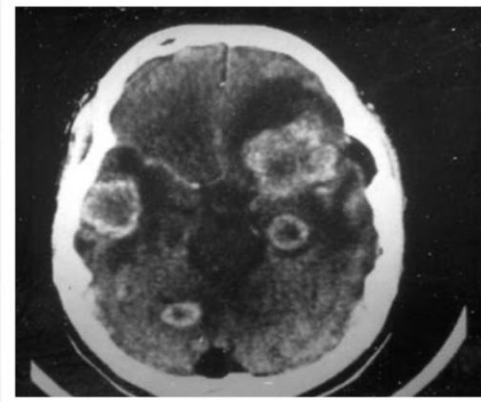
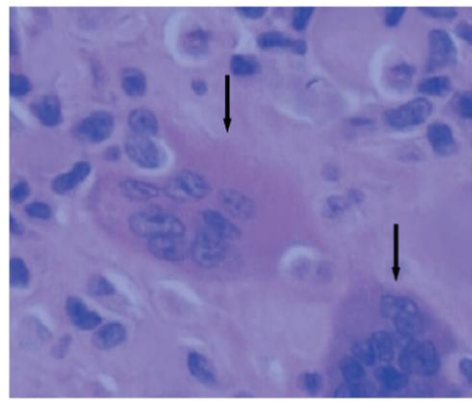


# Immunocompromised Patients in Emergency Department

**Dr. Tawfiq Almezeiny**  
**MBBS FRCPC (CCM)**

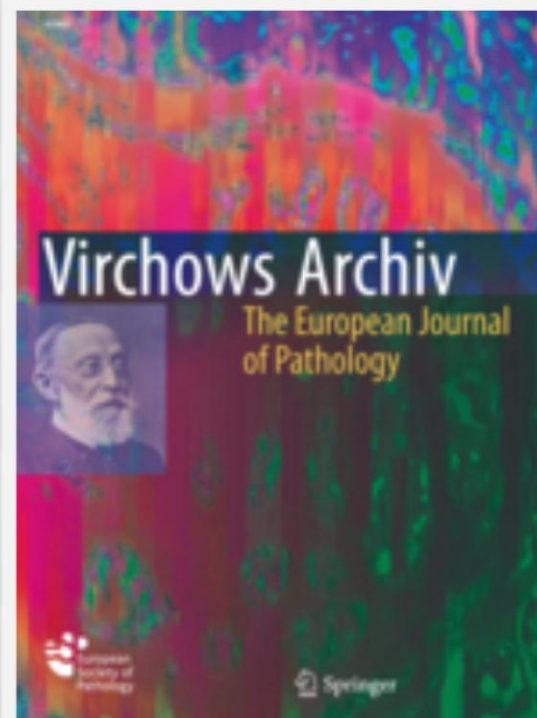


# Challenges !

- Triage screening
- Initial assessment and Initial vital signs.
- Overcrowding
- Unpredictable course in DEM
- Investigations : cost-effectiveness
- Drugs
- Disposition
- Outcome

Ana Carolina Galtarossa Xavier •  
Sheila Aparecida Coelho Siqueira •  
Luciano José Megale Costa • Thais Mauad •  
Paulo Hilário Nascimento Saldiva

## **Missed diagnosis in hematological patients—an autopsy study**



# Goldman's Classification

**Table 1** Goldman's classification for missed diagnoses (12)

Goldman's classification	Description
Class I	Major diagnoses for which detection before death, in all probability, would have led to a change in management that might have resulted in cure or prolonged survival
Class II	Major diagnoses for which detection before death would probably not have led to a change in management because no good therapy had been available at that time, because the patient presented with an acute cardiopulmonary arrest that was appropriately treated, because the patient had already received appropriate therapy although the diagnosis was not known, or because the patient had refused further evaluation or therapy
Class III	Minor diagnoses that were related to the terminal disease process but that were not directly related to death
Class IV	Minor diagnoses that were either important unrelated diagnoses that might eventually have affected prognosis or processes that contributed to death in a terminally ill patient

# Class I & II

## Class I

Hematological disease	C81, C83, C85, C90, C91.0, C91.4	15
Pneumonia	J18	5
Gastrointestinal hemorrhage, NOS*	K92.2	3
Congestive heart failure	I50.0	2
Acute pancreatitis	K85	2
Pulmonary embolism	I26	2
Invasive pulmonary aspergillosis	B44.0	2
Pulmonary edema	J81	2

## Class II

Pneumonia	J18	9
Hematological disease	C83, C91.0	5
Invasive pulmonary aspergillosis	B44.0	5
Pulmonary hemorrhage	R04.8	4
Other forms of aspergillosis	B44.8	2
Pulmonary candidiasis	B37.1	2



# Class III & IV

## Class III

Hemosiderosis	E83.1	17
Secondary malignant neoplasm of kidney and renal pelvis	C79.0	9
Pleural effusion in conditions classified elsewhere	J91	9
Secondary malignant neoplasm of other unspecified digestive organ	C78.8	5
Pulmonary hemorrhage	R04.8	4

## Class IV

Pulmonary hemorrhage NOS*	R04.8	14
Pulmonary edema	J81	8
Gastrointestinal hemorrhage, NOS*	K92.2	7
Nontraumatic intracerebral hemorrhage	I61	6
Pleural effusion in conditions classified elsewhere	J91	6
Secondary malignant lung neoplasm	C78.0	5
Chronic tubulo-interstitial nephritis	N11	5

Remarkably, none of the other factors were independently correlated with discrepancies. Our data point to factors that are certainly interconnected (e.g., BMT recipients are most likely young, etc.) so a multivariate analysis becomes crucial. Only care in a non-specialized unit such as an emergency department, internal medicine ward, ICU, etc. was independently associated with class-I discrepancy. It may reflect a greater severity of illness in these patients or may, instead, suggest a non-optimal diagnostic work-up when hematologists do not directly assist these patients. Finally, the model may not have been powerful enough to distinguish between the effects of other factors.

# Predicting the complicated neutropenic fever in the emergency department

J M Moon, B J Chun



December 2011 Volume 28 Issue 12

"[Emergency physicians] should develop an academic strategy that fits well with our potential academic strengths and the clinical needs of our patients by embracing the principles of pragmatic research and large simple trials"

## Editor's choice

Initial salivary  $\alpha$ -amylase activity predicts malignant ventricular arrhythmias and short-term prognosis after ST-segment elevation myocardial infarction

## Original article

Deliberate self-harm patients in the emergency department: factors associated with repeated self-harm among 1524 patients

## Prehospital care

Ivory wave: the next mephedrone?



# Complications

Complications	N (%)
Hypotension*	13 (34.2%)
Respiratory failure†	9 (23.7%)
Disseminated intravascular coagulation	7 (18.4%)
Renal failure‡	2 (5.3%)
Severe bleeding to require transfusion	2 (5.3%)
Altered mental state	1 (2.6%)
Arrhythmia requiring treatment	1 (2.6%)
Others	3 (7.9%)

**Table 3** Univariate analysis of outcomes for patients with neutropenic fever

	Total N (192)	Without complications N (154)	With complications N (38)	p Value
Age >65 years	37 (19.3%)	28 (18.2%)	9 (23.7%)	0.441
Male	70 (36.5%)	49 (31.8%)	21 (55.3%)	0.007
Haematological cancer	59 (30.7%)	41 (26.6%)	18 (47.4%)	0.013
Laboratory findings				
WBC <500 cells/mm <sup>3</sup>	83 (43.2%)	60 (39.0%)	23 (60.5%)	0.016
Platelets <50 000 cells/mm <sup>3</sup>	46 (24.0%)	26 (16.9%)	20 (52.6%)	<0.001
Monocytes <100 cells/mm <sup>3</sup>	92 (47.9%)	66 (42.9%)	26 (68.4%)	0.005
Neutrophils <100 cells/mm <sup>3</sup>	115 (59.9%)	91 (59.1%)	24 (63.2%)	0.647
Lymphocytes <100 cells/mm <sup>3</sup>	37 (19.3%)	25 (16.2%)	12 (31.6%)	0.032
Total protein (6–8.3 g/dl) <6.0 g/dl	51 (26.6%)	36 (23.4%)	15 (39.5%)	0.044
Albumin (3.5–5 g/dl) <3.0 g/dl	25 (13.0%)	17 (11.0%)	8 (21.1%)	0.100
BUN (8–20 mg/dl) >20 mg/dl	32 (16.7%)	22 (14.3%)	10 (26.3%)	0.075
Creatinine (0.5–1.2 mg/dl) >1.2 mg/dl	19 (9.9%)	12 (7.8%)	7 (18.4%)	0.049
CRP (0.1–1.0 mg/dl) >10 mg/dl	78 (40.6%)	52 (33.8%)	26 (68.4%)	<0.001
Positive test for urine nitrates	18 (9.4%).8%)	16 (10.4%)	2 (5.3%)	0.332
Pulmonary infiltration	18 (9.4%)	3 (1.9%)	15 (39.5%)	<0.001



## Clinical Features and Prognostic Factors in Adults with Bacterial Meningitis

van de Beek, Diederik; de Gans, Jan; Spanjaard, Lodewijk; Weisfelt, Martijn; et al. The New England Journal of Medicine  
351, 18 (Oct 28, 2004): 1849-59.

**Table 4. Multivariate Analysis of Factors Associated with an Unfavorable Outcome.\***

Characteristic	Favorable Outcome (N=459)	Unfavorable Outcome (N=237)	Odds Ratio (95% CI)†	P Value
Age — yr	45±20	60±18	1.19 (1.06–1.35)	0.005‡
Duration of symptoms <24 hr — no./no. evaluated (%)	222/440 (50)	95/221 (43)	0.70 (0.46–1.07)	0.10
Seizures — no./no. evaluated (%)	19/453 (4)	13/213 (6)	0.44 (0.17–1.12)	0.09
Pretreated with antibiotics — no./no. evaluated (%)	41/455 (9)	23/237 (10)	0.61 (0.31–1.21)	0.16
Coexisting conditions — no. (%)				
Otitis or sinusitis	100 (22)	76 (32)	1.80 (1.13–2.84)	0.01
Pneumonia	37 (8)	46 (19)	1.76 (0.96–3.21)	0.07‡
Immunocompromise§	51 (11)	63 (27)	1.63 (0.95–2.79)	0.08‡
Symptoms at presentation				
Headache — no./no. evaluated (%)	396/434 (91)	148/192 (77)	1.34 (0.71–2.54)	0.37‡
Nausea — no./no. evaluated (%)	333/429 (78)	116/181 (64)	1.03 (0.61–1.75)	0.91
Neck stiffness — no./no. evaluated (%)	397/455 (87)	172/230 (75)	1.37 (0.70–2.70)	0.36‡
Rash — no./no. evaluated (%)	146/451 (32)	30/232 (13)	0.46 (0.25–0.86)	0.01‡
Heart rate — no./no. evaluated (%)				
<60 beats/min	6/430 (1)	9/222 (4)	4.05 (0.95–17.24)	0.06‡
60–90 beats/min	166/430 (39)	49/222 (22)	1.00 —¶	—‡
>90–120 beats/min	190/430 (44)	91/222 (41)	1.42 (0.85–2.36)	0.18
>120 beats/min	65/430 (15)	76/222 (34)	2.67 (1.46–4.89)	0.002‡
Diastolic blood pressure <60 mm Hg — no./no. evaluated (%)	39/443 (9)	22/227 (10)	1.99 (0.95–4.20)	0.07
Body temperature ≥38°C — no./no. evaluated (%)	333/448 (74)	189/230 (82)	1.26 (0.67–2.37)	0.48‡
Score on Glasgow Coma Scale	10±3	12±3	0.83 (0.76–0.90)	<0.001‡
Triad of fever, neck stiffness, and change in mental status — no. (%)	186 (41)	119 (50)	0.58 (0.30–1.15)	0.12‡
Cerebral abnormality — no. (%)**	79 (17)	78 (33)	1.07 (0.56–2.04)	0.84‡
Cranial-nerve palsy — no. (%)	47 (10)	42 (18)	1.50 (0.81–2.80)	0.20‡

# Why ?

**What does increase mortality  
in immunocompromised  
patients?**

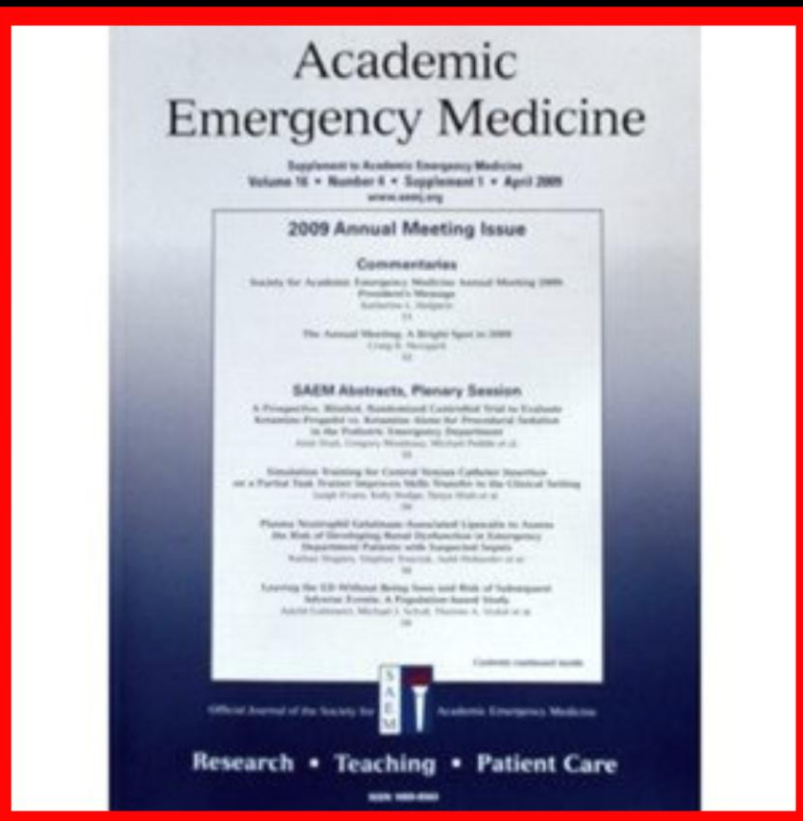
# Prolonged Neutropenia

Possible Causes of Fever	Approximate Frequency in High-Risk Patients (%)
Fungal infections susceptible to empirical therapy	40
Fungal infections resistant to empirical antifungal therapy	5
Bacterial infections (with cryptic foci and resistant organisms)	10
<i>Toxoplasma gondii</i> , mycobacteria, or fastidious pathogens (legionella, mycoplasma, <i>Chlamydia pneumoniae</i> , bartonella)	5
Viral infections (herpesviruses, cytomegalovirus, Epstein–Barr virus, human herpesvirus 6, varicella–zoster virus, herpes simplex virus) and respiratory pathogens such as parainfluenza virus, respiratory syncytial virus, influenzaviruses	5
Graft-versus-host disease after hematopoietic stem-cell transplantation	10
Undefined (e.g., drug fever, toxic effects of chemotherapy, antitumor responses, undefined pathogens)	25



# Disease Progression in Hemodynamically Stable Patients Presenting to the Emergency Department With Sepsis

Seth W. Glickman, MD, Charles B. Cairns, MD, Ronny M. Otero, MD, Christopher W. Woods, MD, MPH, Ephraim L. Tsalik, MD, PhD, Raymond J. Langley, PhD, Jennifer C. van Velkinburgh, PhD, Lawrence P. Park, PhD, Lawrence T. Glickman, VMD, DrPH, Vance G. Fowler Jr, MD, MHS, Stephen F. Kingsmore, MMB, ChB, BAO, and Emanuel P. Rivers, MD, MPH



# Risk Factors

Table 2

Infection Sites, Causative Microorganisms, and Outcomes for 472 Patients With Sepsis but No Shock at the Time of ED Presentation

	Total	Shock Progression (Within First 72 Hours)	Death (Within 30 Days)
Infection category			
Infection, organism identified	177 (37.5)	38 (21.5)	8 (4.5)
Infection, organism not identified	295 (62.5)	46 (15.6)	15 (5.1)
Total	472 (100)	84 (17.8)	23 (4.9)
Infection source			
Bone	13 (2.8)	4 (30.8)	1 (7.7)
Cardiac	1 (0.2)	0 (0)	0 (0)
Catheter	20 (4.2)	11 (55)	0 (0)
Central nervous system	3 (0.6)	0 (0)	0 (0)
Ear, nose, and throat	16 (3.4)	1 (6.3)	0 (0)
Gynecologic	4 (0.8)	0 (0)	1 (25)
Intraabdominal	47 (10)	5 (10.6)	1 (2.1)
Pulmonary	162 (34.3)	23 (14.2)	13 (8.0) (11.1)
Skin	65 (13.8)	8 (12.3)	1 (1.5)
Urinary tract	66 (14)	11 (16.7)	1 (1.5)
Unknown	75 (15.9)	21 (28)	5 (6.7)
Total	472 (100)	84 (17.8)	23 (4.9) (15.5)
Infection causative organism*			
<i>S. aureus</i>	46 (26)	8 (17.4)	0 (0)
<i>S. pneumoniae</i>	30 (16.9)	4 (13.3)	3 (10)
Other Gram-positive cocci	12 (6.8)	4 (33.3)	2 (16.7)
<i>E. coli</i>	30 (16.9)	3 (10)	0 (0)
Aerobic Gram-negative bacilli	36 (20.3)	11 (30.6)	1 (2.8)
Polymicrobial	4 (2.3)	3 (75)	0 (0)
Fungi and <i>Candida</i>	3 (1.7)	1 (33.3)	0 (0)
Anaerobes	9 (5.1)	1 (11.1)	0 (0)
Viral	4 (2.3)	1 (25)	0 (0)
Other	3 (1.7)	2 (66.7)	1 (33.3)
Total	177 (100)	38 (21.5)	7 (4.0)

	Univariate Model			Multivariate Model		
	OR	95% CI	p-value	OR	95% CI	p-value
Demographics						
Age (decade of life)	1.16	1.01–1.32	0.030	1.22	1.05–1.42	0.008
Sex, female	2.62	1.59–4.30	<0.001	2.57	1.50–4.40	<0.001
Race, white	0.92	0.61–1.40	0.699			
Vital signs						
Temperature (°C)	1.26	1.02–1.55	0.029	1.34	1.06–1.68	0.013
Respiratory rate (breaths/min)	1.01	0.98–1.05	0.445			
Heart rate (beats/min)	1.01	1.00–1.02	0.045			
Comorbidities						
Alcohol abuse	0.78	0.32–1.91	0.581			
Cancer	0.70	0.27–1.86	0.480			
Cirrhotic liver disease	1.87	0.36–9.80	0.459			
Diabetes mellitus	1.11	0.66–1.87	0.686			
Drug abuse	0.64	0.28–1.48	0.299			
Heart failure	2.67	1.34–5.35	0.006			
Hemodialysis	1.47	0.72–3.03	0.291			
Human immunodeficiency virus	0.77	0.09–6.46	0.807			
Lung disease	2.21	1.32–3.68	0.002	2.30	1.29–4.10	0.005
Smoker	0.72	0.37–1.39	0.329			
Laboratory values						
White blood cell count ( $\times 10^3/\mu\text{L}$ )	1.00	0.98–1.03	0.698			
Hematocrit (%)	0.94	0.90–0.97	0.001	0.96	0.92–1.00	0.046
Platelet count ( $\times 10^3/\mu\text{L}$ )	1.00	1.00–1.00	0.668			
Serum lactate (mmol/L)	1.13	0.75–1.70	0.571			
Organ dysfunction						
Pulmonary	1.07	0.50–2.31	0.855			
Metabolic	0.77	0.09–6.46	0.807			
Renal	0.58	0.20–1.68	0.312			
Infection site			0.003			<0.001
Pulmonary	0.78	0.45–1.37		0.57	0.31–1.05	
Urine	0.95	0.46–1.98		0.88	0.41–1.89	
Vascular catheter	5.80	2.25–14.9		5.06	1.81–14.1	
Other/unknown	Reference					
Causative microorganism			0.705			
<i>S. aureus</i>	0.99	0.44–2.23				
<i>S. pneumoniae</i>	0.72	0.24–2.15				
Gram-negative aerobes	1.26	0.66–2.43				
Other/unknown	Reference					



# *Clinical Pearls: Altered Mental Status and a Rash*

MICHAEL D. SCHWARTZ, MD, ALAN B. STORROW, MD

## Academic Emergency Medicine

Supplement to Academic Emergency Medicine  
Volume 10 • Number 2 • Supplement 1 • April 2005  
www.aemj.org

### 2009 Annual Meeting Issue

#### Commentaries

Invited by Academic Emergency Medicine Annual Meeting 2009  
President's Message  
Editor's Message

The Annual Meeting is Bright Spot in 2009

Editor's Message

#### SACM Abstracts, Plenary Session

A Plenary Session, Abstracts, and Plenary Session  
Abstracts: Plenary Session for the Plenary Session  
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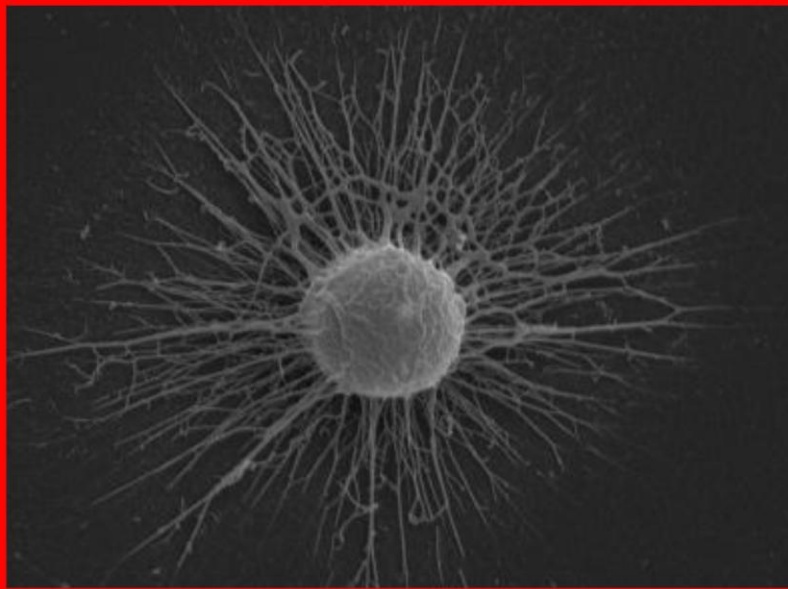
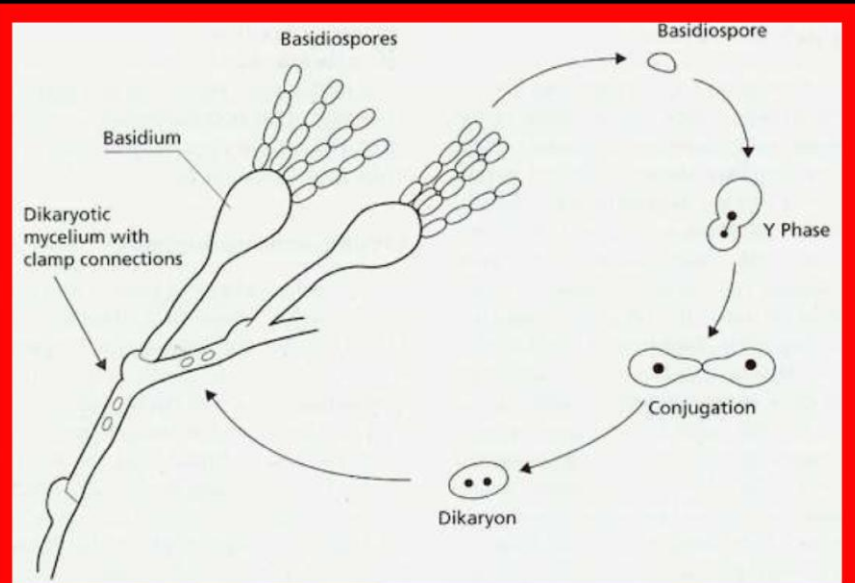
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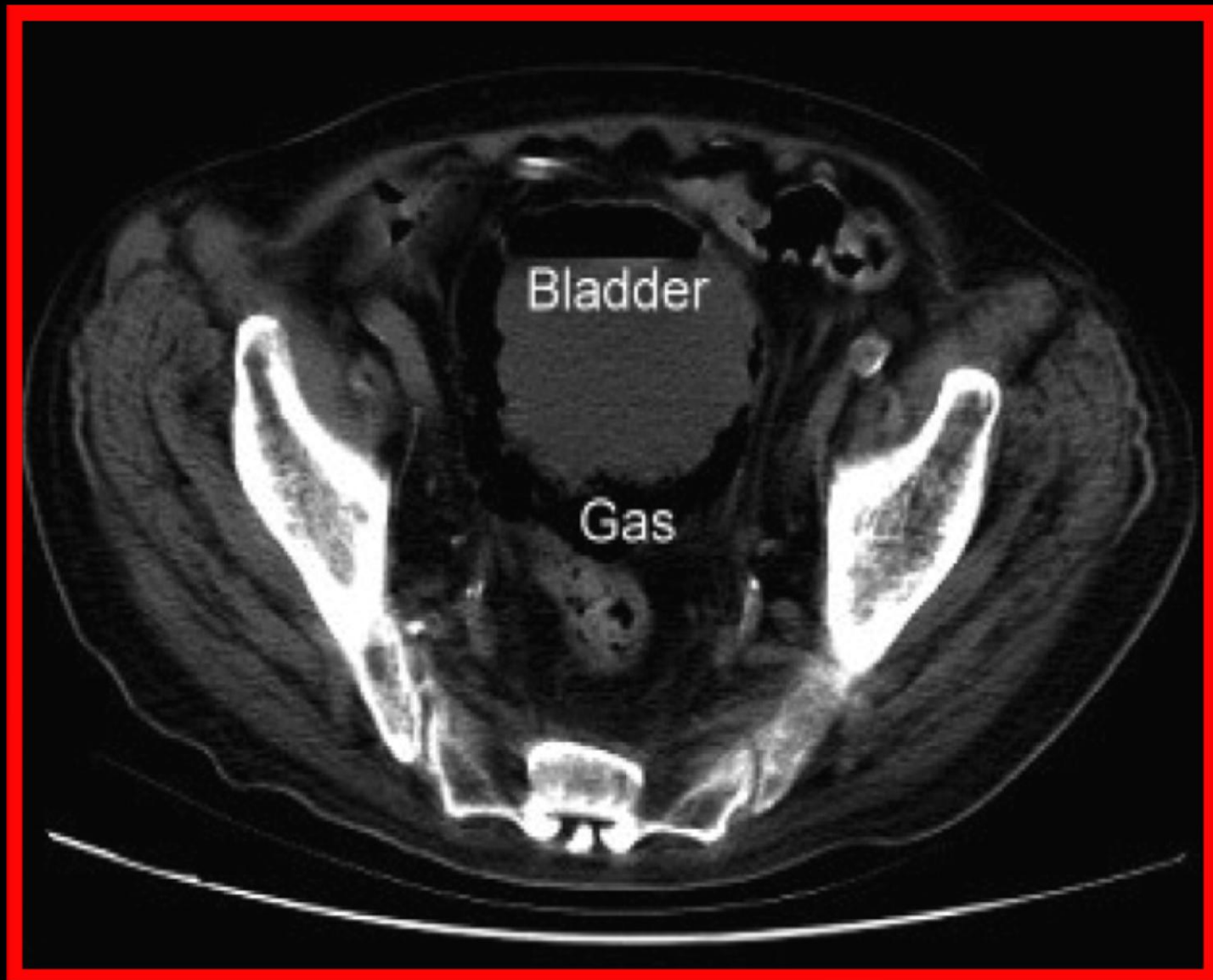
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# Rare Presentation



# Rare Presentation



## Annals of Emergency Medicine

An International Journal

Volume 45, Number 5, May 2005

### ORIGINAL ARTICLES

48 Emergency Room Implementation of a New  
Standardized Triage System: Experience in  
a Tertiary Care  
J. J. Lee, MD

55 The Effect of Emergency Room Triage System  
on the Rate of Emergency Department  
Admission  
J. J. Lee, MD

### REVIEW ARTICLE

62 Evaluation of the Effect of Emergency  
Department Triage System on the Rate of  
Admission  
J. J. Lee, MD

68 Emergency Department Triage System  
Implementation: A Review of the Literature  
J. J. Lee, MD

75 Emergency Department Triage System  
Implementation: A Review of the Literature  
J. J. Lee, MD

### REVIEW ARTICLE

82 Emergency Department Triage System  
Implementation: A Review of the Literature  
J. J. Lee, MD

89 Emergency Department Triage System  
Implementation: A Review of the Literature  
J. J. Lee, MD

### ORIGINAL ARTICLES

96 The Effect of Triage System on the Effect of  
Emergency Department  
J. J. Lee, MD

103 Emergency Department Triage System  
Implementation: A Review of the Literature  
J. J. Lee, MD

### REVIEW ARTICLE

110 Evaluation of the Effect of Emergency  
Department Triage System on the Rate of  
Admission  
J. J. Lee, MD

117 Emergency Department Triage System  
Implementation: A Review of the Literature  
J. J. Lee, MD

124 Emergency Department Triage System  
Implementation: A Review of the Literature  
J. J. Lee, MD

### REVIEW ARTICLE

131 Emergency Department Triage System  
Implementation: A Review of the Literature  
J. J. Lee, MD

138 Emergency Department Triage System  
Implementation: A Review of the Literature  
J. J. Lee, MD

## Utility of Blood Cultures in Pneumonia Patients Admitted Through the Emergency Department

*Benenson RS, Kepner AM, Pyle II DN/York Hospital, York, PA; York College of Pennsylvania, York, PA*

# Beneson et al

- Retrospective analysis
- 686 patients admitted with pneumonia
- Risk factors :

PSI

Recent hospitalization

Immunocompromised state

Nursing home

COPD

# Beneson et al

*Annals of Emerg Med* 2004

- 686 patients enrolled
- 82 excluded : non-pneumonia
- 604 cases :
- 44 (7%): Positive Blood Culture
- 25 (4%) ( contaminants)
- 19 (3%) True Positives

**PSI level V was the only risk factor for a positive blood culture**

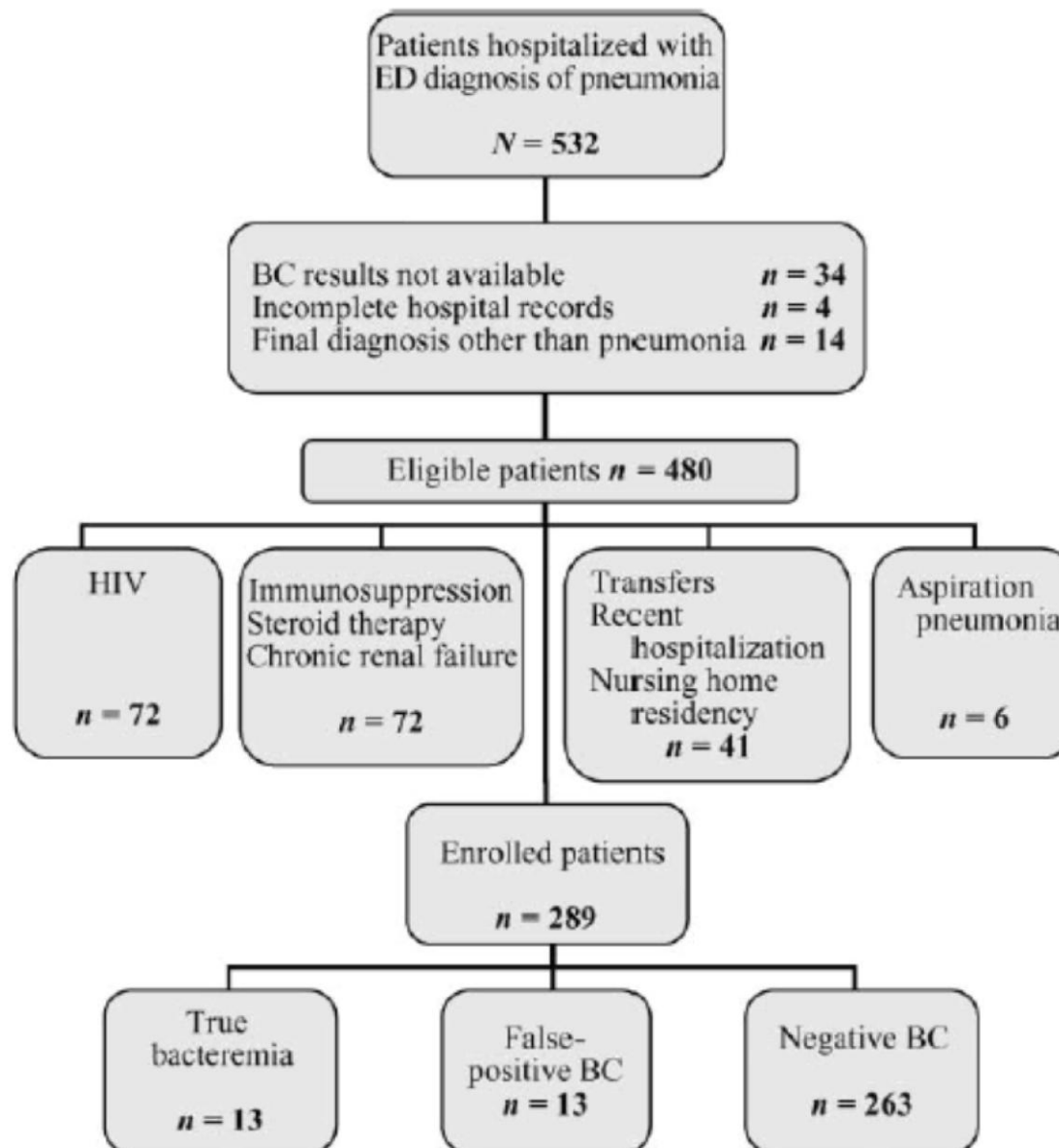
**OR 3.2 95% CI 1.3 - 7.8**



# Blood Cultures Do Not Change Management in Hospitalized Patients with Community-acquired Pneumonia

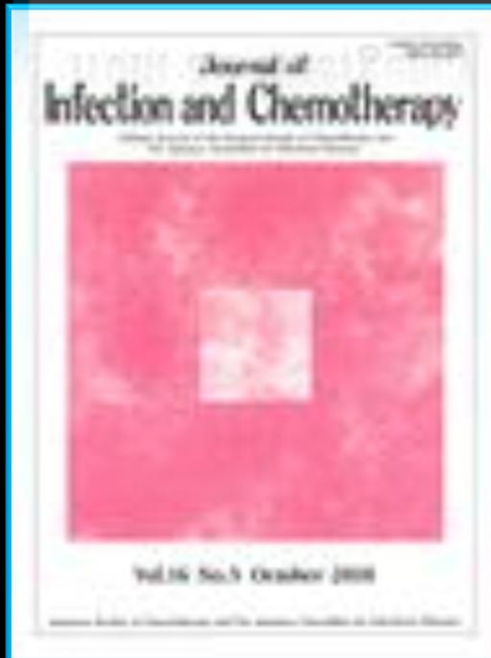
Prasanthi Ramanujam, MD, Niels K. Rathlev, MD





Toshikazu Abe · Yasuharu Tokuda · Shinichi Ishimatsu  
Richard B. Birrer

## Usefulness of initial blood cultures in patients admitted with pneumonia from an emergency department in Japan

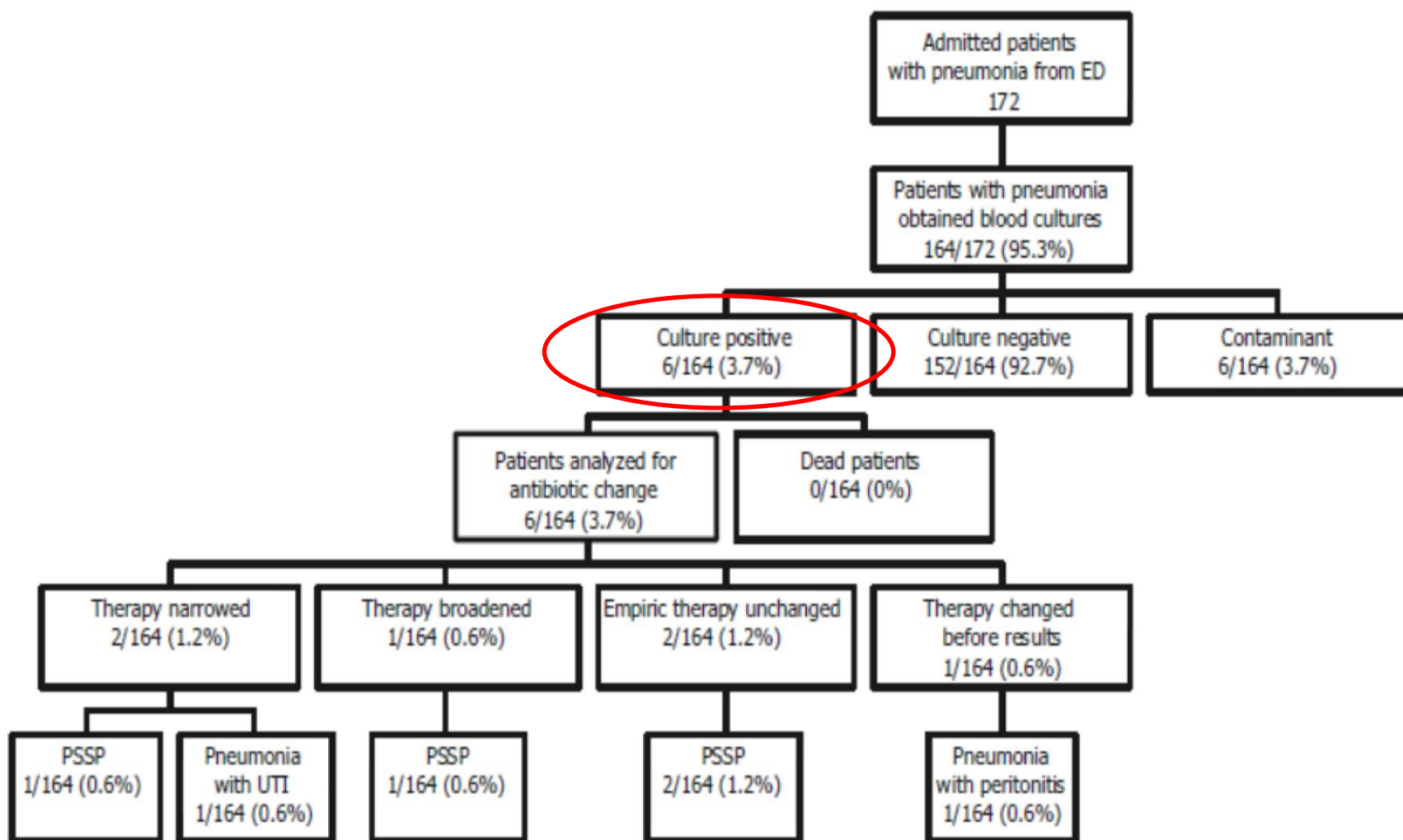


# Demography

**Table 1.** Characteristics of bacteremic and nonbacteremic patients (*n* = 164)

Characteristic	Bacteremic patients ( <i>n</i> = 6)	Nonbacteremic patients ( <i>n</i> = 158)
Demographic		
Age (years; mean $\pm$ SD)	67.7 $\pm$ 21.7	75.8 $\pm$ 17.1
Female sex; <i>n</i> (%)	1 (17)	79 (50)
Initial vital signs		
Temperature ( $^{\circ}$ C)	37.8 $\pm$ 0.82	37.6 $\pm$ 1.6
Pulse rate (/min)	108.8 $\pm$ 17.5	98.1 $\pm$ 22.0
Systolic BP (mmHg)	112.3 $\pm$ 17.1	132.0 $\pm$ 27.2
Diastolic BP (mmHg)	66.0 $\pm$ 12.5	71.3 $\pm$ 14.2
Respiratory rate (/min)	23.8 $\pm$ 4.3	23.0 $\pm$ 7.1
Admission site; <i>n</i> (%)		
Intensive care unit	2 (33)	32 (20)
High-care unit	0 (0)	29 (18)
Ward	4 (67)	97 (62)
Background; <i>n</i> (%)		
Nursing home resident	2 (33)	21 (13)
Homeless	0 (0)	2 (1)
Malignancy	2 (33)	28 (13)
Diabetes mellitus	1 (17)	16 (10)
Steroid use	0 (0)	7 (4)
COPD	0 (0)	17 (11)
Asthma	1 (17)	7 (4)

BP, blood pressure; COPD, chronic obstructive pulmonary disease







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## Computed tomography of the head before lumbar puncture in adults with suspected meningitis

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**TABLE 4.** ASSOCIATIONS BETWEEN BASE-LINE CLINICAL CHARACTERISTICS AND ABNORMAL FINDINGS ON CT OF THE HEAD IN 235 ADULTS WITH SUSPECTED MENINGITIS.\*

BASE-LINE CHARACTERISTIC	TOTAL NO. OF PATIENTS	NO. OF PATIENTS WITH ABNORMAL FINDINGS ON CT	RISK RATIO (95% CI)	P VALUE
Age $\geq 60$ yr	42	27	4.3 (2.9–6.4)	<0.001
Immunocompromised state†	70	24	1.8 (1.1–2.8)	0.01
History of CNS disease‡	25	20	4.8 (3.3–6.9)	<0.001
Seizure within 1 wk before presentation	21	13	3.2 (2.1–5.0)	<0.001
Neurologic findings				
Abnormal level of consciousness	44	24	3.3 (2.2–4.4)	<0.001
Inability to answer two questions correctly	49	28	3.8 (2.5–5.8)	<0.001
Inability to follow two commands correctly	40	25	3.9 (2.6–5.9)	<0.001
Gaze palsy	7	5	3.2 (1.9–5.4)	0.003
Abnormal visual fields	7	6	4.0 (2.7–5.9)	<0.001
Facial palsy	10	10	4.9 (3.8–6.3)	<0.001
Arm drift	25	18	4.0 (2.7–5.8)	<0.001
Leg drift	34	24	4.4 (3.0–6.5)	<0.001
Abnormal language§	44	28	4.3 (2.9–6.5)	<0.001

\*CI denotes confidence interval, and CNS central nervous system.

†This category includes patients with human immunodeficiency virus infection or acquired immunodeficiency syndrome, patients who were receiving immunosuppressive therapy, and patients who had undergone transplantation.

‡The CNS diseases consisted of mass lesion, stroke, and focal infection.

§The abnormalities consisted of aphasia, dysarthria, and extinction.



# HBOT



# Risk Factors for Mortality of Bacteremic Patients in the Emergency Department

## Giun-Nong Lin et al 2009

### 62,715 ED visits ( 621 cases)

Factors	28-day Mortality		OR (95% CI)	p-value
	With Factor	Without Factor		
Age > 60 yr	49/367 (13.4)	29/254 (11.4)	1.20 (0.73–1.95)	0.475
Sex, male	47/312 (15.1)	31/309 (10.0)	1.59 (0.98–2.58)	0.059
Underlying illness				
Diabetes mellitus	27/244 (11.1)	51/377 (13.5)	0.80 (0.48–1.31)	0.366
End-stage renal disease	4/28 (14.3)	74/593 (12.5)	1.17 (0.40–3.46)	0.769
Malignancy	28/124 (22.6)	50/497 (10.1)	2.61 (1.56–4.35)	<0.001
Liver cirrhosis	28/87 (32.2)	50/534 (9.4)	4.59 (2.69–7.85)	<0.001
Autoimmune disease	2/10 (20.0)	76/611 (12.4)	1.76 (0.37–8.44)	0.364
HIV infection	1/5 (20.0)	77/616 (12.5)	1.75 (0.19–15.86)	0.490
COPD	5/25 (20.0)	73/596 (12.2)	1.79 (0.65–4.92)	0.227
Immunosuppressant therapy	10/39 (25.6)	68/582 (11.7)	2.61 (1.22–5.58)	0.021
Alcohol use	17/44 (38.6)	61/577 (10.6)	5.33 (2.75–10.33)	<0.001
Clinical condition				
Polymicrobial bacteremia	13/39 (33.3)	65/582 (11.2)	3.98 (1.95–8.12)	<0.001
Anemia*	36/167 (21.6)	42/454 (9.3)	2.70 (1.66–4.39)	<0.001
Neutropenia†‡	3/9 (33.3)	72/603 (11.9)	3.69 (0.90–15.07)	0.086
Thrombocytopenia§	37/147 (25.2)	41/474 (8.6)	3.55 (2.17–5.81)	<0.001
Sepsis	39/225 (17.3)	39/396 (9.8)	1.92 (1.19–3.10)	0.007

## Multivariate Forward Stepwise Logistic Regression Model of Risk Factors for 28-day Mortality of Bacteremic Case Episodes in the ED\*

Factors	OR (95% CI)	p-value
Age > 60 yr	2.52 (1.29–4.92)	0.007
Malignancy	2.66 (1.44–4.91)	0.002
Liver cirrhosis	2.08 (1.02–4.26)	0.044
Alcohol use	5.73 (2.10–15.63)	0.001
Polymicrobial bacteremia	3.99 (1.75–9.10)	0.001
Anemia†	2.33 (1.34–4.03)	0.003
Sepsis	1.94 (1.16–3.37)	0.019

\*Case episodes  $n = 612$ .  
†Hemoglobin < 10 g/dL.

**THANKS !**