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DI GERONTOLOGIA E GERIATRIA



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Gli aspetti extrarespiratori della polmonite nell'anziano

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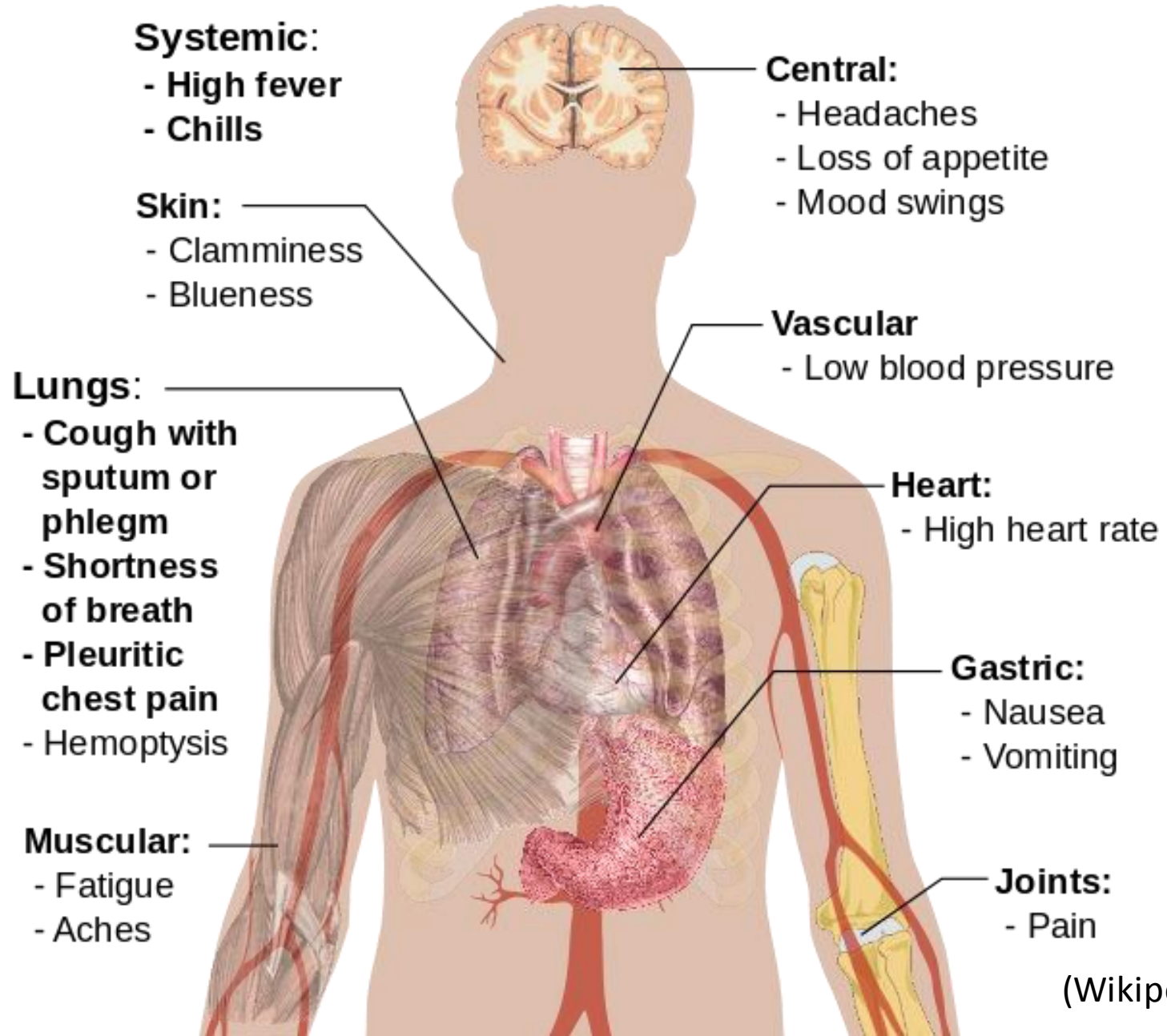
Gruppo di Ricerca Geriatrica, Brescia

Definizione di polmonite


Malattia acuta con immagine radiologica di addensamento polmonare segmentario o multiplo, non preesistente, né riferibile ad altre cause note, che compare entro 72 ore dall'esordio clinico dei sintomi.

British Thoracic Society, Thorax 2001

Main symptoms of infectious Pneumonia



**Le scale di valutazione di gravità
prendono in considerazione gli
aspetti extrarespiratori
della polmonite**



Nata il 21/11/1907, Vedova da 35 anni, 6 figli viventi (la più vecchia ha 82 anni, la più giovane 67 anni). Vive con la figlia. Anamnesi patologica remota

Indice di severità PORT: 165 (classe di rischio V, 25% mortalità)

Indice di gravità CURB: 3 (gruppo 3, 22% mortalità)

Sebbene entrambi valutino aspetti extrarespiratori della polmonite presentano dei limiti di utilizzo nel paziente anziano, in quanto il fattore “età” condiziona enormemente la classe di rischio.

Te
G
po
le cambiava lo smalto alle unghie, ha chinato la testa verso il basso e non è più stata contattabile per circa 15-20 minuti). Non altri sintomi neuro-vegetativi. Non perdita del controllo posturale.

Ripresa spontanea dello stato di vigilanza in autoambulanza.

In PS paziente vigile, confusa, aggressiva. Apirettica. SpO₂ 97%. Esami nei limiti.

All'E.O. Polmonare crepitazioni medio-basali a dx. Assenti segni di scompenso cardiaco.

Rx torace: riscontro di addensamento parenchimale inferiore dx.

Pneumonia in the very old

Jean Paul Janssens and Karl Heinz Kreuzer

The increased frequency and severity of pneumonia in the elderly is largely explained by the **ageing of organ systems** (in particular the respiratory tract, immune system, and digestive tract) and the **presence of comorbidities** due to age-associated diseases.

the prevention of pneumonia in the very old. Pneumonia in older individuals without terminal disease has to be distinguished from end-of-life pneumonia. In the latter setting, the attributable mortality of pneumonia is low and antibiotics have little effect on life expectancy and should be used only if they provide the best means to alleviate suffering. In this review, we focus on recent publications relative to CAP and NHAP in the very old, and discuss predisposing factors, microorganisms, diagnostic procedures, specific aspects of treatment, prevention, and ethical issues concerning end-of-life pneumonia.

Lancet Infect Dis 2004; 4: 112–24



Figure 1. Chest radiography in an 85-year-old man with bilateral extensive aspiration pneumonia and glottic dysfunction. There are an increased number of pathogenic bacteria (Gram-positive and Gram-negative aerobic bacteria) in the upper-respiratory tract of sick and institutionalised elderly patients, which increases the risk of pneumonia after bronchoaspiration.

Fattori di rischio atipici

Risk of pneumonia associated with use of angiotensin converting enzyme inhibitors and angiotensin receptor blockers: systematic review and meta-analysis

Daniel Caldeira, Joana Alarcão, António Vaz-Carneiro, João Costa.

In this systematic review we found that treatment with angiotensin converting enzyme (ACE) inhibitors was associated with a **significant reduction in risk of pneumonia** compared with control treatment and angiotensin receptor blockers (ARBs).

The risk of pneumonia was also reduced in patients treated with ACE inhibitors who were at higher risk of pneumonia, in particular those with stroke and heart failure.

Use of ACE inhibitors was also associated with a **reduction in pneumonia related mortality**, although the results were less robust than for overall risk of pneumonia; it is uncertain if differences exist between ACE inhibitors and ARBs for this outcome

Use of Opioids or Benzodiazepines and Risk of Pneumonia in Older Adults: A Population-Based Case–Control Study

Sascha Dublin, MD, PhD,^{*†} Rod L. Walker, MS,^{*} Michael L. Jackson, PhD, MPH,^{*} Jennifer C. Nelson, PhD,^{*‡} Noel S. Weiss, MD, PhD,[†] Michael Von Korff, ScD,^{*§} and Lisa A. Jackson, MD, MPH^{*†}

Higher pneumonia risk was observed with current use of prescription opioids in this study of community-dwelling older adults. Risk was highest with recent initiation of use (within 14 days) and with use of long-acting opioids or those classified as immunosuppressive.

No association was seen for current benzodiazepine use.

	No. (%)	No. (%)	OR (95% CI)	OR (95% CI)
Opioids				
No use	838 (88.9)	1,827 (89.3)	1.00	1.00
Current use	144 (13.9)	161 (8.0)	1.91 (1.55–2.36)	1.38 (1.08–1.76)
Past use	200 (19.2)	334 (16.5)	1.31 (1.12–1.54)	1.06 (0.88–1.27)
Benzodiazepines				
No use	892 (85.9)	1,796 (88.8)	1.00	1.00
Current use	87 (8.4)	94 (4.6)	1.63 (1.26–2.11)	1.08 (0.80–1.47)
Past use	60 (5.8)	132 (6.5)	0.82 (0.63–1.07)	0.62 (0.46–0.85)

* Current use is defined as having ≥ 1 fills for a medication in the specified class within 5–60 days before the case's pneumonia diagnosis date. Nonusers had no fills from 5 to 365 days before the index date. Past users had ≥ 1 fills from 61 to 365 days before the index date but none in the 5–60 days before the index date.

† Adjusted for age, sex, and index date.

‡ Adjusted for matching variables above and for asthma; chronic obstructive pulmonary disease (COPD) and history of COPD hospitalization; use of home oxygen; long-term corticosteroid use for lung disease; forced expiratory volume in 1 second measured; congestive heart failure (CHF) and history of CHF hospitalization; ejection fraction measured; stroke; dementia; need for assistance with ambulation or bathing; number of outpatient visits; and use of inhaled bronchodilators, inhaled corticosteroids, oral corticosteroids, or furosemide.

The Effect of Marital Status on the Presentation and Outcomes of Elderly Male Veterans Hospitalized for Pneumonia Marital Status and Pneumonia

Mark L. Metersky, MD, FCCP; Michael J. Fine, MD; Eric M. Mortensen, MD

CHEST. October 2012;142(4):982-987

Conclusions: Unmarried elderly men admitted to the hospital with pneumonia have a higher risk of in-hospital and postdischarge mortality, despite having a lower degree of comorbidity. A reasonable possibility is that married men are encouraged to seek medical attention by their spouse and, thus, present earlier in the course of their disease than unmarried men. These results should be considered by those responsible for care-transition decisions for patients hospitalized with pneumonia.

Sintomi di presentazione atipici

The most striking characteristic of pneumonia in the very old is its **clinical presentation**: falls and

CO
sy
Il 10% dei pazienti anziani in corso di polmonite non presenta nessuno dei sintomi caratteristici (la classica triade tosse, febbre e dispnea)

Più frequentemente la polmonite si presenta con manifestazioni cliniche subdole quali **cadute inspiegabili, incontinenza, failure to thrive, o repentino aggravamento di pre-esistenti comorbidità** (diabete, scompenso cardiaco e decadimento cognitivo)

Crius	8-38	10-24
Pleural pain	9-43	4-24
Altered mental state	12-45	53-77
Focal	64-82	80

Disabilità funzionale e polmonite

Table 1. Characteristics and 6-Month Mortality Rate of 1803 Inpatients Consecutively Admitted in a Geriatric Ward for Pneumonia or Other Acute Noninfectious Diseases*

Characteristic	Acute Noninfectious		P Value
	Pneumonia (n = 241)	Diseases (n = 1562)	
Age, y	83.3 ± 6.9	79.7 ± 7.0	.001
Male, %	24.5	19.3	.001†
MMSE score	19.7 ± 9.1	22.9 ± 7.1	.001
GDS score	5.1 ± 3.2	5.1 ± 3.6	.98
Barthel Index (15 days before admission)	72.6 ± 31.5	83.8 ± 23.2	.001
Barthel Index (on admission)	55.3 ± 37.9	74.5 ± 30.0	.001
IADL (functions lost)	3.9 ± 3.0	3.1 ± 2.8	.001
Diseases, No.	6.1 ± 2.1	5.3 ± 2.0	.001
Charlson Index	8.3 ± 2.5	7.0 ± 2.6	.001
Drugs, No.	4.5 ± 2.3	4.3 ± 1.9	.19
APACHE II score	13.3 ± 6.3	7.9 ± 4.1	.001
APS-APACHE II subscore	3.8 ± 4.2	1.9 ± 2.7	.001
Serum albumin, g/dL	3.6 ± 1.3	3.9 ± 0.6	.001
Hemoglobin, g/dL	11.7 ± 2.3	12.3 ± 2.0	.02
Serum cholesterol, mg/dL	186.2 ± 51.9	204.7 ± 51.1	.001
CRP, mg/dL	7.5 ± 5.6	2.6 ± 7.8	.001
Creatinine, mg/dL	1.2 ± 0.8	1.1 ± 0.8	.20
Length of stay, d	8.1 ± 5.1	6.4 ± 3.3	.001
6-mo mortality, %	27.4	20	.001†

Abbreviations: APACHE, Acute Physiology and Chronic Health Examination; APS, Acute Physiology Score; CRP, C-reactive protein; GDS, Geriatric Depression Scale; IADL, Instrumental Activities of Daily Living; MMSE, Mini-Mental State Examination.

SI conversion factors: To convert cholesterol to millimoles per liter, multiply by 0.0259. To convert creatinine to micromoles per liter, multiply by 88.4.

*Data are mean ± SD value unless otherwise specified.

†P value derived from χ^2 test. Other P values were derived from the t test.

Table 1. Characteristics of 110 Patients Admitted to an Acute Care for the Elderly Medical Unit with a Diagnosis of Pneumonia According to Change of Functional Status (Five or More Points Loss at Barthel Index) Due to the Disease

Characteristic	Without Functional Change (n = 49)	With Functional Change (n = 61)	P-value*
Age, mean ± SD	80.2 ± 6.8	82.3 ± 6.8	.11
Female, n (%)	26 (53.1)	39 (63.9)	.33
Mini-Mental State Examination score at discharge, mean ± SD	21.9 ± 7.3	18.9 ± 9.2	.06
Barthel Index, mean ± SD			
Two weeks before hospitalization	80.6 ± 24.0	72.5 ± 25.8	.09
At admission	80.7 ± 24.0	36.4 ± 29.7	.00
At discharge	79.7 ± 26.5	43.4 ± 33.9	.00
Number of Instrumental Activities of Daily Living lost 2 weeks before hospitalization, mean ± SD	3.3 ± 2.8	5.1 ± 2.5	.004
Charlson Comorbidity Index, mean ± SD	7.5 ± 2.2	5.1 ± 2.6	.005
Acute Physiology and Chronic Health Evaluation II score, mean ± SD	13.1 ± 3.2	16.7 ± 6.7	.00
Physiology score, mean ± SD	2.7 ± 2.7	5.5 ± 5.1	.00
Serum albumin, g/dL, mean ± SD	3.7 ± 0.7	3.4 ± 0.6	.009
Serum cholesterol, mg/dL, mean ± SD	183.1 ± 44.3	158.6 ± 46.7	.02
Hemoglobin, g/dL, mean ± SD	12.3 ± 2.2	11.2 ± 2.4	.06
Number of drugs, mean ± SD	3.6 ± 1.7	4.8 ± 2.5	.005
Length of stay, mean ± SD	7.6 ± 2.8	8.9 ± 4.7	.09
Six-month mortality, n (%)	5 (10.2)	22 (36.1)	.002

*Chi-square test for comparing frequencies and Student *t* test for comparing means.
SD = standard deviation.



Predictors of 6-Month Mortality in Elderly Patients with Mild Chronic Obstructive Pulmonary Disease Discharged from a Medical Ward After Acute Nonacidotic Exacerbation

Piera Ranieri, MD,^{†} Angelo Bianchetti, MD,^{*†} Alessandro Margiotta, MD,^{*†} Adriana Virgillo, MD,^{*†} Enrico M. Clini, MD,[‡] and Marco Trabucchi, MD[†]*

Table 1. Characteristics of 244 Elderly Patients Admitted for Nonacidotic Acute Exacerbation of Chronic Obstructive Pulmonary Disease (AECOPD)

Characteristic	Value
Age, mean \pm SD	81.7 \pm 7.3
Male, n (%)	109 (44.7)
Body mass index, mean \pm SD	25.1 \pm 5.5
Mini-Mental State Examination score, mean \pm SD (range 0–30)	20.7 \pm 6.8
Cognitive Depression Scale score, mean \pm SD (range 0–15)	4.2 \pm 3.1

Barthel Index, mean \pm SD (range 0–100)

Preadmission 75.4 \pm 27.3

Admission 52.5 \pm 33.9

Discharge 67.2 \pm 31.3

Saturation of peripheral oxygen at discharge, %, mean \pm SD	95.5 \pm 2.7
Acute Physiology and Chronic Health Evaluation II score, mean \pm SD	9.7 \pm 4.2
Charlson index, mean \pm SD	4.0 \pm 1.9
Serum cholesterol, mg/dL, mean \pm SD	172.2 \pm 43.4
Serum albumin, g/dL, mean \pm SD	3.4 \pm 0.5
Erythrocyte sedimentation rate, mm/h, mean \pm SD	41.2 \pm 27.3
C-reactive protein, mg/dL, mean \pm SD	54.4 \pm 48.1
Hematocrit, %, mean \pm SD	36.4 \pm 5.5
Associated AECOPD conditions, n (%)	
None	106 (43.4)
Pneumonia	18 (7.4)
Congestive heart failure (New York Heart Association Class III–IV)	82 (33.6)
Pulmonary embolism	2 (0.8)
Other	26 (14.8)
Comorbidity, n (%)	
Hypertension	139 (59.9)
Ischemic heart disease	38 (15.6)
Cerebrovascular disease	81 (33.2)
Vascular peripheral disease	57 (23.4)
Dementia	38 (15.6)
Diabetes mellitus	81 (33.2)
Malignancies	53 (21.7)
Length of stays, days, mean \pm SD	8.8 \pm 4.8

SD = standard deviation.

Predictors of 6-Month Mortality in Elderly Patients with Mild Chronic Obstructive Pulmonary Disease Discharged from a Medical Ward After Acute Nonacidotic Exacerbation

*Piera Ranieri, MD,**† Angelo Bianchetti, MD,**† Alessandro Margiotta, MD,**† Adriana Virgillo, MD,**† Enrico M. Clini, MD,† and Marco Trabucchi, MD†*

JAGS, 2008

Table 2. Comparison of Clinical Variables Associated with 6-Month Survival

Variables	Survivors (n = 195)	Nonsurvivors (n = 45)	P-Value
	Mean ± Standard Deviation		
Age	81.2 ± 7.3	83.1 ± 6.9	.57
Body mass index	25.5 ± 5.2	22.8 ± 5.6	.005
Mini-Mental State Examination score (range 0–30)	21.2 ± 6.4	18.2 ± 7.9	.04
Geriatric Depression Scale score (range 0–15)	4.1 ± 3.1	5.3 ± 3.4	.08
Instrumental activity of daily living functions lost (range 0–8)	3.7 ± 3.0	5.6 ± 2.4	<.001
Barthel Index (range 0–100)			
Preadmission	79.1 ± 25.5	62.1 ± 28.7	.001
Admission	57.2 ± 33.2	35.3 ± 31.1	<.001
Discharge	71.9 ± 29.0	53.2 ± 31.1	.001
Preadmission forced expiratory volume in 1 second, % predicted	67.2 ± 30.3	65.1 ± 31.1	.62
Partial pressure of arterial oxygen at admission, mmHg	62.6 ± 11.5	57.0 ± 10.6	.01
Partial pressure of arterial carbon dioxide at admission, mmHg	37.7 ± 8.3	41.4 ± 10.6	.03
Acute Physiology and Chronic Health Evaluation II score	9.1 ± 3.7	12.0 ± 5.3	<.001
Charlson index	3.8 ± 1.7	4.6 ± 2.3	.01
Serum cholesterol, mg/dL	176.7 ± 42.8	155.0 ± 41.6	.003
Serum albumin, mg/dL	3.4 ± 0.5	3.3 ± 0.3	.09
Erythrocyte sedimentation rate, mm/h	42.1 ± 27.7	38.1 ± 25.4	.39
C-reactive protein, mg/dL	54.8 ± 48.6	51.9 ± 46.3	.72
Hematocrit, %	36.6 ± 5.6	34.8 ± 5.2	.04

Table 3. Multivariate Cox Hazard Model for Factors Associated with 6-Month Mortality

Variable	β	Standard Error	Hazard Ratio	95% Confidence Interval	P-Value
Body mass index	− 0.16	0.08	0.85	0.73–0.99	.04
Barthel Index at discharge	− 0.03	0.01	0.98	0.96–0.99	.01
Acute Physiology and Chronic Health Evaluation II score	0.17	0.07	1.19	1.03–1.36	.02

Adjusted for age, sex, cognitive status, disability, comorbidity, frailty, and hypoxemia.

The Importance of Geriatric-Specific Instruments and Functional Status Assessment in Infectious Diseases Research: Time to Start Preaching to the Congregation Instead of the Choir

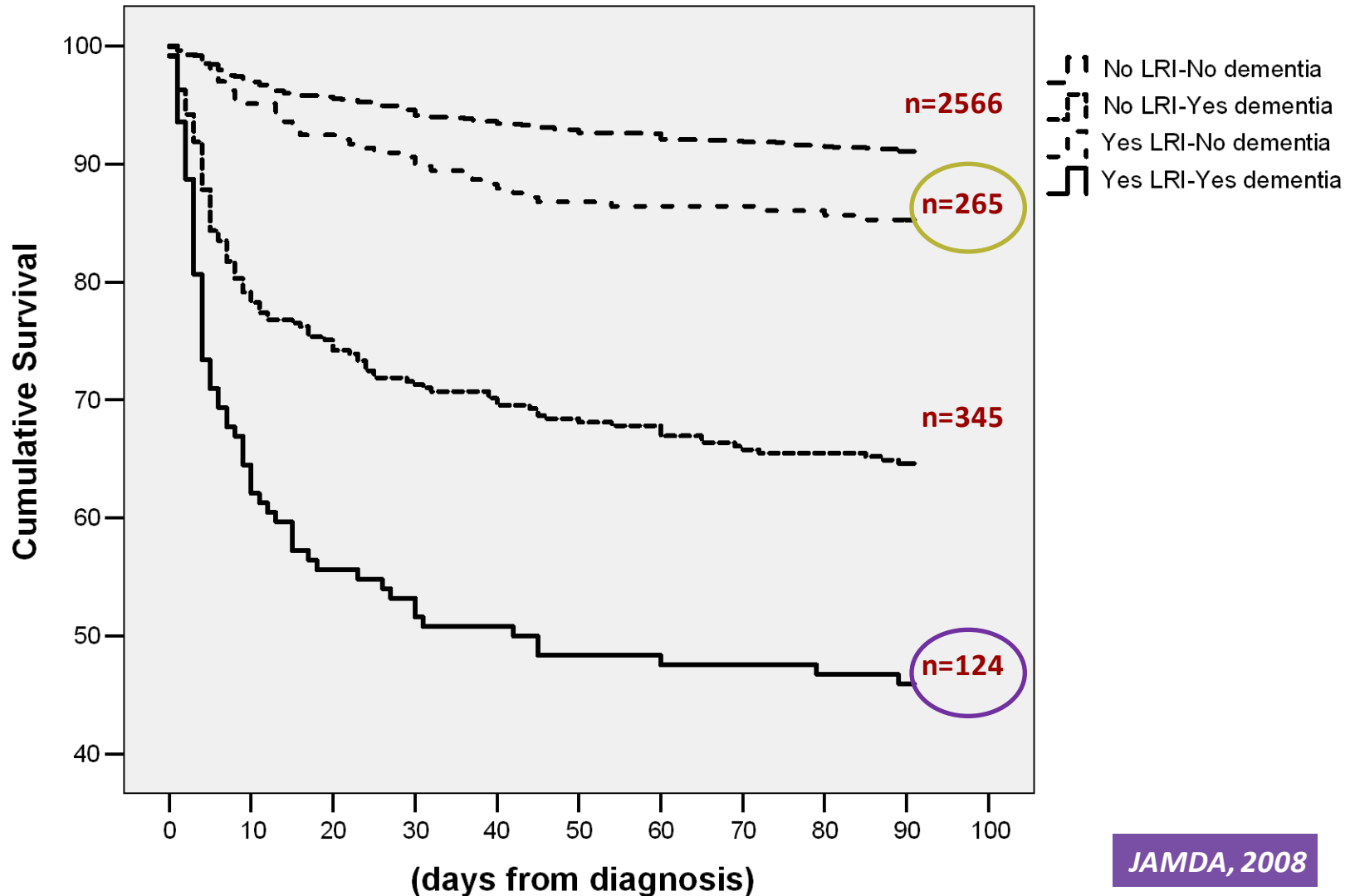
JAGS 52:1768–1770, 2004

These important studies highlight the need for clinical investigation of infectious syndromes to be more geriatric in its focus. For decades, studies of infection in the elderly have centered on changes in microbiology and the unique aspects of drug interactions or toxicity commonly found in older adults. This is not a geriatric focus. A geriatric focus includes assessments of functional capacity, cognitive impairment, comorbidity, nutritional status, social support, and frailty as important variables. Within the geriatrics and gerontology community (i.e., members of the choir) it is well recognized that specific, validated methods can rigorously measure these variables, but outside of geriatrics and gerontology (i.e., members of the congregation), age is still considered the surrogate marker for all things “geriatric.”

Figure 1. The effect of repeated infectious episodes on functional status in long-term care residents. Reprinted from¹¹ with permission.

Disabilità cognitiva e polmonite

Three months survival of elderly patients according to lower respiratory tract infection (LRI) and dementia



Long-term Cognitive Impairment and Functional Disability Among Survivors of Severe Sepsis

Theodore J. Iwashyna, MD, PhD

E. Wesley Ely, MD, MPH

Dylan M. Smith, PhD

Kenneth M. Langa, MD, PhD

COGNITIVE IMPAIRMENT AND physical disability are major health burdens and drivers of health care costs. The onset of disability is associated with worsened mortality¹ and substantial increases in medical costs over subsequent years,² including a disproportionate strain on Medicaid and Medicare. Both cognitive and physical disability impose yet further burdens on families and informal caregivers.³ Irreversible cognitive and physical impairment following acute illnesses are particularly feared outcomes and weigh heavily on patient decision making.⁴

Hundreds of thousands of patients endure severe sepsis each year in the United States.⁵ It has been suspected that many are discharged with a new—but poorly defined—constellation of cognitive and functional impairments,⁶ which may explain their reduced quality of life.⁷ Even hospitalizations for less severe illness often result in a period of functional disability⁸ and may hasten the progression of dementia.^{9,10} Long-term cogni-

Context Cognitive impairment and functional disability are major determinants of caregiving needs and societal health care costs. Although the incidence of severe sepsis is high and increasing, the magnitude of patients' long-term cognitive and functional limitations after sepsis is unknown.

Objective To determine the change in cognitive impairment and physical functioning among patients who survive severe sepsis, controlling for their presepsis functioning.

Design, Setting, and Patients A prospective cohort involving 1194 patients with 1520 hospitalizations for severe sepsis drawn from the Health and Retirement Study, a nationally representative survey of US residents (1998-2006). A total of 9223 respondents had a baseline cognitive and functional assessment and had linked Medicare claims; 516 survived severe sepsis and 4517 survived a nonsepsis hospitalization to at least 1 follow-up survey and are included in the analysis.

Main Outcome Measures Personal interviews were conducted with respondents or proxies using validated surveys to assess the presence of cognitive impairment and to determine the number of activities of daily living (ADLs) and instrumental ADLs (IADLs) for which patients needed assistance.

Results Survivors' mean age at hospitalization was 76.9 years. The prevalence of moderate to severe cognitive impairment increased 10.6 percentage points among patients who survived severe sepsis, an odds ratio (OR) of 3.34 (95% confidence interval [CI], 1.53-7.25) in multivariable regression. Likewise, a high rate of new functional limitations was seen following sepsis: in those with no limits before sepsis, a mean 1.57 new limitations (95% CI, 0.99-2.15); and for those with mild to moderate limitations before sepsis, a mean of 1.50 new limitations (95% CI, 0.87-2.12). In contrast, nonsepsis general hospitalizations were associated with no change in moderate to severe cognitive impairment (OR, 1.15; 95% CI, 0.80-1.67; *P* for difference vs sepsis = .01) and with the development of fewer new limitations (mean among those with no limits before hospitalization, 0.48; 95% CI, 0.39-0.57; *P* for difference vs sepsis < .001 and mean among those with mild to moderate limits, 0.43; 95% CI, 0.23-0.63; *P* for difference = .001). The declines in cognitive and physical function persisted for at least 8 years.

Conclusions Severe sepsis in this older population was independently associated with substantial and persistent new cognitive impairment and functional disability among survivors. The magnitude of these new deficits was large, likely resulting in a pivotal downturn in patients' ability to live independently.

Polmonite ed infiammazione sistemica

Factors associated with inflammatory cytokine patterns in community-acquired pneumonia

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ABSTRACT: Raised systemic levels of interleukin (IL)-6 and IL-10 cytokines have been associated with poorer outcome in community-acquired pneumonia. The aim of our study was to identify potential associated factors with increased levels of IL-6, IL-10, or both cytokines.

We performed a prospective study of 685 patients admitted to hospital with community-acquired pneumonia. IL-6 and IL-10 were measured in blood in the first 24 h.

30-day mortality increased from 4.8% to 11.4% ($p=0.003$) when both cytokines were higher than the median. Independent associated factors with an excess of IL-6 were neurologic disease, confusion, serum sodium <130 mEq·L⁻¹, pleural effusion, and bacteraemia. The associated factors for an excess of IL-10 were respiratory rate ≥ 30 breaths·min⁻¹, systolic blood pressure <90 mmHg and glycaemia ≥ 250 mg·dL⁻¹. The independent associated factors for an excess of both cytokines were confusion, systolic blood pressure <90 mmHg, pleural effusion and bacteraemia. Protective factors were prior antibiotic treatment and pneumococcal vaccination.

Different independent factors are related to an excess of IL-6 and IL-10. Confusion, hypotension, pleural effusion and bacteraemia were associated with the inflammatory profile with the highest mortality rate, whereas anti-pneumococcal vaccination and previous antibiotic treatment appeared to be protective factors.

TABLE 6 Independent variables related to an excess of interleukin (IL)-6, IL-10 and of both

Characteristic	IL-6		IL-10		IL-6 and IL-10	
	OR (95%CI)	p-value	OR (95%CI)	p-value	OR (95%CI)	p-value
CNS disorder	1.8 (1.2–2.8)	0.007				
Previous antibiotic treatment	0.6 (0.5–0.9)	0.015	0.4 (0.3–0.7)	<0.001	0.6 (0.4–0.9)	0.016
Anti-pneumococcal vaccination			0.5 (0.3–0.9)	0.012	0.5 (0.3–0.9)	0.027
Confusion	1.7 (1.0–2.8)	0.046			2.0 (1.2–3.3)	0.006
Respiratory rate ≥ 30 breaths·min ⁻¹			1.9 (1.3–3.0)	0.001		-
Systolic blood pressure <90 mmHg			4.8 (1.3–17.6)	0.018	2.7 (1.0–7.2)	0.050
Glycaemia ≥ 250 mg·dL ⁻¹			1.8 (1.0–3.1)	0.049		
Serum sodium <130 mmol·L ⁻¹	1.9 (1.1–3.3)	0.015				
Pleural effusion	2.1 (1.3–3.3)	0.002			1.8 (1.1–3.0)	0.013
Bacteraemia	2.5 (1.3–4.7)	0.004			2.3 (1.2–4.3)	0.008

CNS: central nervous system.

30-day mortality increased from 4.8% to 11.4% ($p=0.003$) when both cytokines were higher than the median. Independent associated factors with an excess of IL-6 were neurologic disease, confusion, serum sodium <130 mEq·L⁻¹, pleural effusion, and bacteraemia. The associated factors for an excess of IL-10 were respiratory rate ≥ 30 breaths·min⁻¹, systolic blood pressure <90 mmHg and glycaemia ≥ 250 mg·dL⁻¹. The independent associated factors for an excess of both cytokines were confusion, systolic blood pressure <90 mmHg, pleural effusion and bacteraemia. Protective factors were prior antibiotic treatment and pneumococcal vaccination.

Cardiac Complications in Patients with Community-Acquired Pneumonia: A Systematic Review and Meta-Analysis of Observational Studies

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Conclusions: Major cardiac complications occur in a substantial proportion of patients with CAP. Physicians and patients need to appreciate the significance of this association for timely recognition and management of these events. Strategies aimed at preventing pneumonia (i.e., influenza and pneumococcal vaccination) in high-risk populations need to be optimized. Further research is needed to understand the mechanisms underlying this association, measure the impact of cardiac complications on other CAP outcomes, identify those patients with CAP at high risk of developing cardiac complications, and design strategies to prevent their occurrence in this population.



REVIEW

Is community-acquired pneumonia an independent risk factor for cardiovascular disease?

A. Singanayagam*, A. Singanayagam[#], D.H.J. Elder[†] and J.D. Chalmers*

ABSTRACT: Community-acquired pneumonia (CAP) is the most frequent infectious cause of death in western countries. The high mortality rate in CAP is commonly related to comorbid conditions such as cardiovascular disease.

Clinical studies in both primary and secondary care settings have identified an increase in short- and long-term risk of cardiovascular events and death from vascular events following acute respiratory infections. The mechanism remains to be fully established, but it has been suggested that the inflammatory state in patients affected by CAP acts to promote platelet activation and thrombosis, and to narrow coronary arteries through vasoconstriction. Acute infections destabilise vascular endothelium and create an imbalance between myocardial oxygen supply and demand, leading to an increased risk of cardiovascular events. Acute infections have been shown to have both systemic effects and local effects on coronary vessels. These effects are mediated through both the host response to infection and, in some cases, direct effects of bacterial infection or bacterial products.

In this review, we discuss the link between CAP and increased risk of cardiovascular events, drawing on existing evidence from clinical and mechanistic studies. Further studies into and increased awareness of this association is warranted to promote novel ways of protecting high-risk patients.

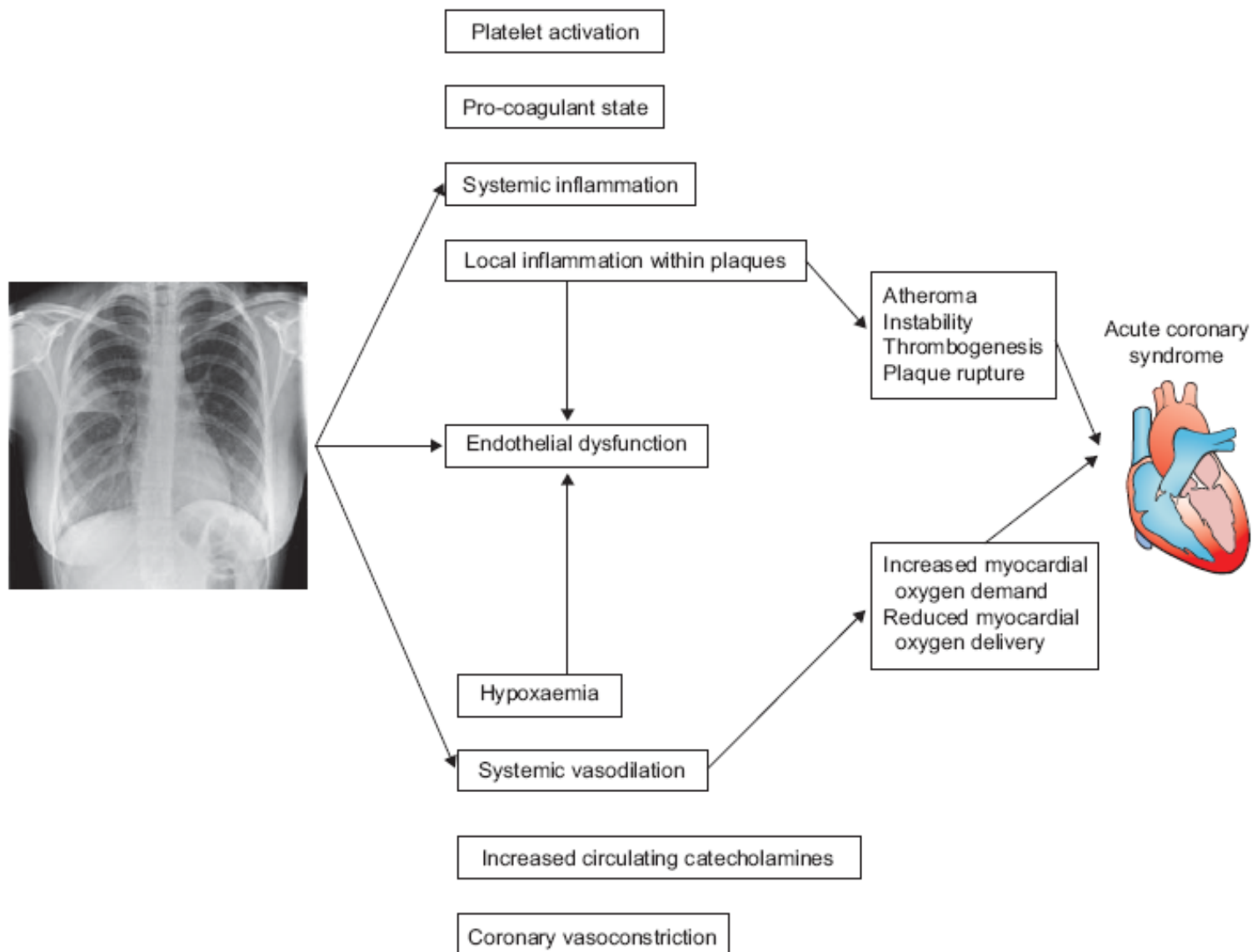


FIGURE 2. Summary of the proposed mechanisms by which community-acquired pneumonia may provoke acute coronary syndrome/acute vascular events.

Delirium e polmonite

Biomarkers for Delirium—A Review

Babar A. Khan, MD, MS,^{*†‡} Mohammed Zawahiri, MD,^{†‡} Noll L. Campbell, PharmD,^{†‡§||} and Malaz A. Boustani, MD, MPH^{†‡#}

The literature was reviewed, and no evidence was found to support the clinical use of any delirium biomarker, although certain biomarkers such as **S-100 beta** and **insulin-like growth factor-1** and **inflammatory markers** have shown some promising results that need to be evaluated in future studies with appropriate sample size, prospective designs, and in a more-generalizable population.

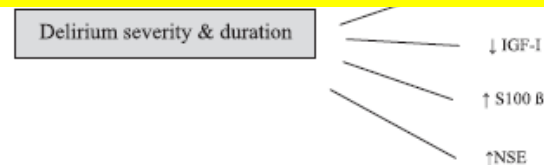
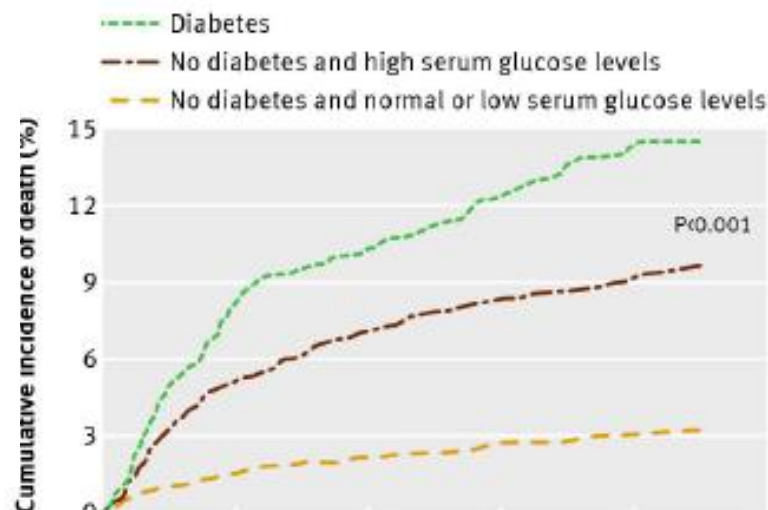
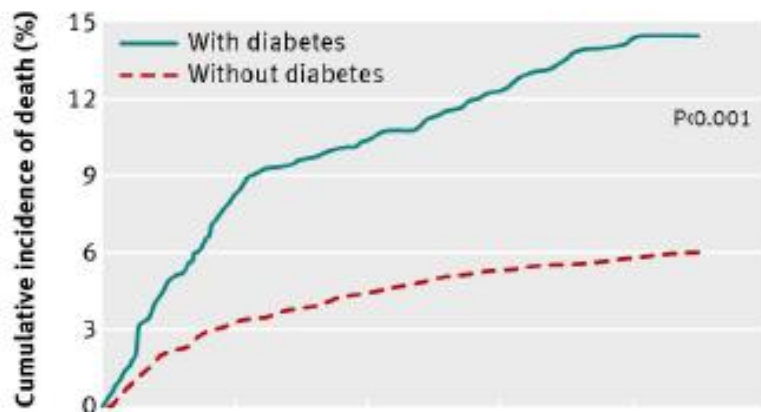


Figure 1. Complex interplay between inflammatory mediators and cholinergic system in delirium pathogenesis. IGF = insoluble growth factor; APOE = apolipoprotein E; CRP = C-reactive protein; SAA = Serum anticholinergic activity; IL = interleukin; NSE = neuro-specific enolase.

**Infine.....per quanto riguarda
gli aspetti extra-respiratori
della polmonite.....**

Serum glucose levels for predicting death in patients admitted to hospital for community acquired pneumonia: prospective cohort study



What this study adds

Mild to moderate hyperglycaemia on admission to hospital has a major impact on mortality in patients with community acquired pneumonia and previously undiagnosed diabetes

Patients with diabetes are at increased risk of death regardless of serum glucose levels on admission

Acute dysregulation of glucose metabolism as well as longstanding diabetes may have an impact on mortality in patients with community acquired pneumonia

Vi ringrazio per l'attenzione