疗护理占医疗费用很大的比例，但很少有研究探讨成本与护理满意度的关联。本研究目的是探讨ICU费用与临终家庭对护理的满意度的关联。

METHODS: This was an observational study surveying families and nurses for patients who died in the ICU or within 30 h of transfer from the ICU. A total of 607 patients from two Seattle hospitals were included in the study. Survey data were linked with administrative records to obtain ICU and hospital costs. Regression analyses assessed the association between costs and outcomes assessing satisfaction with care: nurse- and family-assessed Quality of Death and Dying (QODD-1) and Family Satisfaction in the ICU (FS-ICU).

方法：这是一项回顾性研究，调查在ICU的死亡患者或从ICU转出后30小时内死亡患者的护理情况。本研究纳入来自西雅图两家医院的607例患者，并获得ICU的护理记录和住院费用。采用回归分析成本与预后的关联来评估家庭对护理的满意度：即ICU中临终生活质量和家庭对护理的满意度的关联。

RESULTS: For family-reported outcomes, patient insurance status was an important modifier of results. For underinsured patients, higher daily ICU costs were significantly associated with higher FS-ICU and QODD-1 ($P < .01$ and $P = .01$, respectively); this association was absent for privately insured or Medicare patients ($P = .50$ and $P = .85$, QODD-1 and FS-ICU, respectively). However, higher nurse-assessed QODD-1 was significantly associated with lower average daily ICU cost and total hospital cost ($P < .01$ and $P = .05$, respectively).

结论：家庭调查报告显示患者是否参保是影响结果重要的因素。对于参保患者，高额的ICU住院费用与临终生活质量和家庭对护理的满意度有相关性；然而，护理评估的显示，较高的患者的每日成本，较差的死亡质量。这些发现高度强调家庭和医疗人员的观点的不同和保险状况的重要作用。

CONCLUSIONS: Family-rated satisfaction with care and quality of dying varied depending on insurance status, with underinsured families rating satisfaction with care and quality of dying higher when average daily ICU costs were higher. However, patients with higher costs were assessed by nurses as having a poorer quality of dying. These findings highlight important differences between family and clinician perspectives and the important role of insurance status.

结论：家庭对护理的满意度和临终质量取决于保险的状态。参保患者的家庭对护理的满意度更高的同时，ICU平均住院费用更高。然而，护理费用更高的患者，其临终生活质量较差。这些结果显示家庭和临床医生的观点与患者保险状况是有不同的。

Prognostic Significance of Visceral Pleural Involvement in Early-Stage Lung Cancer
脏层胸膜受累判断早期肺癌患者的预后

BACKGROUND: Visceral pleural invasion (VPI) may impact non-small cell lung cancer (NSCLC) survival. However, previous studies are mixed as to whether VPI is an independent prognostic factor in early-stage cancers and whether its effect is size dependent. In the current American Joint Committee on Cancer (AJCC) staging system, VPI leads to upstaging of cancers < 3 cm but not of those 3 to 7 cm in size.
背景：脏层胸膜浸润（VPI）可能会影响非小细胞肺癌（NSCLC）的预后。然而，以往的研究对于VPI是否是早期癌症的独立预后因素以及取决于其大小，目前尚不明确。根据目前的美国癌症联合委员会（AJCC）分期系统，VPI <3厘米可能导致癌症，并非是3-7厘米大小。

METHODS: Using the Surveillance, Epidemiology, and End Results (SEER) registry, we identified 16,315 patients with stage I-II NSCLC treated with lobectomy. We used the Kaplan-Meier method and Cox regression to assess the association of VPI with lung cancer-specific (primary outcome) and overall survival. Based on these results, we created a revised VPI staging classification.

方法：利用监测，流行病学和最终结果注册表，我们对I期，II期NSCLC16315例患者采用治疗肺叶切除术。采用Kaplan-Meier法和Cox回归，评估VPI与肿瘤特异性指标（主要终点）和总生存期的关联。基于这些结果，建立了一个修正VPI分期。

RESULTS: Overall, 3,389 patients (21%) had VPI. Kaplan-Meier analysis stratified by tumor size showed worse cancer-specific survival in patients with VPI (*P* < .0001). VPI was independently associated with decreased lung cancer-specific survival (hazard ratio, 1.38; 95% CI, 1.29-1.47) after controlling for tumor size and other confounders; this effect was not size dependent. In our revised classification, tumors < 7 cm with VPI were upstaged to the next T category.

结果：总体而言，3389（21%）例患者有VPI。Kaplan-Meier分析显示，对于不同大小的肿瘤，伴有VPI的患者有更差的肿瘤特异性生存期（P <0.0001）。在肿瘤的大小和其他混杂因素后;VPI是降低肺癌生存期的独立相关因素（风险比：1.38，95%置信区间1.29-1.47），但是肿瘤的大小并不是独立相关因素。在我们修订后的分期，肿瘤<7厘米伴有VPI将进入分期系统

CONCLUSIONS: VPI is a prevalent finding associated with worse prognosis in early-stage lung cancer, even among patients with tumors > 3 cm, a factor not captured in the current staging system. Patients with VPI may be considered candidates for more aggressive treatment.

结论：VPI是早期肺癌的较差预后的预测指标，尤其是肿瘤> 3厘米的患者。这一类在目前的分期中并没有。伴有VPI的早期患者可以考虑更积极的治疗。

Long-term Effects of a Program to Increase Physical Activity in Smokers
一项增加吸烟患者体育活动计划的长期效果

BACKGROUND: Programs aimed at increasing physical activity in daily life (PADL) have generated growing interest to prevent the deleterious effects of physical inactivity. Recent literature has shown that a short-term protocol using pedometers increased PADL in smokers with normal lung function. However, the long-term effects of such a protocol were not yet studied. The objective of this study was to evaluate the results of 1-year follow-up after a program aimed at increasing PADL in smokers with normal lung function.
背景：一项旨在提高日常生活中（PADL）体力活动用以防止身体缺乏活动后的有害影响越来越受到重视。最近的文献表明，一个短期使用计步器增加肺功能正常的吸烟患者的PADL的项目。但是，此项目的长期效果还没有被研究。这项研究的目的旨在评估增加肺功能的吸烟患者的PADL后 1年随访的结果。

METHODS: Twenty-four smokers were followed (15 men; mean [interquartile range (IQR)], 51 [41-57] years of age; BMI, 26 [22-29] kg/m2; 20 [20-30] cigarettes/d). Subjects were assessed at baseline, immediately after completion of the program, and 1 year later for PADL, lung function, 6-min walking distance (6MWD), smoking habits, quality of life, anxiety, and depression. The 5-month program used pedometers and informative booklets as interventions.

方法：随访24个吸烟者（15男人;平均51岁，[四分位距（IQR）][41-57]岁; BMI，26[22-29]公斤/平方米;20[20-30]香烟/ D）。评估完受试者基准水平，完成1年的PADL，检测患者肺功能，6分钟步行距离（6MWD），吸烟习惯，生活质量，焦虑和抑郁量。在5个月的过程中使用计步器和信息小册子的进行干预。

RESULTS: The gains achieved after the program were maintained in the long term: steps/d (postprogram vs 1-year follow-up, mean [IQR]: 10,572 [9,804-12,237] vs 10,438 [9,151-12,862]); 6MWD (625 [530-694] m, 88 [81-97] % predicted vs 609 [539-694] m, 89 [81-96] % predicted), anxiety (34 [26-41] points vs 35 [36-47] points) and depression (6 [2-9] points vs 5 [2-11] points) (*P* > .05 for all). One year after the program, 20% of the subjects had quit smoking.

结果：该方案取得的涨幅维持在一个长期的水平：步/天（1年随访评估，完成项目后立即评估，平均[IQR]：10572[9,804-12,237] VS10438[9,151-12,862]）；6MWD（625[530-694]米，88[81-97]%VS预测609[539-694]米，89[81-96]%预计值），焦虑（34[26-41]分VS 35[36 -47]点）和抑郁（6[2-9]分比5[2-11]分）（P>0.05）。1年后随访显示， 20%受试者戒烟。

CONCLUSIONS: In smokers with normal lung function, improvements in daily physical activity, exercise capacity, anxiety, and depression obtained through a 5-month program aimed at increasing physical activity are sustained 1 year after completion of the program. Furthermore, such a program can contribute to smoking cessation in this population.

结论:肺功能正常的吸烟者中,通过一个5个月的锻炼计划，提高体育运动，并在计划完成后维持1年，改善了受试者日常体育活动,锻炼能力,焦虑和抑郁。而且,这样一个过程有助于戒烟。

Pulmonary Changes of Pleural TB:Up-to-Date CT Imaging
胸膜结核肺的变化：最新的CT成像

BACKGROUND: The objective of this study was to evaluate pulmonary abnormalities of pleural TB by CT scanning and to determine CT scan findings for the development of the paradoxical response (PR).
背景：本研究旨在通过CT扫描评估胸膜结核的肺部异常情况，并确定CT扫描结果的反常反应（PR）的发展。

METHODS: CT scans were performed for 349 patients with pleural TB (between 2008 and 2013). We excluded 34 patients with coexisting pulmonary disease (n = 13) or a totally collapsed lung (n = 21). We analyzed CT scans focusing on pulmonary abnormalities such as the presence of consolidation, cavitation, interlobular septal thickening, and micronodules and their distribution. In addition, we recorded the development of PR during follow-up and statistically analyzed differences in clinical and CT scan findings between patients with and without PR.

方法： 349例胸膜结核患者进行了CT扫描 (2008年至2013年)。排除了34例同时患有肺病(n = 13)或一个完全倒塌肺(n = 21)的患者。CT扫描结果分析显示：肺部异常如肺实变、空洞、小叶间隔增厚,和微小结节及其分布。此外,在随访中，记录反常效应，统计分析是否伴有反常效应的患者在临床以及CT扫描结果之间的差异,。

RESULTS: A total of 270 of 315 patients (86%) had pulmonary abnormalities. Common CT scan findings were micronodules (n = 209 [77%]), interlobular septal thickening (n = 202 [75%]), and consolidation (n = 120 [44%]). Cavitation was seen in 49 patients (18%). Among 209 with micronodules, the nodules were in the subpleural region (n = 146 [70%]), peribronchovascular interstitium (n = 113 [54%]), and centrilobular region (n = 64 [31%]). PR occurred in 81 patients (26%), and patients with PR tended to be young, male, and without underlying disease (*P* < .05 by *t* test, Pearson χ2 test). Subpleural micronodules were more common in patients with PR than in those without PR (Pearson χ2, *P* = .025).

结果:315例患者中共有270 例(86%)存在肺部异常。常见的CT扫描结果为微小结节(n = 209[77%])、小叶间隔增厚(n = 202[75%]),和融合(n = 120[44%])，肺部空洞有49例(18%)。在209例并发微小结节的患者中,结节在胸膜下区(n = 146[70%]),支气管血管周围间质(n = 113[54%]),和小叶中心的地区(n = 64[31%])。反常效应发生81例(26%),具有反应效应的往往是年轻患者,男性,没有潜在疾病(P <。05，通过t检验,χ2检验)。胸膜下微小结节更常见于具有反常效应的患者，而不是没有反常效应患者(,P = .025)。

CONCLUSIONS: Pulmonary abnormalities are very common in pleural TB. The most common CT scan findings were micronodules in the subpleural and peribronchovascular interstitium and interlobular septal thickening, suggesting the lymphatic spread of TB. In addition, PR is not rare in patients with pleural TB, especially in young, previously healthy, male patients who show subpleural nodules on initial CT scans.

结论:胸膜结核患者肺部异常非常普遍。最常见的CT扫描结果是胸膜下微小结节及支气管血管周围间质及小叶间隔增厚,表明结核是淋巴途径传播。此外,反常效应在胸膜结核患者并不少见,尤其是在年轻,既往体健,男性、首次CT扫描显示胸膜下结节的患者。

Assessment of the Safety and Efficiency of Using an Age-Adjusted D-dimer Threshold to Exclude Suspected Pulmonary Embolism
使用年龄校正的D-二聚体以排除可疑肺栓塞的安全性及有效性评估

BACKGROUND: D-dimer levels increase with age, and research has suggested that using an age-adjusted D-dimer threshold may improve diagnostic efficiency without compromising safety. The objective of this study was to assess the safety of using an age-adjusted D-dimer threshold in the workup of patients with suspected pulmonary embolism (PE).

背景：随着年龄的增长，D-二聚体增加。最近的研究表明，使用年龄校正的D-二聚体可提高诊断效率，而且不影响安全性。本研究的目的是评估使用年龄校正D-二聚体诊断疑似肺栓塞（PE）的安全性。

METHODS: We report the outcomes of 923 patients aged > 50 years presenting to our ED with suspected PE, a calculated Revised Geneva Score (RGS), and a D-dimer test. All patients underwent CT pulmonary angiography (CTPA). We compared the false-negative rate for PE of a conventional D-dimer threshold with an age-adjusted D-dimer threshold and report the proportion of patients for whom an age-adjusted D-dimer threshold would obviate the need for CTPA.

方法：923例患者，年龄> 50岁，疑似肺栓塞患者，Geneva评分（RGS），检测D-二聚体。所有患者均行CT肺动脉造影（CTPA）。我们比较了PE患者的常规的D-二聚体与年龄调整后的D-二聚体的假阴性率的比例，年龄校正后D-二聚体可避免行CTPA 。

RESULTS: Among 104 patients with a negative conventional D-dimer test result and an RGS ≤ 10, no PE was observed within 90 days (false-negative rate, 0%; 95% CI, 0%-2.8%). Among 273 patients with a negative age-adjusted D-dimer result and an RGS ≤ 10, four PEs were observed within 90 days (false-negative rate, 1.5%; 95% CI, 0.4%-3.7%). We observed an 18.3% (95% CI, 15.9%-21.0%) absolute reduction in the proportion of patients aged > 50 years who would merit CTPA by using an age-adjusted D-dimer threshold compared with a conventional D-dimer threshold.

结果： 观察到104例常规的D二聚体检测结果阴性、RGS≤10，随访90天的患者（假阴性率，0％;95％CI，0％-2.8％）。在273例为校正年龄的D-二聚体检测结果阴性、RGS≤10的患者中，在90天内观察到4例PE患者（假阴性率1.5％;95％CI，0.4％-3.7％）。我们观察到，对于年龄大于50岁的需要行CTPA检查的患者，通过校正年龄的D-二聚体检测可以绝对减少18.3％（95％CI，15.9％-21.0％）。

CONCLUSIONS: Use of an age-adjusted D-dimer threshold reduces imaging among patients aged > 50 years with an RGS ≤ 10. Although the adoption of an age-adjusted D-dimer threshold is probably safe, the CIs surrounding the additional 1.5% of PEs missed necessitate prospective study before this practice can be adopted into routine clinical care.

结论：对于年龄大于50岁，RGS≤ 10分的患者，使用的校正年龄D-二聚体检测可以减少影像学检查。虽然采用的校正年龄的D-二聚体检测可能是安全的，但是确诊可信区间外的附加1.5％的PE患者，必要的前瞻性研究这种做法可以采取纳入日常临床医疗中。

The Association of Weight With the Detection of Airflow Obstruction and Inhaled Treatment Among Patients With a Clinical Diagnosis of COPD

重量与气流阻塞和吸入治疗的COPD患者的临床诊断的关联

BACKGROUND: Most patients with a clinical diagnosis of COPD have not had spirometry to confirm airflow obstruction (AFO). Overweight and obese patients report more dyspnea than normal weight patients, which may be falsely attributed to AFO. We sought to determine whether overweight and obese patients who received a clinical diagnosis of COPD were more likely to receive a misdiagnosis (ie, lack of AFO on spirometry) and be subsequently treated with inhaled medications.

背景：多数慢性阻塞性肺疾病（COPD）的的患者并没有用肺功能检查以确认气流阻塞（AFO）。超重和肥胖患者比正常体重的患者容易发生呼吸困难，这可能是错误地归因于AFO。我们试图确定临床确诊为COPD的超重/肥胖患者是否更有可能被“误诊”（AFO缺乏肺活量测定明确）以及随后吸入药物治疗。

METHODS: The cohort comprised US veterans with COPD (*International Classification of Diseases, 9th Revision*, code; inhaled medication use; or both) and spirometry measurements from one of three Pacific Northwest Veterans Administration Medical Centers. The measured exposures were overweight and obesity (defined by BMI categories). Outcomes were (1) AFO on spirometry and (2) escalation or deescalation of inhaled therapies from 3 months before spirometry to 9 to 12 months after spirometry. We used multivariable logistic regression with calculation of adjusted proportions for all analyses.

方法：本研究为队列研究，针对三个西北太平洋VA医疗中心之一的美国退伍军人中有明确COPD（ICD-9代码和/或吸入药物使用）和有肺活量检查的进行研究。暴露因素：超重和肥胖（体重指数（BMI））。结果显示：（1）对气流阻塞的肺功能检查肺功能，（2）从肺功能检查的3个月到肺功能检查后9-12个月吸入药物是否升级。我们采用多变量logistic回归分析。

RESULTS: Fifty-two percent of 5,493 veterans who had received a clinical diagnosis of COPD had AFO. The adjusted proportion of patients with AFO decreased as BMI increased (*P* < .01 for trend). Among patients without AFO, those who were overweight and obese were less likely to remain off medications or to have therapy deescalated (adjusted proportions: normal weight, 0.69 [95% CI, 0.64-0.73]; overweight, 0.62 [95% CI, 0.58-0.65; *P* = .014]; obese, 0.60 [95% CI, 0.57-0.63; *P* = .001]).

结果： 5493位临床诊断为COPD的老兵中52%伴有ASO。AFO随着BMI的增加而减少(P <.01)。没有AFO的患者，超重和肥胖的人不太可能维持药物或疗法的逐渐降级治疗(调整比例:正常体重,0.69 [95% CI, 0.64-0.73])。超重, [95% CI, 0.58-0.65; *P* = .014]; 肥胖, 0.60 [95% CI, 0.57-0.63; *P* = .001])。

CONCLUSIONS: Overweight and obese patients are more likely to be given a misdiagnosis of COPD and not have their inhaled medications deescalated after spirometry demonstrated no AFO. Providers may be missing potential opportunities to recognize and treat other causes of dyspnea in these patients.

结论：超重和肥胖患者更容易被误诊为COPD；他们停止吸入药物，逐步降级治疗药物后，其肺功能测定并没有AFO。这些患者出现呼吸困难可能有其他潜在的原因。

The Effect of Point-of-Care Ultrasonography on Imaging Studies in the Medical ICU:A Comparative Study
一项MICU关于影像研究中的及时超声的对比研究

BACKGROUND: Point-of-care ultrasonography performed by frontline intensivists offers the possibility of reducing the use of traditional imaging in the medical ICU (MICU). We compared the use of traditional radiographic studies between two MICUs: one where point-of-care ultrasonography is used as a primary imaging modality, the other where it is used only for procedure guidance.
背景:及时超声可能减少使用传统的影像学在医疗ICU(MICU)。我们在两个MICU中比较使用传统影像学研究:一个医疗点超声检查作主要的成像方式,另一个,是只用于过程指导。

METHODS: This study was a retrospective 3-month chart review comparing the use of chest radiographs, CT scans (chest and abdomen/pelvis), transthoracic echocardiography performed by the cardiology service, and DVT ultrasonography studies performed by the radiology service between two MICUs of similar size and acuity and staffing levels.

方法:本研究回顾3个月检查，比较使用胸片、CT扫描(胸部和腹部/骨盆),经胸廓的超声心动图,和深静脉血栓形成的超声检查,在两个MICU的放射学服务类似的敏锐度和人员水平。

RESULTS: Total number of admissions, patient demographics, and disease acuity were similar between MICUs. Comparing the non-point-of-care ultrasonography MICU with the point-of-care ultrasonography MICU, there were 3.75 ± 4.6 vs 0.82 ± 1.85 (P < .0001) chest radiographs per patient, 0.10 ± 0.31 vs 0.04 ± 0.20 (P = .0007) chest CT scans per patient, 0.17 ± 0.44 vs 0.05 ± 0.24 (P < .0001) abdomen/pelvis CT scans per patient, 0.20 ± 0.47 vs 0.02 ± 0.14 (P < .0001) radiology service-performed DVT studies per patient, and 0.18 ± 0.40 vs 0.07 ± 0.26 (P < .0001) cardiology service-performed transthoracic echocardiography studies per patient, respectively.

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结果:纳入两个MICU中相似的人数、病人分布,和疾病的状况相似。比较non-point-of-care超声与point-of-care超声, 每个病人胸片有3.75±4.6 vs 0.82±1.85(P <0.0001), 每个患者胸部CT扫描0.10±0.31 vs 0.04±0.20(P = .0007),每个病人腹部/骨盆CT扫描0.17±0.44 vs 0.05±0.24(P <0.0001)， 深静脉血栓形成,0.20±0.47 vs 0.02±0.14(P <0.0001),和超声心动图0.18±0.40 vs 0.07±0.26(P < 0,0001

结论: 在MICU中使用point-of-care超声可以显著减少放射学和心脏病专科会诊。

CONCLUSIONS: The use of point-of-care ultrasonography in an MICU is associated with a significant reduction in the number of imaging studies performed by the radiology and cardiology services.

结论: 在MICU中使用point-of-care超声可以显著减少放射学和心脏病专科会诊。

Diagnosis of Ventilator-Associated Pneumonia:A Pilot, Exploratory Analysis of a New Score Based on Procalcitonin and Chest Echography

呼吸机相关肺炎的诊断：一项基于降钙素原和胸部超声的探索性研究。

BACKGROUND: To facilitate the clinical diagnosis of ventilator-associated pneumonia (VAP) in the ICU, the Clinical Pulmonary Infection Score (CPIS) has been proposed but has shown a low diagnostic performance in subsequent studies. We propose a new score based on procalcitonin level and chest echography with the aim of improving VAP diagnosis: the Chest Echography and Procalcitonin Pulmonary Infection Score (CEPPIS).

背景：为了促进呼吸机相关性肺炎（VAP）在ICU的临床诊断，临床肺部感染评分（CPIS）已被提出，但在随后的研究中显示出其较低的诊断性。因此，我们提出了一个基于降钙素原和胸部超声的新的评分系统以提高VAP的诊断：胸部超声检查和降钙素原肺部感染评分（CEPPIS）。

METHODS: This retrospective pilot study recruited patients admitted to the Intensive Care Unit of the Emergency Department, Careggi University Hospital (Florence, Italy), from January 2009 to December 2011. Patients were retrospectively divided into a microbiologically confirmed VAP group or a control group based on diagnosis of VAP and positive tracheal aspirate culture.

方法：本回顾性研究从2009年1月开始至2011年12月，研究在Careggi大学医院（佛罗伦萨，意大利）急诊科重症监护室住院治疗的患者。回顾性分析了患者的临床资料，分为以微生物学确诊的VAP和基于气管吸出物培养阳性诊断为VAP的对照组。

RESULTS: A total of 221 patients were included, with 113 in the microbiologically confirmed VAP group and 108 in the control group. A CEPPIS > 5 retrospectively fixed was significantly better in predicting VAP (OR, 23.78; sensitivity, 80.5%; specificity, 85.2%) than a CPIS > 6 (OR, 3.309; sensitivity, 39.8%; specificity, 83.3%). The receiver operating characteristic area under the curve analysis also showed a significantly higher diagnostic value for CEPPIS > 5 than CPIS > 6 (0.829 vs 0.616, respectively; $P < .0001$).

结果：共纳入221例患者，微生物学证实VAP组108例，对照组113例。一个回顾性评估CEPPIS>5可以显著地预测VAP (OR, 23.78; sensitivity, 80.5%; specificity, 85.2%) than a CPIS > 6 (OR, 3.309; sensitivity, 39.8%; specificity, 83.3%). 。曲线分析方面也表现出了CEPPIS>5比CPIS>6具有较高的诊断价值（ 0.829 vs 0.616, respectively; $P < .0001$).

CONCLUSIONS: In this pilot, exploratory analysis, CEPPIS is effective in predicting VAP. Prospective validation is needed to confirm the potential value of this score to facilitate VAP diagnosis.

结论：在这个探索性分析的实验中，CEPPIS可以有效的预测VAP。而前瞻性的验证是必要的，以确认这个分数的潜在价值，以便VAP的诊断。

Integrated Use of Bedside Lung Ultrasound and Echocardiography in Acute Respiratory Failure:A Prospective Observational Study in ICU

对急性呼吸衰竭床旁肺部超声和超声心动图的综合运用：在ICU的前瞻性观察研究

BACKGROUND: It has been suggested that the complementary use of echocardiography could improve the diagnostic accuracy of lung ultrasonography (LUS) in patients with acute respiratory failure (ARF). Nevertheless, the additional diagnostic value of echocardiographic data when coupled with LUS is still debated in this setting. The aim of the current study was to compare the diagnostic accuracy of LUS and an integrative cardiopulmonary ultrasound approach (thoracic ultrasonography [TUS]) in patients with ARF.

背景：目前有建议配套使用超声心动图可以改善肺超声（LUS）在急性呼吸衰竭（ARF）的诊断准确性。然而，超声心动图的数据加上LUS的诊断价值仍有争议。当前研究的目的是比较ARF患者LUS和综合心肺超声法（超声胸[TUS]）诊断的准确率。

METHODS: We prospectively recruited patients consecutively admitted for ARF to the ICU of a university teaching hospital over a 12-month period. Inclusion criteria were age ≥ 18 years and the presence of criteria for severe ARF justifying ICU admission. We compared both LUS and TUS approaches and the final diagnosis determined by a panel of experts using machine learning methods to improve the accuracy of the final diagnostic classifiers.

方法：前瞻性纳入患者，连续收治了在一所大学的教学医院12个月内的ICU的ARF患者。入选标准为≥18岁和符合ICU入住标准的严重ARF患者。我们比较lus和TUS方法在专家小组确定最终的诊断准确性。

RESULTS: One hundred thirty-six patients were included (age, 68 ± 15 years; sex ratio, 1). A three-dimensional partial least squares and multinomial logistic regression model was developed and subsequently tested in an independent sample of patients. Overall, the diagnostic accuracy of TUS was significantly greater than LUS ($P < .05$, learning and test sample). Comparisons between receiver operating characteristic curves showed that TUS significantly improves the diagnosis of cardiogenic edema ($P < .001$, learning and test samples), pneumonia ($P < .001$, learning and test samples), and pulmonary embolism ($P < .001$, learning sample).

结果：10036例患者（年龄68±15岁;男女比例，1）。采用多元回归模型，随后患者的独立样本进行测试。总体而言，TUS的诊断准确率显著高于LUS（P <0.05，学习和测试样品）。受试者工作特征曲线之间的比较显示，TUS显著提高心源性水肿（P <0.001，学习和测试样本），肺炎（P <0.001，学习和测试样品），和肺栓塞（P <0.001，学习样本）的诊断。

CONCLUSIONS: This study demonstrated for the first time to our knowledge a significantly better performance of TUS than LUS in the diagnosis of ARF. The value of the TUS approach was particularly important to disambiguate cases of hemodynamic pulmonary edema and pneumonia. We suggest that the bedside use of artificial intelligence methods in this setting could pave the way for the development of new clinically relevant integrative diagnostic models.

结论： 本研究首次证明了在ARF的诊断中TUS比LUS具有更好的诊断价值。TUS的诊断方法是特别适用消除血流动力学影响肺水肿和肺炎病例。我们建议除了此设置，可以为开发新的床边使用人工智能方法用于临床相关的综合诊断模型。

Nurse Practitioner/Physician Assistant Staffing and Critical Care Mortality
护士执业/助理医师人员配备与危重监护死亡率

BACKGROUND: ICUs are increasingly staffed with nurse practitioners/physician assistants (NPs/PAs), but it is unclear how NPs/PAs influence quality of care. We examined the association between NP/PA staffing and in-hospital mortality for patients in the ICU.
背景：ICU正越来越多地配备了护士执业/助理医师（NP / PAS），但目前还不清楚他们是如何影响医疗质量。我们研究在ICU NP / PA工作人员和住院死亡率之间的关联。

METHODS: We used retrospective cohort data from the 2009 to 2010 APACHE (Acute Physiology and Chronic Health Evaluation) clinical information system and an ICU-level survey. We included patients aged ≥ 17 years admitted to one of 29 adult medical and mixed medical/surgical ICUs in 22 US hospitals. Because this survey could not assign NPs/PAs to individual patients, the primary exposure was admission to an ICU where NPs/PAs participated in patient care. The primary outcome was patient-level in-hospital mortality. We used multivariable relative risk regression to examine the effect of NPs/PAs on in-hospital mortality, accounting for differences in case mix, ICU characteristics, and clustering of patients within ICUs. We also examined this relationship in the following subgroups: patients on mechanical ventilation, patients with the highest quartile of Acute Physiology Score (> 55), and ICUs with low-intensity physician staffing and with physician trainees.

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方法：采用回顾性队列研究，分析 2009-2010急性生理和慢性健康评估（APACHE）的临床信息系统和ICU-水平。纳入年龄> / = 17岁、在22家美国医院29个医疗和混合医疗外科ICU的患者。由于我们的调查无法分配NP / PS到每个病人，主要是纳入在一个ICU中参与护理的NP / PAS人数。主要终点事件是患者住院病死率。采用多变量相对危险回归检验NP / PAS对住院患者病死率，ICU特征和监护病房的病人聚集的差异的影响。我们还研究了在亚组的这种关系：即患者机械通气，患者急性病理评分最高> 55，与监护病房与低年资医生和工作人员之间的关系。

RESULTS: Twenty-one ICUs (72.4%) reported NP/PA participation in direct patient care. Patients in ICUs with NPs/PAs had lower mean Acute Physiology Scores (42.4 vs 46.7, *P* < .001) and mechanical ventilation rates (38.8% vs 44.2%, *P* < .001) than ICUs without NPs/PAs. Unadjusted and risk-adjusted mortality was similar between groups (adjusted relative risk, 1.10; 95% CI, 0.92-1.31). This result was consistent in all examined subgroups.
结果：21个ICU（72.4％）有NP / PAS参与护理。在监护病房有NP / PAS护理的患者比未在加护病房NP / PAS护理的患者，有较低的平均急性生理分数(42.4 vs 46.7, *P* < .001)和机械通气率(38.8% vs 44.2%, *P* < .001) 。未经调整和风险调整后的病死率两组相似(adjusted relative risk, 1.10; 95% CI, 0.92-1.31).。这个结果在所有亚组研究一致。

CONCLUSIONS: NPs/PAs appear to be a safe adjunct to the ICU team. The findings support NP/PA management of critically ill patients.
结论：NP / PAS是一个安全的ICU团队，这一结果支持危重病人的NP/ PA的管理。