09,00-09,40 **Dibattito: quale futuro per l'infettivologia**

Moderatori: E. Concia (Verona), P.L. Viale (Bologna)

Relatori: M. Galli (Milano), C. Tascini (Napoli)

Dr Carlo Tascini
Direttore Prima Divisione Malattie Infettive
Ospedale Cotugno
Napoli
c.tascini@gmail.com

Dr Carlo Tascini

- Laureato a Perugia nel 1989
- Specializzato a Perugia in Malattie Infettive nel 1993
- Specializzato a Perugia in Microbiologia nel 1997
- Dal 1996 al 1999: periodo di ricerca presso Imperial College di Londra
- Dal 1999 al 2016 Dirigente Medico I livello Azienda Ospedaliera Universitaria Pisana

Dr Carlo Tascini

- Dal 2016 Direttore I Divisione Malattie Infettive Ospedale Cotugno, Ospedale mono-specialistico di Napoli
- Campi di interesse:
- Infezioni da MDR: clinica e microbiologia
- Infezioni fungine: criptococcosi e candidiasi invasive
- Endocarditi ed infezioni PM/ICD
- Piede diabetico
- Meningiti

Dr Carlo Tascini

- Iscritto FADOI
- Iscritto SIMIT
- Iscritto ESCMID
- Direttivo SITA
- Fondatore GISA

Futuro delle Malattie Infettive

- Organizzazione sanitaria italiana differente da quella di altri paesi europei: perché? Titolo V costituzione
- Differenze tra regioni e regioni: molte regioni del sud in piano di rientro, tagli su tecnologie e personale
- Soluzioni differenti in aree differenti del paese

Infettivologo

- Clinico: cura i pazienti da solo (segue malati che hanno la complessità di una vecchia clinica medica) o come consulente
- Si interessa della sanità pubblica: epidemie
- Si interessa dei costi della diagnosi e dei trattamenti
- Negli anni 70 era una sub-specialità della medicina interna o della pediatria in fase di estinzione: TBC, AIDS, epatite, Ebola e MDR l'hanno rivitalizzata

Clinical Infectious Diseases

INVITED COMMENTARY

Charting the Future of Infectious Disease: Anticipating and Addressing the Supply and Demand Mismatch

Rochelle P. Walensky,[1,2,3,4] Carlos del Rio,[5,6,7] and Wendy S. Armstrong,[5,6]

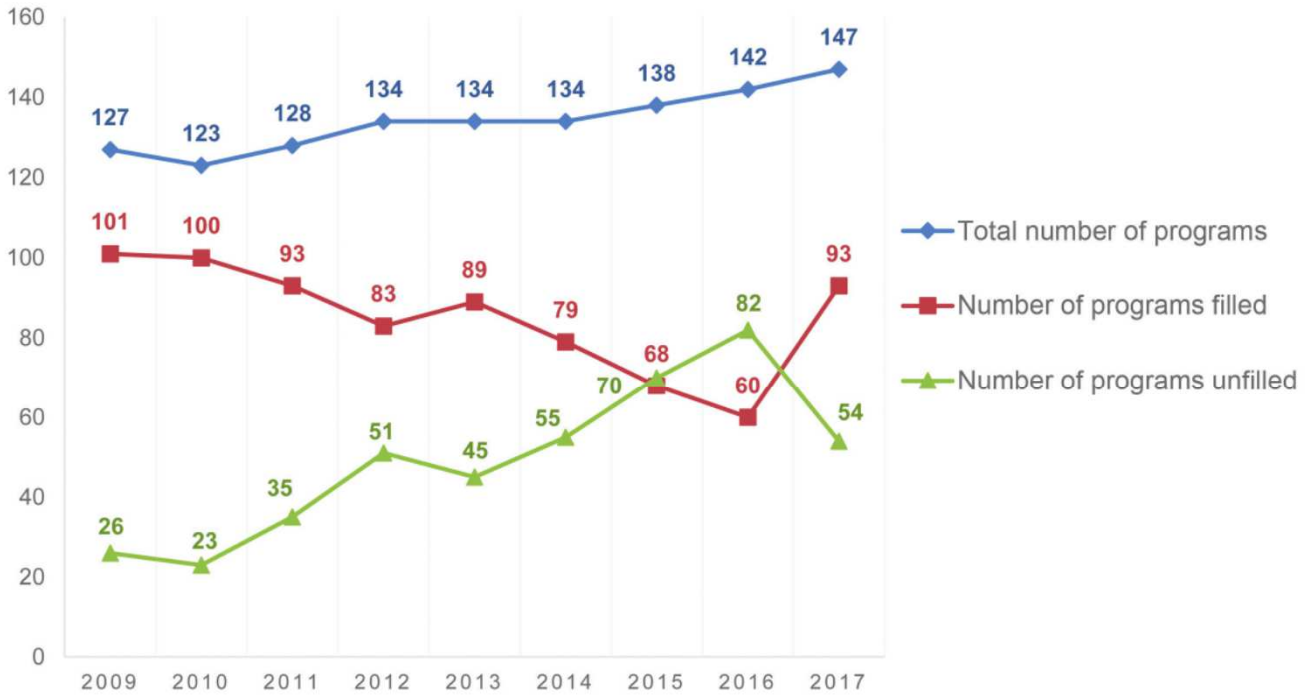


Figure 1. Trends in US national residency match program specialties matching service, infectious disease programs filled and unfilled, 2009–2017

Box 1. Potential Steps Toward a Reinvigorated Interest in the Specialty of Infectious Disease

1. Create potential training opportunities for alternative careers, including dual board certification in infectious disease/clinical microbiology or infectious disease/critical care or externships in public health or pharma.
2. Add infectious disease as a qualifying specialty for the National Health Service Corps
3. Develop novel programs within the National Institutes of Health/National Institute of Allergy and Infectious Diseases to enhance early research opportunities in the field of infectious disease (eg, new R25-like programs, expansion of T32 training programs, improved paylines for K and first-time R01 recipients)
4. Reform the reimbursement structure for cognitive specialties, including support for antimicrobial stewardship programs
5. Support an infrastructure toward stably financing necessary resources available during emerging epidemics, including money earmarked for workforce salaries

Futuro delle Malattie Infettive

- Medico consulente nell'Ospedale: programmi di antimicrobial stewardship
- Leadership forte nei reparti di riferimento
- Terapie intensive
- Ematologia
- Medicine
- Chirurgie

Futuro delle Malattie Infettive

- Negli anni ‘90 consulenze in ematologia, gli ematologi adesso spesso prescrivono da soli (utilizzo compulsivo di protocolli)
- Negli anni 2000 consulenze in terapia intensiva: conoscenza del malato critico è necessaria (ultra-filtri, alimentazione, protocolli di profilassi nel trauma, biomarcatori)
- Nel secondo decennio degli anni duemila: consulenze in medicina interna

The Journal of Infectious Diseases

SUPPLEMENT ARTICLE

The Value That Infectious Diseases Physicians Bring to the Healthcare System

Daniel P. McQuillen[1,2] and Ann T. MacIntyre[3,4]

[1]Center for Infectious Diseases and Prevention, Lahey Hospital and Medical Center, Burlington and [2]Tufts University School of Medicine, Boston, Massachusetts; and [3]Palmetto General Hospital, Hialeah, and [4]Nova Southeastern University, Fort Lauderale, Florida

While a career in infectious diseases (ID) has always been challenging and exciting, recognition of the value that ID physicians provide to the healthcare system as a whole, over and above the value they provide to individual patients, has been poor in this system. In response to this disparity, the Infectious Diseases Society of America Clinical Affairs Committee has long endeavored to quantify the value of ID physicians to the system, which is challenging in part because of the many avenues through which they influence healthcare. We discuss data showing that ID physicians improve clinical outcomes, positively impact transitions of care, and direct system-level improvements through infection prevention and antimicrobial stewardship. We identify areas where value-based care

The Journal of Infectious Diseases

SUPPLEMENT ARTICLE

The Value That Infectious Diseases Physicians Bring to the Healthcare System

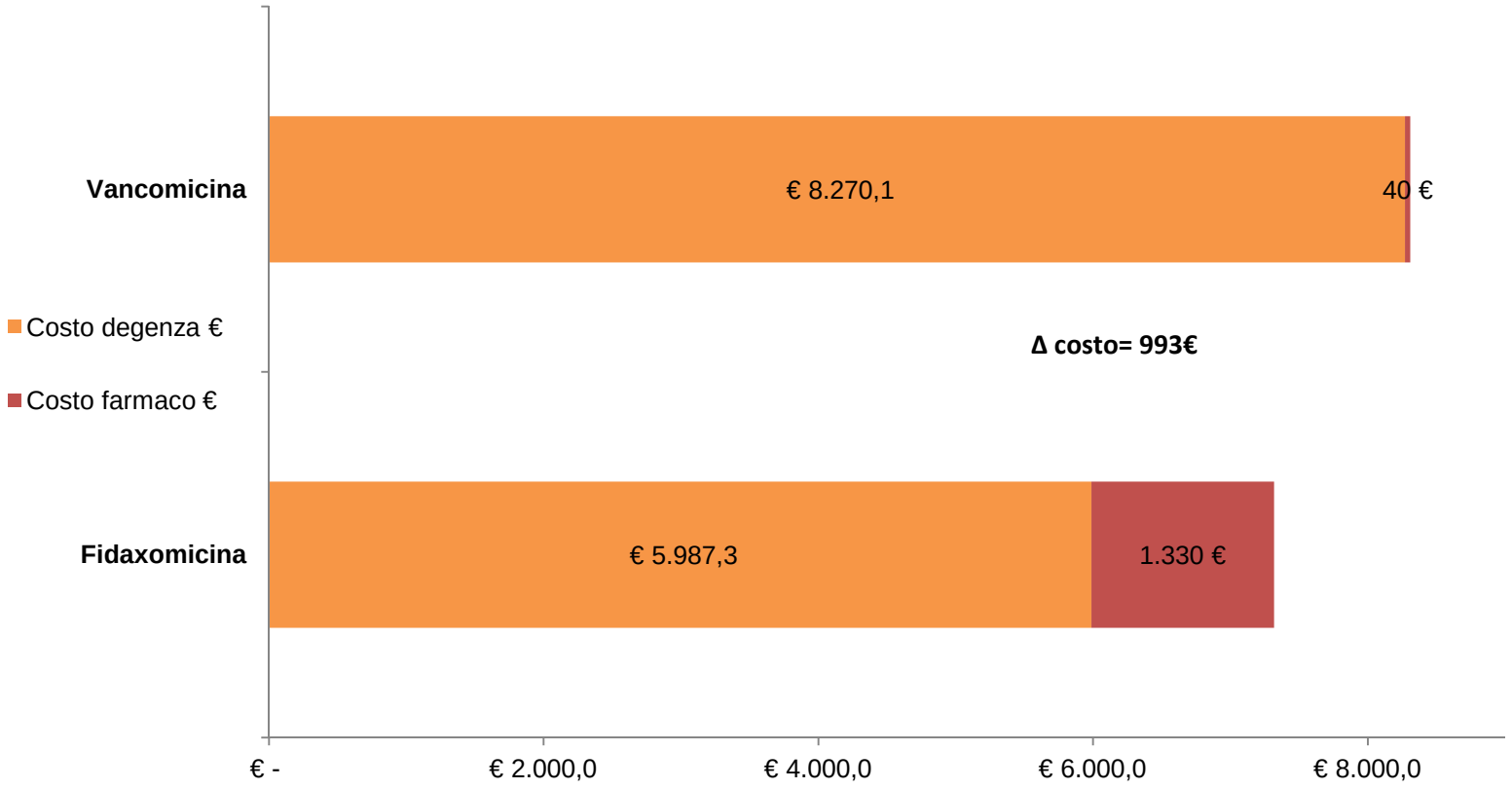
Daniel P. McQuillen[1,2] and Ann T. MacIntyre[3,4]

Table 2. Risk-Adjusted Outcomes for Stays Receiving Early Versus Late Intervention by Infectious Dise

Outcome	Early Intervention[a]	Late Intervention	*P*	F
Index stay, length of stay, d	13.2	13.8	<.001	
Index stay, length of ICU stay, d[b]	7.6	8.1	<.001	
Index stay, mortality, %	7.1	7.5	.122	
30-d mortality, %[c]	8.6	9.6	<.001	
30-d readmission rate, %[c]	24.6	26.1	<.001	
ACH charge for index stay, $	95 135	98 015	<.001	
Medicare payments to ACH for index stay, $	18 111	18 728	<.001	
Medicare payments for index stay, $	21 453	22 207	<.001	
Medicare payments for 30-d episode, $[c]	8739	9318	<.001	

Consulente

Costi *C. difficile*



Impact of Infectious Diseases consultation as a part of an antifungal stewardship program on candidemia outcome in an Italian tertiary-care, University hospital.

2) Analisi misure di esito AS

Analisi 2014 – 2016 epidemiologia ed esiti dei pazienti batteriemie *S. aureus*, KPC, candidemie e infezioni da *C. difficile*

Variabili	*S. aureus*	*C. difficile*	KPC	*Candidemie*
Anni	2014 - 16	2014 - 16	2014 - 16	2014 - 16
Casi	303	434	206	351
Età (mediana e IQR)	70 (53-79)	76 (64-83)	68 (57-77)	74 (61-83)
% M rispetto a F	63%	45%	62%	48%
% MRSA	33%	\	\	\
Reparti Medici	65%	71%	33%	59%
Reparti Chirurgici	18%	21%	29%	23%
Reparti UTI + C.ustioni	17%	8%	38%	18%
% Pazienti in consulenza	33%	27%	48%	40%
GG accesso - inf (mediana e	3 (1-10)	5 (2-13)	19 (7-31)	10 (2-26)
deg (mediana e IQR)	18 (9-34)	12 (8-27)	36 (22-60)	23 (11-47)
deg mediana guariti	19 (10-34)	12 (8-28)	39 (24-67)	25 (12-48)
Letalità 30 gg in consul	14%	17%	29%	22%
Letalità 30 gg no consul	20%	12%	41%	41%
Esito letalità globale 30gg	18%	14%	35%	33%
Letalità globale intraosp	22%	16%	45%	38%

CLINICAL RESEARCH STUDY

THE AMERICAN JOURNAL of MEDICINE®

Candidemia in Patients with Body Temperature Below 37°C and Admitted to Internal Medicine Wards: Assessment of Risk Factors

Carlo Tascini, MD,[a] Marco Falcone, MD,[b] Matteo Bassetti, MD,[c] Francesco G. De Rosa, MD,[d,e] Emanuela Sozio, MD,[f] Alessandro Russo, MD,[b] Francesco Sbrana, MD,[g] Andrea Ripoli, PhD,[g] Maria Merelli, MD,[c] Claudio Scarparo, MD,[c] Franco Carmassi, MD,[f] Mario Venditti, MD,[b] Francesco Menichetti, MD[a]

CLINICAL SIGNIFICANCE

- An increase in episodes of candidemia has been reported in patients cared for in internal medicine wards.
- An increasing number of invasive candidiasis cases may lack fever at onset.
- Diabetes and *C. difficile* infection are associated with afebrile candidemia in IMWs.
- A delayed diagnosis of candidemia may complicate management of this infection.

Risultati – prediction rule

Variabile	OR	P-value	Rounded coefficient
Precedenti ricovero (3 mesi)	**1.56**	0.1630	**2**
Precedente Tp antibiotica	**2.06**	0.0590	**2**
Antibiotici durante ricovero	**2.38**	0.0330	**2**
Immunosoppressori	**0.40**	0.1030	**0**
CVC	**2.19**	0.0310	**2**
PICC	**5.63**	0.0000	**6**
NPT	**2.45**	0.0080	**2**
Disabilità neurologica	**2.25**	0.0100	**2**
Insufficienza renale	0.68	0.2780	NS
Febbre	0.71	0.4740	NS
Steroidi	1.14	0.6740	NS
Precedente CDIF	1.35	0.6560	NS

Prediction rule per identificare una candidemia nel paziente settico ricoverato in Medicina Interna:

PICC: 3 punti

- **CVC** : 1 punto
- **Nutrizione parenterale totale:** 1 punto
- **Disabilità neurologica** (malattie cerebrovascolari, demenza): 1 punto
- **Precedenti ricoveri** (3 mesi): 1 punto
- **Precedente terapia antibiotica** (1 mese): 1 punto
- **Antibiotici durante il ricovero**: 1 punto

Attraverso curve ROC: individuato il valore soglia di 4 punti

Luzzani Aldo

Comparison of procalcitonin and C-reactive protein as markers of sepsis

as marker of severity of infection and or

Table 3. PCT and CRP plasma concentrations in the SOFA score groups

SOFA Score	PCT Median (Interquartile Range)	CRP Median (Interquartile Range)
1–6	3.1 (1.2–4.9)	135.9 (85.8–178.9)
7–12	3.9 (1.8–7.3)[a]	82.9 (59.4–149.2)[a]
13–18	31.0 (4.8–62.1)[a]	113.5 (107.9–222.9)[a]

PCT, procalcitonin; CRP, C-reactive protein; SOFA, sepsis-related organ failure assessment.
[a] $p < .001$.

Conclusion: PCT is a better marker of sepsis than CRP. The course of PCT shows a closer correlation than that of CRP with the severity of infection and organ dysfunction.

Crit Care Med 2003;31:1737-1741

RESULTS

Efficacy and safety of procalcitonin guidance in reducing the duration of antibiotic treatment in critically ill patients: a randomised, controlled, open-label trial

2016

De Jong E

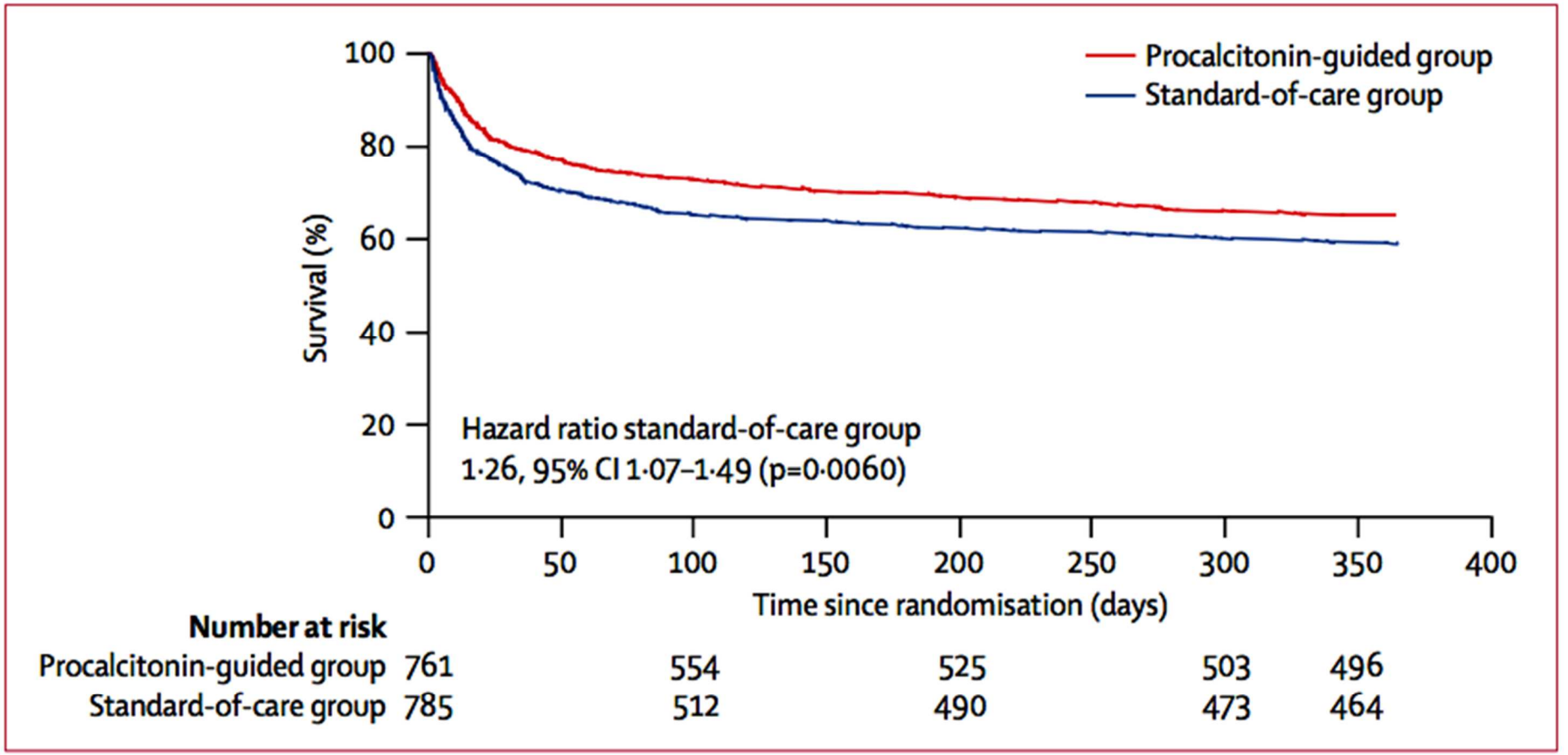


Figure 2: **Kaplan-Meier plot for probability of survival from random assignment to day 365, in the modified intention-to-treat population**

Lancet Infect Dis 2016

ARTICLE IN PRESS

Eur J Intern Med. 2017 Oct 28. pii: S0953-6205(17)30422-3. doi: 10.1016/j.ejim.2017.10.014. [Epub ahead of print]

Contents lists available at ScienceDirect

European Journal of Internal Medicine

journal homepage: www.elsevier.com/locate/ejim

Clinical outcomes of elderly patients with bloodstream infections due to extended-spectrum β-lactamase–producing Enterobacteriaceae in an Italian Internal Medicine ward

Simone Meini[a,*], Raffaele Laureano[a], Carlo Tascini[b], Fabio Arena[c,d], Lucia Fani[a], Anna Frullini[a], Maria Teresa Passaleva[a], Anna Teresa Roberts[a], Dario Mannini[a], Francesco Sbrana[e], Andrea Ripoli[e], Gian Maria Rossolini[d,f,g]

During the 27 months study period (from January 2013 to March 2015), there were 5652 admissions in OSMA Internal Medicine Unit for various pathologies of internistic interest: in this period we observed 96 monomicrobial EB BSI and 42 of these (43.8%) were caused by ESBL-producing organisms. All 42 patients were considered eligible for the study, without any exclusion, and none of these were lost to follow-up.

Italian Journal of Medicine 2016; volume 10:289-300

Reading and understanding an antibiogram

Carlo Tascini,[1] Emanuela Sozio,[2] Bruno Viaggi,[3] Simone Meini[4]

[1]First Division of Infectious Diseases, Cotugno Hospital, Azienda Ospedaliera dei Colli, Napoli; [2]Department of Emergency Medicine, University-Hospital of Pisa; [3]Department of Neuroanesthesia and Intensive Care, Careggi University-Hospital, Firenze; [4]Department of Internal Medicine, S.M. Annunziata Hospital, Firenze, Italy

15 October 1991 Volume 115

Annals of Internal Medicine

Annals of Internal Medicine. 1991;115:585-590.

Enterobacter Bacteremia: Clinical Features and Emergence of Antibiotic Resistance during Therapy

Joseph W. Chow, MD; Michael J. Fine, MD; David M. Shlaes, MD, PhD; John P. Quinn, MD; David C. Hooper, MD; Michael P. Johnson, MD; Reuben Ramphal, MD; Marilyn M. Wagener, MS; Deborah K. Miyashiro, MS; and Victor L. Yu, MD

Table 2. Association of Previously Administered Antibiotics with Multiresistant *Enterobacter* in the Initial Blood Culture

Antibiotic*	Multiresistant *Enterobacter* Isolate *n/N (%)*	*P* Value
Any antibiotic		
Yes	36/103 (35)	
No	1/26 (4)	0.002

* Antibiotics received in the 2 weeks before the initial positive blood culture.

A "multiresistant" *Enterobacter* sp. was defined by resistance in vitro to the extended spectrum penicillins (ticarcillin, ticarcillin-clavulanate, piperacillin, and mezlocillin) and third-generation cephalosporins (cefotaxime, ceftazidime, ceftizoxime, ceftriaxone, cefoperazone).

Table 5. Factors Associated with Mortality in Patients with *Enterobacter* Bacteremia

Variable	Mortality* *n/N (%)*	*P* Value
Resistance		
Multiresistant *Enterobacter*	12/37 (32)	
Nonmultiresistant *Enterobacter*	14/92 (15)	0.03

Table 4. Emergence of Resistance to Cephalosporin, Aminoglycoside, and Other Beta-Lactam Therapy

Antibiotic Therapy	Emergence of Resistance to the Therapy *n/N (%)*
Third-generation cephalosporin*	6/31 (19)
Aminoglycoside†	1/89 (1)
Other beta-lactam‡	0/50 (0)

* Cefotaxime, ceftazidime, ceftriaxone, ceftizoxime.
† Gentamicin, tobramycin, amikacin, netilmicin.
‡ Imipenem, piperacillin, ticarcillin, aztreonam, mezlocillin, ticarcillin-clavulanate.

■ *Conclusions:* More judicious use of third-generation cephalosporins may decrease the incidence of nosocomial multiresistant *Enterobacter* spp., which in turn may result in a lower mortality for *Enterobacter* bacteremia. When *Enterobacter* organisms are isolated from blood, it may be prudent to avoid third-generation cephalosporin therapy regardless of in-vitro susceptibility.

EUCAST expert rules in antimicrobial susceptibility testing

R. Leclercq[1,2], R. Cantón[2,3,4], D. F. J. Brown[4], C. G. Giske[2,4,5], P. Heisig[2,6], A. P. MacGowan[4,7], J. W. Mouton[4,8], P. Nordmann[2,9], A. C. Rodloff[4,10], G. M. Rossolini[2,11], C.-J. Soussy[4,12], M. Steinbakk[4,13], T. G. Winstanley[2,14] and G. Kahlmeter[4,15]

TABLE 9. Interpretive rules for β-lactam agents and *Enterobacteriaceae*, *Pseudomonas* spp., and *Acinetobacter* spp.

Rule no.	Organisms	Agents tested	Agents affected	Rule	Exceptions, scientific basis, and comments	Evidence grade	References
9.1	*Enterobacteriaceae*	Cefotaxime, ceftriaxone, ceftazidime, cefepime, amoxycillin–clavulanate, ampicillin–sulbactam, and piperacillin–tazobactam	Amoxycillin–clavulanate, ampicillin–sulbactam, and piperacillin–tazobactam	IF intermediate or resistant to any third-generation (cefotaxime, ceftriax one, ceftazidime) or fourth-generation (cefepime) oxyimino-cephalosporin, AND susceptible to amoxycillin–clavulanate, ampicillin–sulbactam or piperacillin–tazobactam, THEN report as tested and enclose a warning on uncertain therapeutic outcome for infections other than urinary tract infections	ESBL producers are often categorized as susceptible to combinations of a penicillin and a β-lactamase inhibitor. With the exception of urinary tract infections and bloodstream infections secondary to this origin, the use of these combinations in infections caused by ESBL producers remains controversial, and should be approached with caution. No evidence for ticarcillin–clavulanate has been published	B	[44,45]
9.2	*Enterobacter* spp., *Citrobacter freundii*, *Serratia* spp., and *Morganella morganii*	Cefotaxime, ceftriaxone, and ceftazidime	Cefotaxime, ceftriaxone, and ceftazidime	IF susceptible *in vitro* to cefotaxime, ceftriaxone or ceftazidime, THEN note that the use in monotherapy of cefotaxime, ceftriaxone or ceftazidime should be discouraged, owing to the risk of selecting resistance, or suppress the susceptibility testing results for these agents	Selection of AmpC-derepressed cephalosporin-resistant mutants may occur during therapy. The use of a third-generation cephalosporin in combination with an aminoglycoside may also lead to failure by selection of resistant mutants. Combination with quinolones has, however, been found to be protective. The selection risk is absent or much diminished for cefepime and cefpirome	A (*Enterobacter*), B (others)	[46,47]
9.3	*Enterobacteriaceae* (mostly *Klebsiella* spp. and *Escherichia coli*)	Ticarcillin, piperacillin	Piperacillin	IF resistant to ticarcillin but susceptible to piperacillin, THEN edit piperacillin to resistant	Ticarcillin-hydrolysing β-lactamases also attack piperacillin, but resistance may be less obvious if expression is low-level. Does not apply to inhibitor combinations involving these penicillins	C	[23,105]

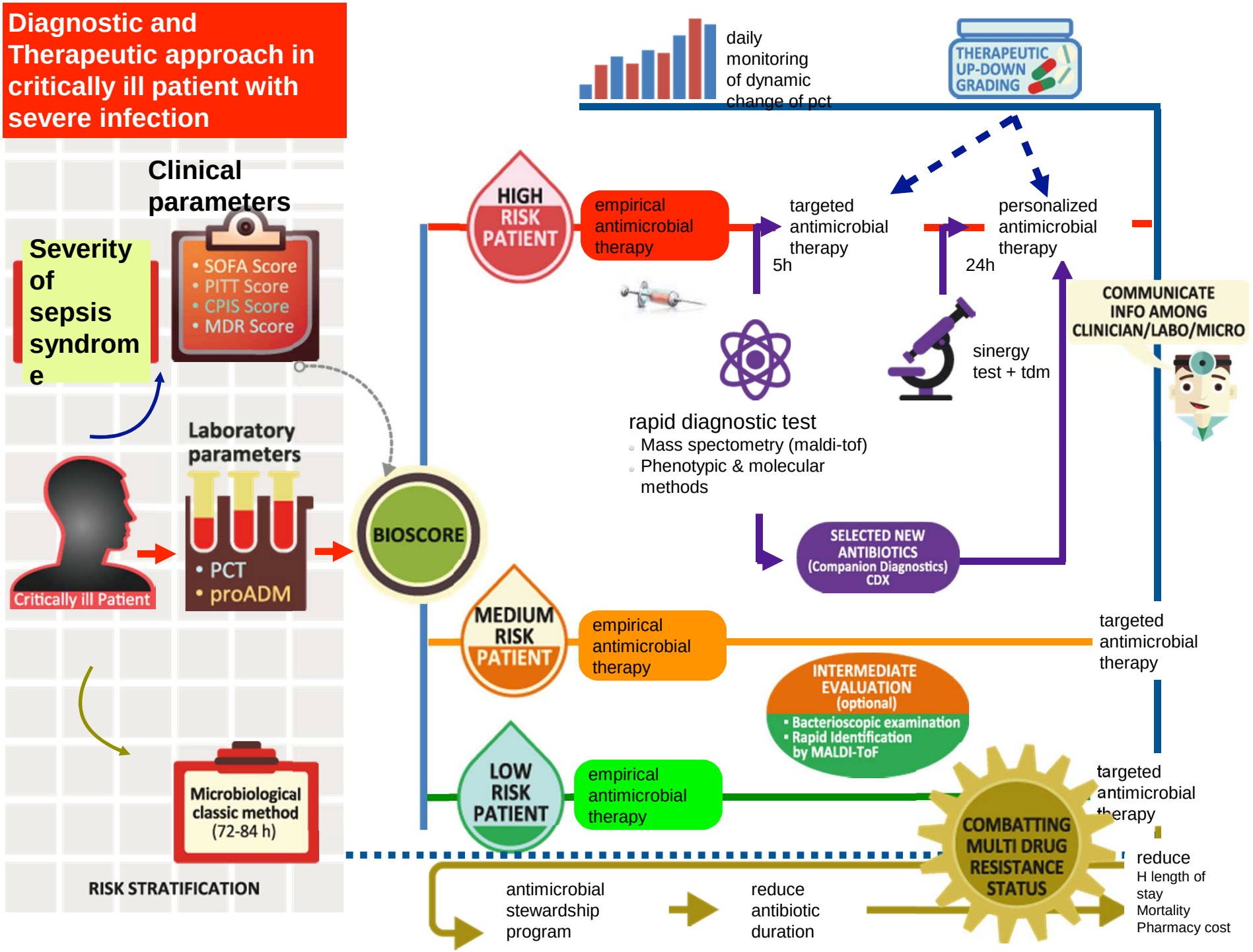
ESBL, extended-spectrum β-lactamase.

Clin Microbiol Infect 2013; **19**: 141–160

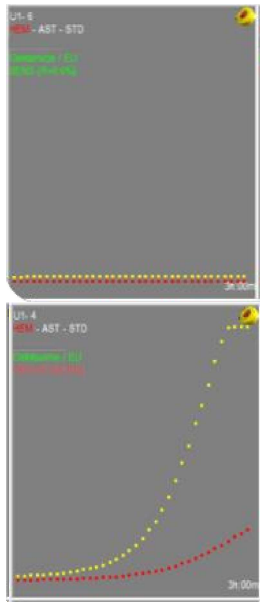
Leggere gli antibiogrammi

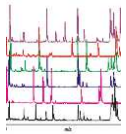
- Nessuno insegna a leggere gli antibiogrammi
- I microbiologi sono per lo più biologi e non vanno al letto del malato
- In consulenza dobbiamo diffondere la cultura della chemioterapia antimicrobica anche attraverso la diffusione di questa conoscenza

Diagnostic and Therapeutic approach in critically ill patient with severe infection



Antibiogramma fenotipico rapido con LST: impatto sulla scelta dell'antibiotico





2 h

Gram **ID MALDI**

Check-in **Incubation**

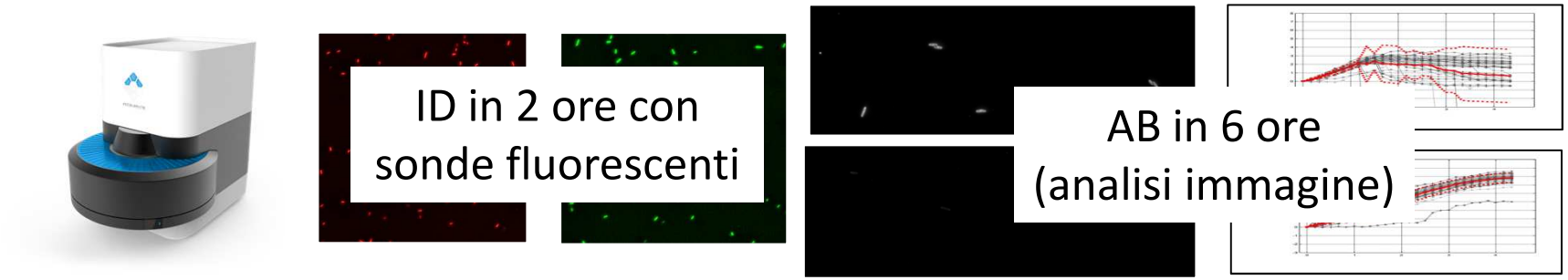
4-6 h
LST
AB

AB
+ 1 day

fluso di lavoro fast track

- Labor-intensive
- Testa solo alcuni antibiotici
- **NO MIC**

Single Cell Automated Time-lapse Microscopy



✚ **Risultati rapidi**

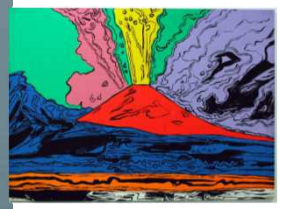
✚ **Riporta i valori di MIC**

\- **Costo elevato (20 – 25 x)**

o **Può sostituire nella maggior parte dei casi coltura e antibiogramma convenzionale**

Cortesia del Prof Rossolini

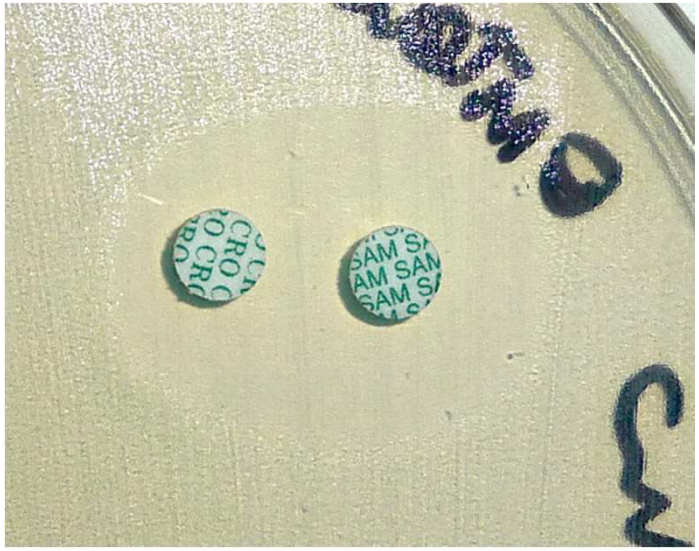
Sinergismo CZA con carbapenemici (ETP, MEM) e gentamicina



Laboratorio Microbiologia Azienda Ospedaliera dei Colli

Figure 1

PANEL A



PANEL B

Oral administration of gentamicin for prophylaxis of KPC-producing Klebsiella pneumoniae *gut colonization in patients treated with a novel parenchymal-sparing liver surgery: the GEN Gut study*

Carlo Tascini, Lucio Urbani, Francesco Sbrana, Francesco Forfori, Gabriella Licitra, et al.

Intensive Care Medicine

ISSN 0342-4642

Table 1 Patient characteristics and clinical outcomes for patients treated with gentamicin prophylaxis versus controls patients

	Gentamicin prophylaxis (n = 31)	Controls (n = 31)	p value
Male, n (%)	22 (71 %)	22 (71 %)	1.000
Age (years)	67 ± 12	73 ± 9	0.031
Charlson score	8 ± 2	7 ± 2	0.312
ICU admission in in previous month, n (%)	3 (10 %)	1 (3 %)	0.605
Hospital admission in previous year, n (%)	13 (42 %)	9 (29 %)	0.426
Invasive mechanical ventilation [48 h, n (%)	9 (29 %)	7 (23 %)	0.772
Central venous catheter, n (%)	22 (71 %)	12 (39 %)	0.022
Duration of ICU stay (days)	3 (2–6)	1 (1–4)	0.114
Duration of hospital stay (days)	9 (6–14)	7 (4–19)	0.178
KPC-Kp colonization, n (%)	1 (3 %)	9 (29 %)	0.016
Died in 6-month follow-up period, n (%)	2 (6 %)*	0 (0 %)	0.472

* Two major hepatectomies

Intensivista-microbiologo

- Si salderanno scavalcando gli infettivologi
- In passato facevamo anche la diagnostic stewardship
- Evitare terapie empiriche tipo linezolid-meropenem a tutti, non ti richiamerrano più

Contents lists available at ScienceDirect

International Journal of Antimicrobial Agents

journal homepage: www.elsevier.com/locate/ijantimicag

Review

Table 1
Ten key points for the appropriate use of antibiotics in hospitalised patients.

1. Get appropriate microbiological samples before antibiotic administration and carefully interpret the results: in the absence of clinical signs of infection, colonisation rarely requires antimicrobial treatment.
2. Avoid the use of antibiotics to 'treat' fever: investigate the root cause of fever and treat only significant bacterial infections.
3. When indicated, start empirical antibiotic treatment after taking cultures, tailoring it to the site of infection, risk factors for multidrug-resistant bacteria, and the local microbiology and susceptibility patterns.
4. Prescribe drugs at their optimal dose, mode of administration and for the appropriate length of time, adapted to each clinical situation and patient characteristics.
5. Use antibiotic combinations only in cases where the current evidence suggests some benefit.
6. When possible, avoid antibiotics with a higher likelihood of promoting drug resistance or hospital-acquired infections, or use them only as a last resort.
7. Drain the infected foci quickly and remove all potentially or proven infected devices: control the infection source.
8. Always try to de-escalate/streamline antibiotic treatment according to the clinical situation and the microbiological results; switch to the oral route as soon as possible.
9. Stop antibiotics as soon as a significant bacterial infection is unlikely.
10. Do not work alone: set up local teams with an infectious diseases specialist, clinical microbiologist, hospital pharmacist, infection control practitioner or hospital epidemiologist, and comply with hospital antibiotic policies and guidelines.

2.1.10. Do not work alone: set up local teams with an infectious diseases specialist, clinical microbiologist, hospital pharmacist, infection control practitioner or hospital epidemiologist, and comply with hospital antibiotic policies and guidelines

There are many important actors devoted to improve the use of antibiotics at each institution, and they will usually be glad to collaborate with the AMS team. Some of these pivotal members are discussed below [87–90].

Futuro delle malattie infettive

- Infettivologo leader di un gruppo di intervento in ospedale
- Intensivista, internista, chirurgo, microbiologo, farmacista, direzione sanitaria

Futuro delle malattie infettive

- Malattie infettive vaccinabili: risorgenza negli ultimi anni
- I vaccini sono stati ignorati dagli infettivologi
- Adesso ce ne dobbiamo occupare

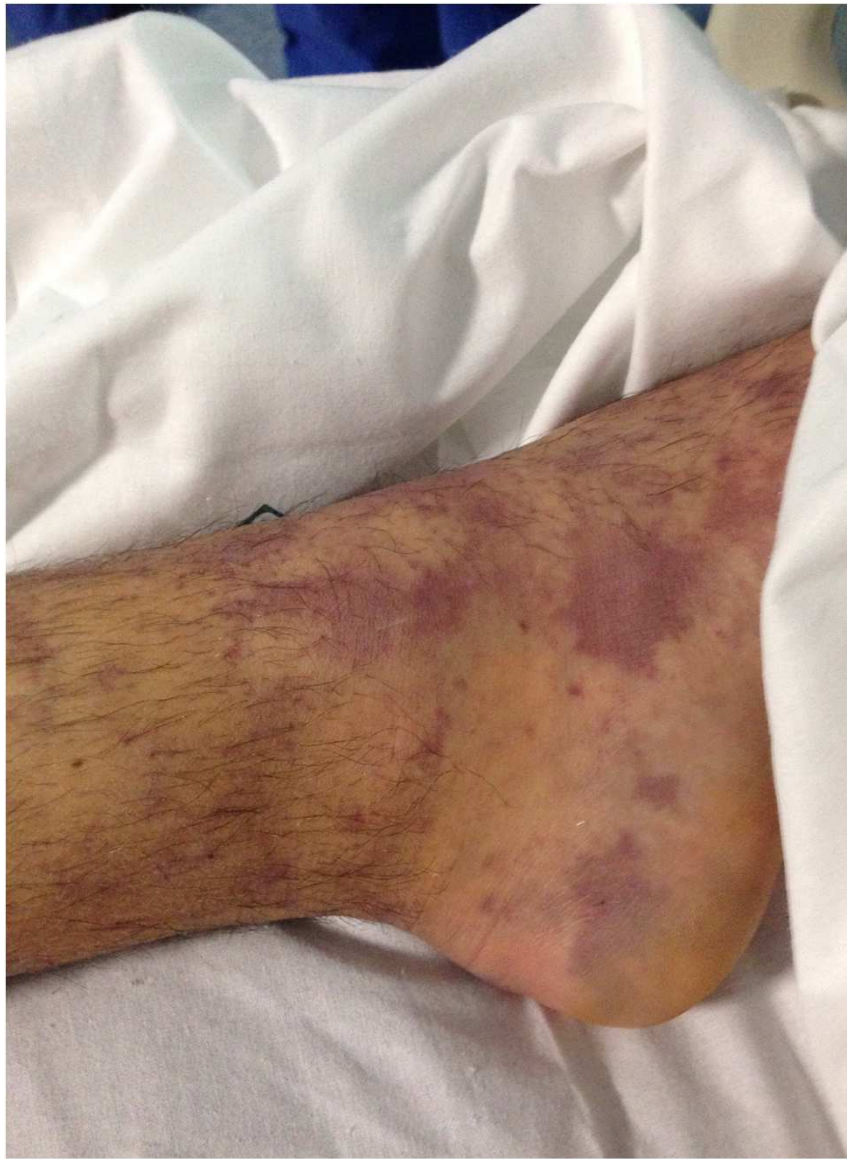
Bacterial meningitis, Cotugno Hospital Naples

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018*
Neisseria meningitidis	5	8	9	12	18 (1+)	10	13 (1+)	14 (1+)	29 (1+)	18 (1+)	*11 (5+)*
Streptococcus pneumoniae	14	9	14	9	11	29	27	23	25	33	*15*
Non noto	28	23	39	14	15	13	11	15	9	11	--
Altri streptococchi	--	1	3	1	4	3	2	2	1	3	*1*
Haemophilus	--	--	2	1	--	2	--	2	3	4	--
Stafilococchi	--	--	3	1	4	1	--	3	--	--	--
Listeria	--	--	--	3	5	5	1	1	2	4	*1*
Altri batteri	--	--	--	1	1	2	3	2	5	5	--
Totale	**47**	**41**	**70**	**42**	**58**	**65**	**57**	**62**	**74**	**78**	***21***

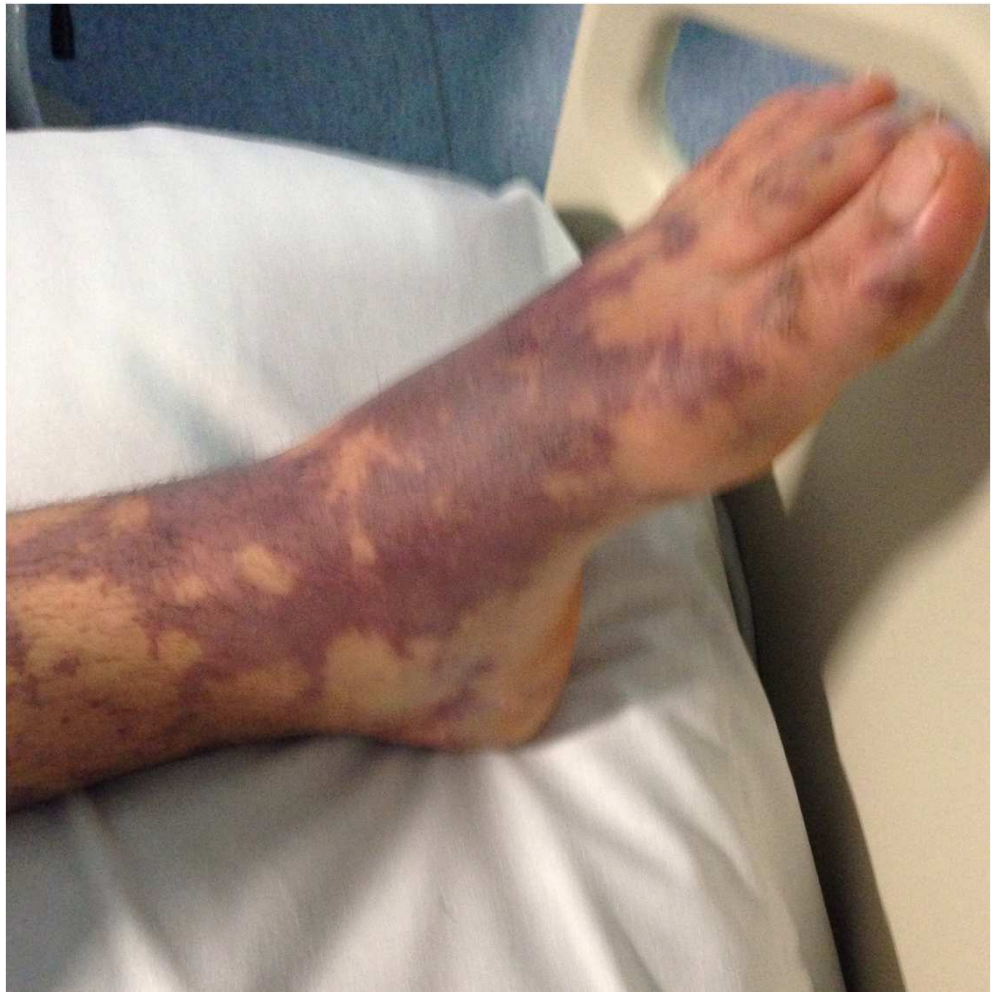
Meningococcal Invasive Disease
Cotugno Hospital Naples, Italy

Anno	**Numero casi totali**	**Gruppo A**	**Gruppo B**	**Gruppo C**	**Gruppo Y/W**	**Non gruppati**
2013	10	0	1	1	1	7
2014	13	0	2	1	4	6
2015	14	1	2	3	3	5
2016	29	0	3	4	6	16
2017	18	0	6	3	8	1
2018*	*11*	*0*	*2*	*4*	*5*	*0*
Totale	**95**	**1**	**16**	**17**	**28**	**35**

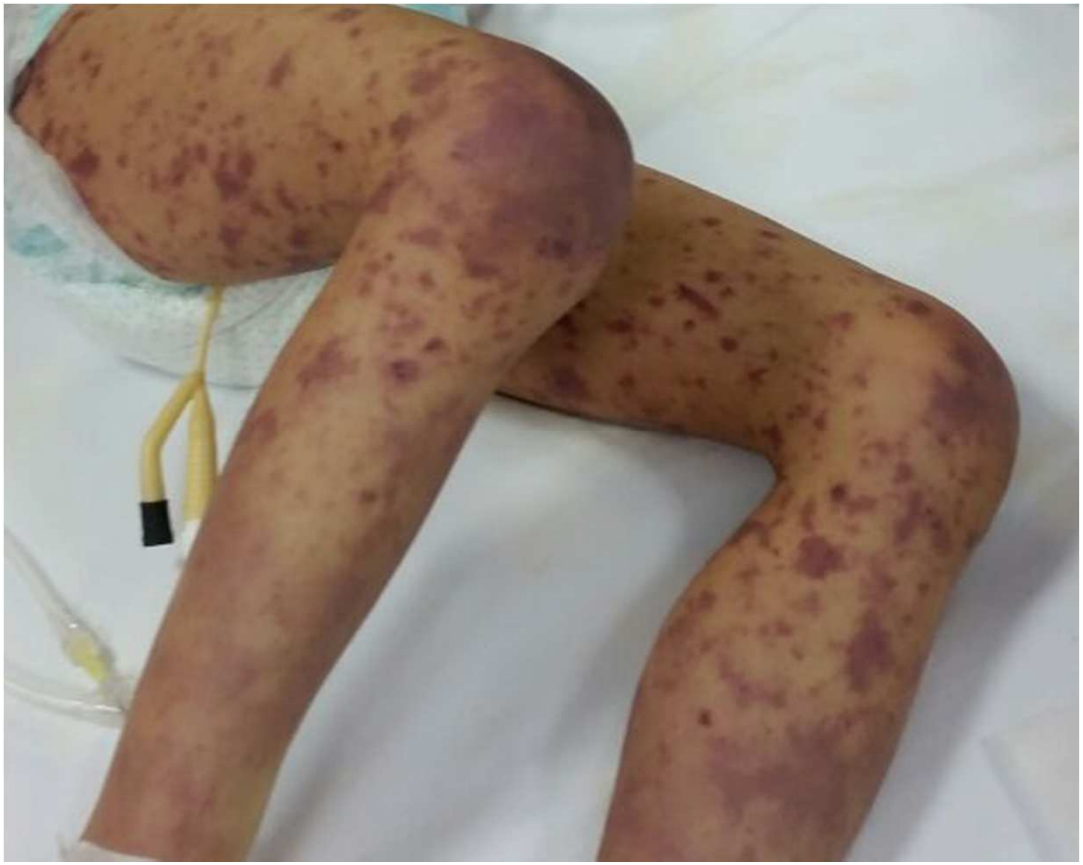
Ore 7



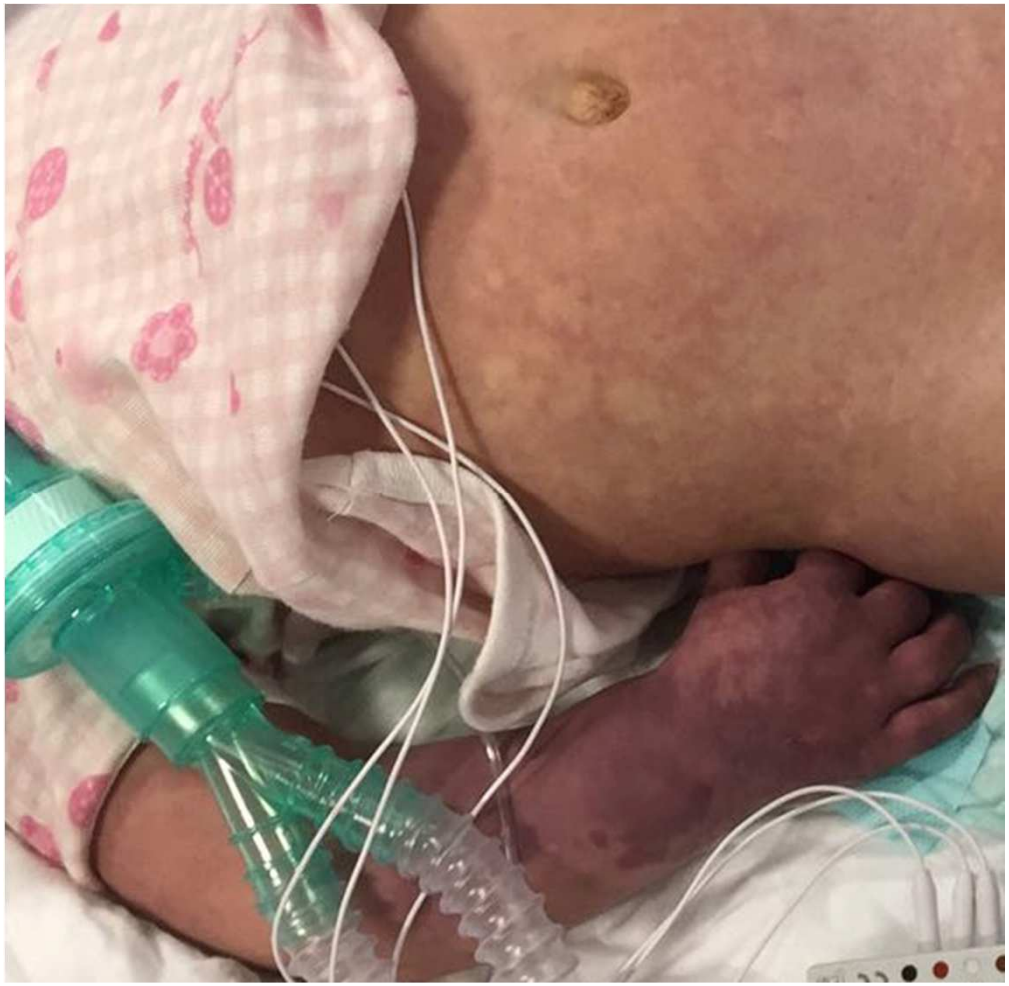
Ore 13



2018: *N. meningitidis* gruppo C bambino di 5 anni, in arresto dopo cortisone ed antibiotico: non vaccinato



2018: N. meningitidis gruppo W bambina di 12 mesi, deceduta dopo cortisone ed antibiotico



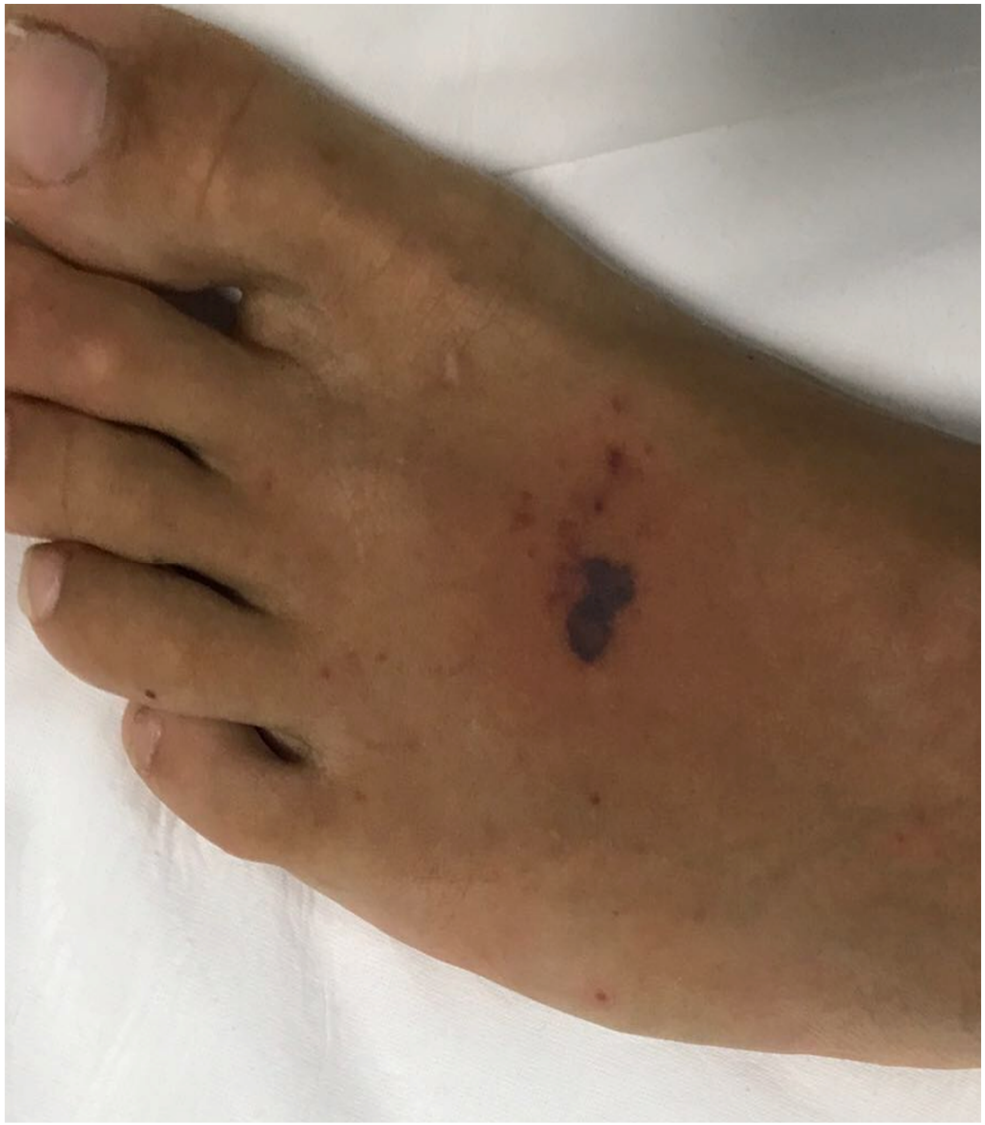
N. meningitidis gruppo Y

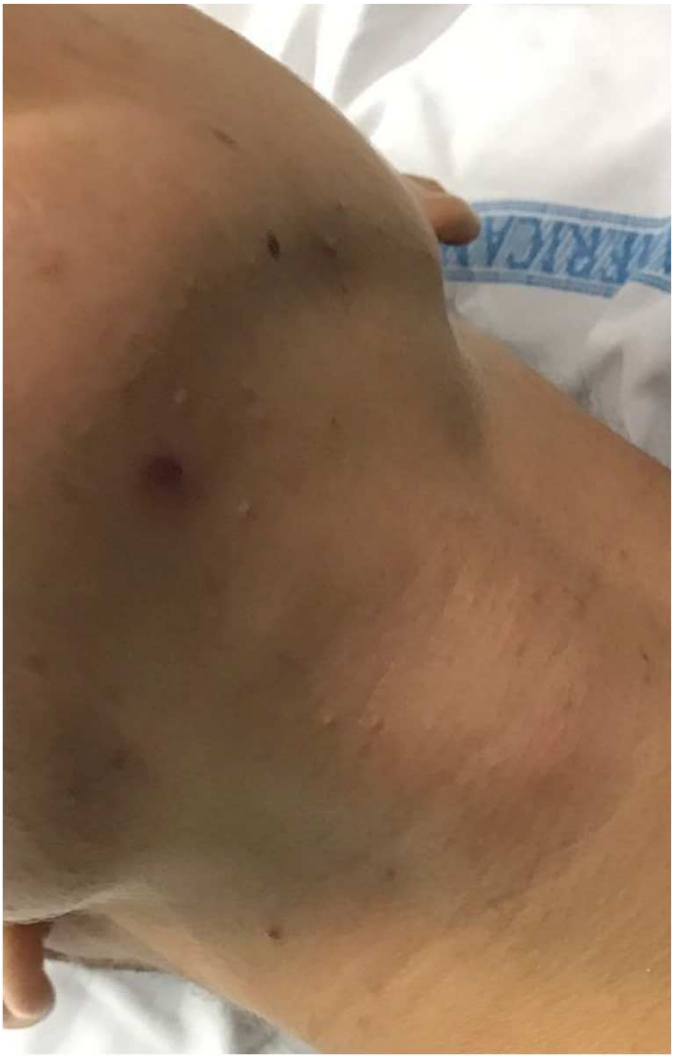
- Paziente di 13 anni arriva in coma all'Ospedale Cotugno: rigidità nucale e febbre
- Nessuna petecchia
- Ricovero in UTI: si programma PL
- Arriva anche il fratello di 11 anni: febbre, nessun segno neurologico
- EO: negativo, torace, addome, cuore, non rigidità nucale: non si tolgono le calze

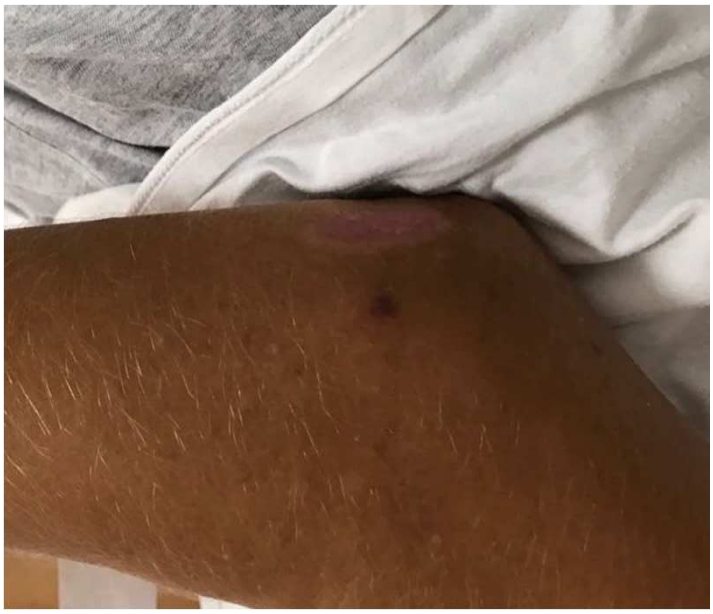
N. meningitidis gruppo Y

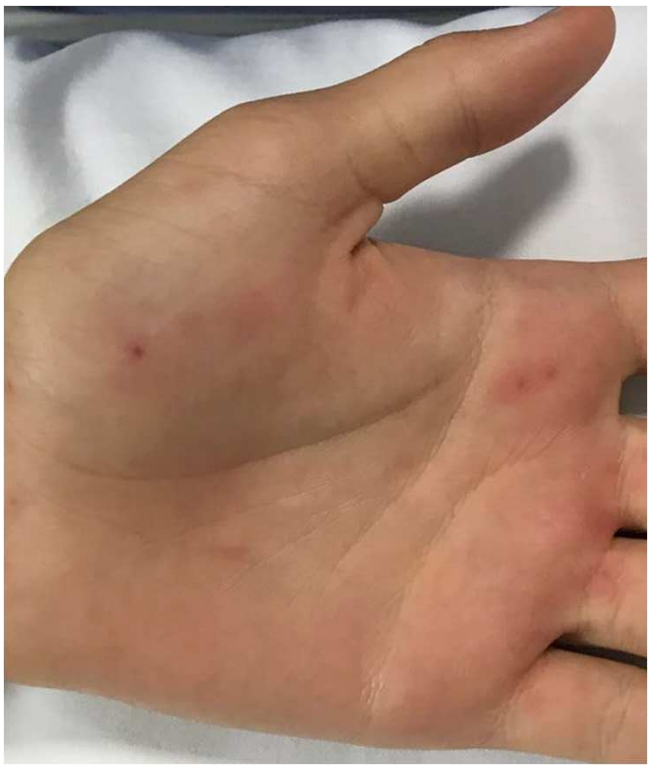
- Dopo due ore, il paziente rientra con numerose petecchie
- Sia lui che il fratello hanno *N. meningitidis* gruppo Y , lui isolato solo da sangue, il fratello solo da liquor

Sepsi meningococcica senza meningite: non trattata 80% mortalità









Med Intensiva. 2014;38(6):356–362

medicina intensiva

www.elsevier.es/medintensiva

ORIGINAL

TLR2–TLR4/CD14 polymorphisms and predisposition to severe invasive infections by *Neisseria meningitidis* and *Streptococcus pneumoniae*☆

J.J. Tellería-Orriols[b], A. García-Salido[a,*], D. Varillas[b], A. Serrano-González[a], J. Casado-Flores[a]

Conclusions: Genetical variations in the innate immune system by polymorphisms in the TLR2 and CD14, could be related with an increases susceptibility to severe invasive infections by *S. pneumoniae* and *N. meningitidis*.

Journal of Infection (2016) xx, 1–4

LETTER TO THE EDITOR

Clinical presentation and outcome of twenty cases of Invasive Meningococcal Disease due to Serogroup C – Clonal complex 11 in the Florence province, Italy, 2015–2016

Francesco Maria Fusco*
Filippo Baragli
Barbara Del Pin
Infectious Diseases Unit, S. Maria Annunziata Hospital, Central Tuscany Health Authority, Florence, Italy

Rosario Spina
Italo Calamai
Intensive Care Unit, San Giuseppe Hospital, Central Tuscany Health Authority, Empoli, Italy
E-mail addresses: rosario.spina@uslcentro.toscana.it (R. Spina), italo.calamai@uslcentro.toscana.it (I. Calamai)

Patrizia Pecile
Eleonora Riccobono
Department of Microbiology, Careggi Hospital, Florence, Italy
E-mail addresses: pecilep@aou-careggi.toscana.it (P. Pecile), eleonora.riccobono@gmail.com (E. Riccobono)

Table 1 Demographical and clinical characteris ical presentation, from January 2015 to June 20

Characteristics (n available data/total)[a]	All patients (20 cases)	Septic shock with *Purpura fulminans* (9 cases)
Male sex (%, 20/20)	55%	66%
Years (mean, 20/20)	40 (13–83)	39 (13–83)
Main presenting symptoms (20/20)	Fever (Mean 38.7 °C) and petechiae (different degrees) always present	Confluent petechiae, fever
Hours between symptoms onset and referral to ED (mean, 13/20)	24	22
MEWS score at presentation to ED (mean, 13/20)	1,8	1,5
Selected bio-chemistry parameters		
White blood cells (mean, 16/20)	$13,1 \times 10^3$	$6,3 \times 10^3$
Platelets (mean, 16/20)	119×10^3	68×10^3
C-reactive protein (mean, 14/20)	18	11
Procalcitonin (mean, 10/20)	80	127
Cerebrospinal fluid		
Proteins (mean, 13/13)		30 (20–40)[b]
Cells (mean, 13/13)		5 (2–8)[b]
Glucose (mean, 13/13)		55 (50–65)[b]
Need for intensive care (IC) (20/20)	17/20	9/9
Mean length of stay in IC (days)		Not calculable[c]
Letality (20/20)	7/20; 35%	7/9; 77%

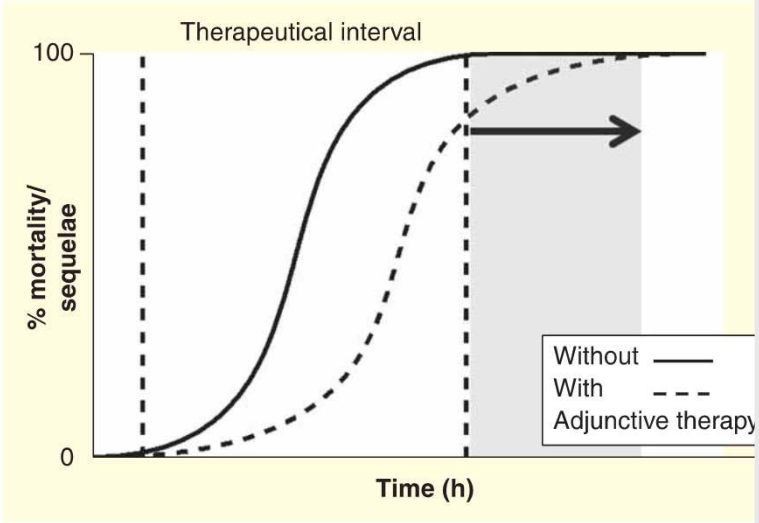


Figure 2. Relation of the interval between entry of bacteria into the CNS and start of antibiotic treatment versus mortality. Our experience in experimental mice suggests that this relation can be described by a sigmoid curve with a steep slope close to the interval where 50% mortality occurs (black solid line). Adjuvant therapies or an improvement of antibiotic therapy (e.g., non-bacteriolytic bactericidal antibiotics) can only be effective in a narrow window (the therapeutic interval) by shifting the sigmoid curve to the right without or with alteration of its slope (black broken line). The black arrow and the grey area indicate the broadening of the therapeutic window by an improvement of therapy. When antibiotic therapy is started very early, all patients will survive. When antibiotic treatment is started after the point of no return, the infected organism will die irrespective of the therapy chosen. The relations of the interval between entry of bacteria into the CNS and start of antibiotic treatment versus other outcome parameters (e.g., long-term neurological sequelae) probably also follow sigmoid curves. The slopes, however, are not necessarily identical. Here, effective adjuvant therapies or an improved antibiotic therapy also shift the curve to the right.

Expert Review of Anti-infective Therapy

ISSN: 1478-7210 (Print) 1744-8336 (Online) Journal homepage: http://www.tandfonline.com/loi/ierz20

Bacterial meningitis: an update of new treatment options

Roland Nau, Marija Djukic, Annette Spreer, Sandra Ribes & Helmut Eiffert

Membrana esterna

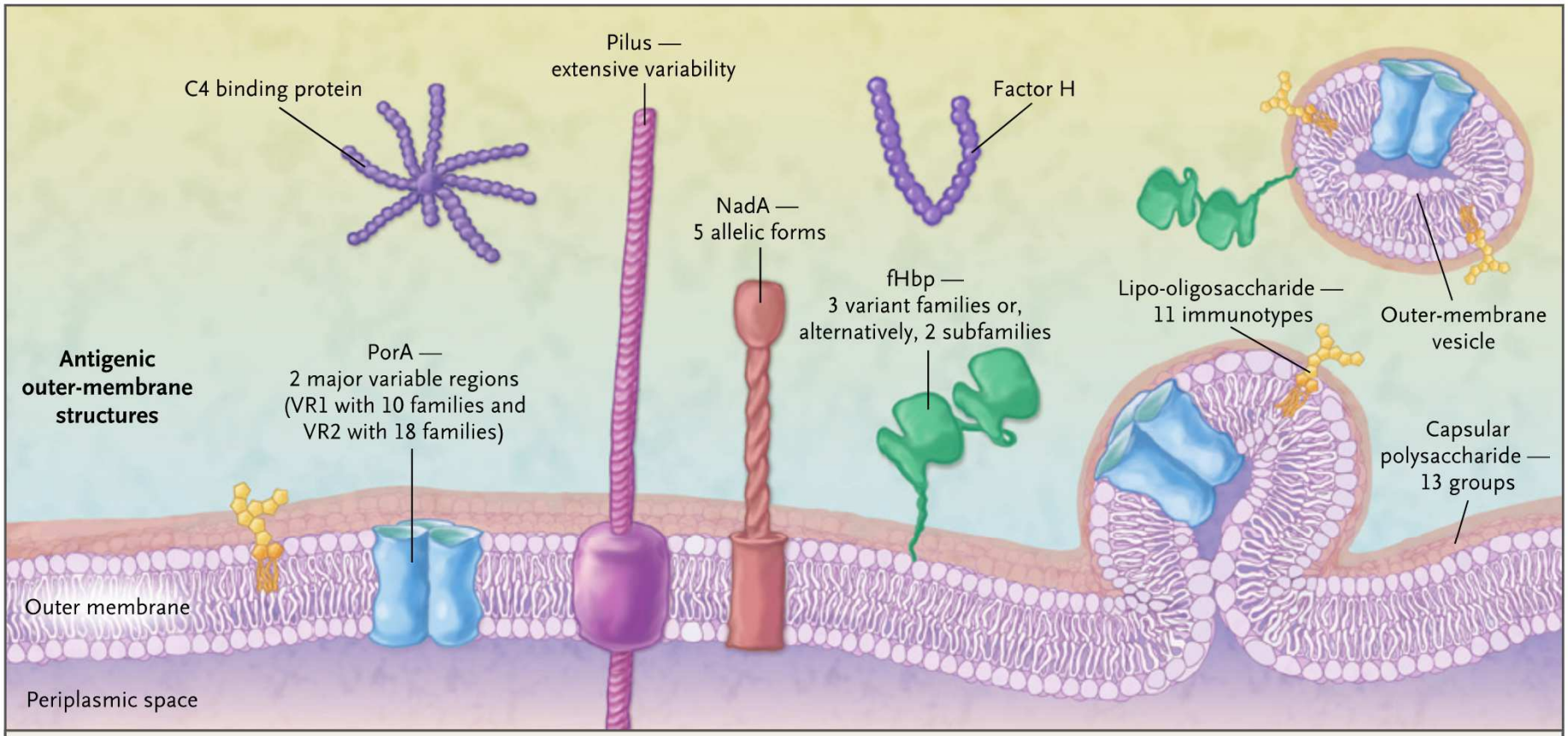


Figure 1. Structure of Meningococcal Outer Membrane, Showing Variability of Outer-Membrane Proteins and Capsule Used in Vaccines and Interaction with Complement.

Intensive Care Med
DOI 10.1007/s00134-017-4957-z

LETTER

Potential role of IgM-enriched immunoglobulin as adjuvant treatment for invasive meningococcal disease

Carlo Tascini[1], Fiorentino Fraganza[2], Francesca Salani[3], Emanuela Sozio[4], Marco Rossi[1], Francesco Sbrana[5], Novella Carannante[1], Maria Daniela Chiesa[2], Andrea Ripoli[5], Giacomo Bertolino[6], Massimo Di Pietro[7], Alessandro Bartoloni[8,9] and Francesco Menichetti[3*], on behalf of GISA/SIMIT Meningitis Study Group

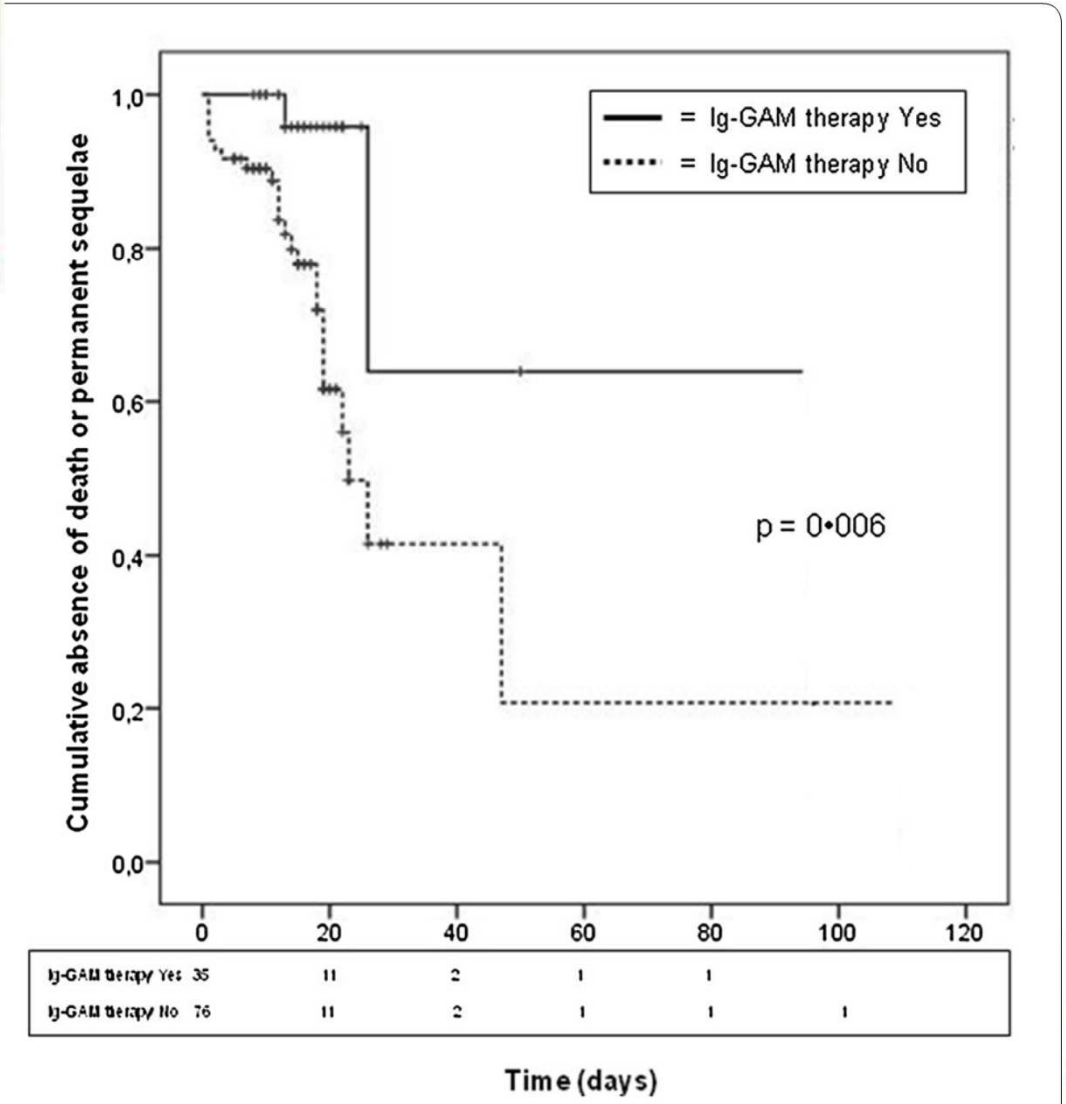


Fig. 1 Kaplan–Meier analysis of aggregated data on death and permanent sequelae in patients treated or not with Ig-GAM

«Prevenzione strada maestra il modello Ischia da esportare»

L'intervista

Tascini: «Ogni volta uno strazio
Età limite per la vaccinazione
Fare attenzione ai sintomi»

È affranto, stravolto, dispiaciuto, sfinito e con poca voglia di parlare Carlo Tascini, primario di emergenze infettivologiche a indirizzo neurologico del Cotugno. Ha appena saputo che la piccola paziente che ha messo in subbuglio l'ospedale per tutto il pomeriggio di ieri, non ce l'ha fatta. Questa volta, vista la tenera età, ai limiti riguardo all'indicazione di procedere con la profilassi vaccinale, Tascini allarga le braccia. E sente stringere il cuore.

«Speravamo tutti che ce la facesse. L'avevo vista male ma speravamo di salvarla. Era piena di macchie emorragiche. Ogni volta è uno strazio. Purtroppo la meningite, come abbiamo ripetuto nelle ultime settimane, è una malattia relativamente rara ma mortale. Porta al decesso dal 10 al 30% cento dei casi. Dunque bisogna fare il massimo per prevenirla».

A che età è possibile vaccinarsi?
«Siamo ai limiti. Al tredicesimo mese c'è l'indicazione ma adesso vediamo se possiamo estenderla anche ai più piccoli. La vaccinazione tetravalente antimeningococco può essere praticata al compimento del primo anno di vita. Così anche il primo richiamo contro il ceppo B. Ma in effetti le altre vaccinazioni dell'infanzia, che comprendono anche quella contro hemophilus B e contro lo pneumococco (microbi che causano anch'essi meningiti), vengono somministrate in tre soluzioni entro il primo anni di vita a partire dal terzo mese. Un tempo la profilassi contro la meningite si praticava dopo i 24 mesi. Ora al compimento del primo anno ed è facoltativa. In effetti gli studi hanno dato il via libera alla somministrazione anche prima dell'anno di vita ma il Ministero non ha ancora recepito tali indicazioni. Sul piano umano ogni volta è molto difficile accettare che un bimbo muoia per un batterio che fuori dall'organismo è molto labile».

Infettivologo
Carlo Tascini primario di emergenze infettivologiche a indirizzo neurologico del Cotugno

Cosa andrebbe fatto per fronteggiare le meningiti?
«Rischiamo di essere ripetitivi. Corretta e tempestiva diagnosi e immediato ricovero in un centro specializzato. I segni possono essere meningei, con febbre e rigidità nucale, generalizzati con una sepsi che si manifesta con le macchie emorragiche e in rari casi in forme respiratorie simili a una polmonite. Dopo l'ultimo episodio a Ischia abbiamo svolto sull'isola proficue iniziative di sensibilizzazione della popolazione. In pochi giorni hanno aderito circa 3 mila isolani di ogni età. Bisogna continuare a parlarne e tenere alta la guardia».

e.m.

Il calendario vaccinale del Piano Nazionale di Prevenzione Vaccinale 2017-2019

Vaccino	0gg-30gg	3° mese	4° mese	5° mese	6° mese	7° mese	11° mese	13° mese	15° mese	⇨	6° anno	12°-18° anno	19-49 anni	50-64 anni	> 64 anni
DTPa**		DTPa		DTPa			DTPa				DTPa***	dTpaIPV	1 dose dTpa**** ogni 10 anni		
IPV		IPV		IPV			IPV				IPV				
Epatite B	EpB-EpB*	Ep B		Ep B			Ep B								
Hib		Hib		Hib			Hib								
Pneumococco		PCV		PCV			PCV								PCV+PPSV
MPRV								MPRV			MPRV				
MPR								*oppure* MPR + V			*oppure* MPR + V				
Varicella															
Meningococco C								Men C§				Men ACWY coniugato			
Meningococco B*^		Men B	Men B		Men B			Men B							
HPV												HPV°: 2-3 dosi (in funzione di età e vaccino)			
Influenza															1 dose all'anno
Herpes Zoster															1 dose#
Rotavirus		Rotavirus## (due o tre dosi a seconda del tipo di vaccino)													
Epatite A															

	Cosomministrare nella stessa seduta
	Somministrare in seduta separata
	Vaccini per categorie a rischio

progetto

MENINGITALY

Meningiti batteriche e malattie invasive ad esse correlate: caratteristiche epidemiologiche, cliniche ed approcci terapeutici

Studio osservazionale, prospettico, multicentrico

Raccolta di dati clinici, epidemiologici, microbiologici e terapeutici mediante scheda informatizzata (Google Moduli) di casi di meningite batterica (non tubercolare) e malattie invasive ad esse correlate

Obiettivo: creazione di un registro nazionale prospettico

Centri partecipanti al momento: 1) Prima Divisione, Malattie Infettive ad indirizzo neurologico, Osp. Cotugno, AORN dei Colli, Napoli; 2) Clinica delle Malattie Infettive, AOU di Perugia; 3) Clinica delle Malattie Infettive, AO di Terni

Carlo Tascini
c.tascini@gmail.com
Prima Divisione, Osp. Cotugno, AORN dei Colli

OSPEDALI DEI COLLI
MONALDI - COTUGNO - C.T.O.
"AZIENDA OSPEDALIERA SPECIALISTICA DEI COLLI"
Monaldi - Cotugno - C.T.O.

Carlo Pallotto
pallottoc@gmail.com
Prima Divisione, Osp. Cotugno, AORN dei Colli; Sez. Malattie Infettive, Dip. Medicina, Università di Perugia

Futuro delle malattie infettive

- Ambulatorio delle vaccinazioni in malattie infettive?

Conclusioni

- Omogeneizzare lo standard of care al di là delle differenze regionali
- Puntare sull'antimicrobial stewardship: coordinamento dei programmi in ospedale e fuori
- Malattie infettive vaccinabili
- Forte pressione politica per l'importanza della disciplina in caso di epidemie
- Prendere spunto dalla FADOI: centro ricerche e studi prospettici