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Formal Education

- **Universitas Indonesia**, Subspesialis / Konsultan Penyakit Tropik dan Infeksi, Lulus 2013
- **Universitas Indonesia**, Spesialis Penyakit Dalam (Internist), Lulus 2009
- **Universitas Trisakti**, Dokter Umum, Lulus 2002
- **SMP-SMA Kolese Kanisius**, Jakarta, Lulus 1994

Organization

- **Tim Covid-19,** RSPI Puri Indah, 2020 – sekarang
- **Bendahara**, Perhimpunan Ilmu Kedokteran Tropis dan Penyakit Infeksi Indonesia (PETRI) Jakarta, sejak 2016 - 2023
- **Sekretaris Jenderal (Sekjen)**, Pengurus Pusat Perhimpunan Pengendalian Infeksi Indonesia (PERDALIN), sejak 2016 - 2022
- **Tim Ahli** Pokja Pencegahan dan Pengendalian Infeksi (PPI), Kemenkes RI, sejak 2017-2024
- **Kepala Bagian** Ilmu Penyakit Dalam Fakultas Kedokteran Universitas Trisakti, 2013-2020
- **Pendiri dan Perintis** RASPRO Indonesia Study Group, **Yayasan Pelita RASPRO Indonesia** untuk studi resistensi antimikroba dan penggunaan antimikroba bijak Indonesia
- **Ketua PPI** RSPI Bintaro Jaya
- **Internist-Konsultan**, RSPI Puri Indah, RSPI Bintaro Jaya, dan Tzu Chi Hospital – Pantai Indah Kapuk, Jakarta Utara

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PERTEMUAN ILMIAH TAHUNAN PAPDI BANTEN 13TH

UNIVERSITAS TRISAKTI

Update in Sepsis and Antibiotic Treatment

dr. Ronald Irwanto Natadidjaja, SpPD, Subsp.PTI(K), FINASIM

Faculty of Medicine Universitas Trisakti

Trisakti – RASPRO Indonesia Antimicrobial Stewardship (TRIASE) Learning Centre

Adapting to The Evolving Landscape of Internal Medicine: A Focus on Indonesian Practice

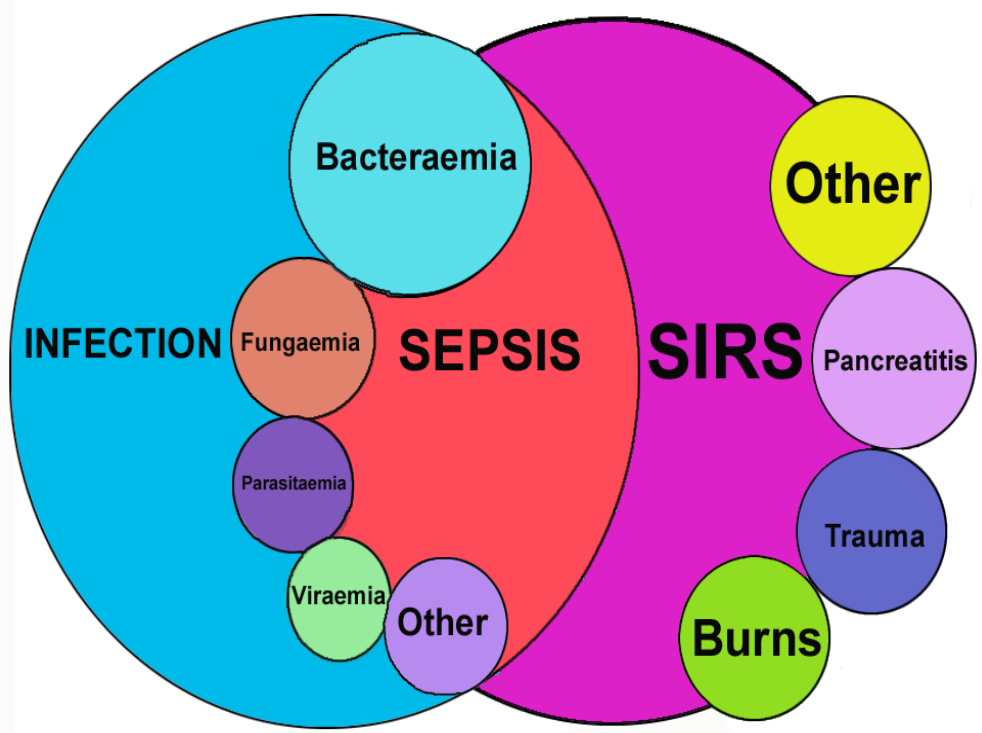
Sepsis : Diagnosis & Criteria

"Old Fashion vs New Fashion"

RI Natadidjaja
Internist - Konsultan

OLD FASHION

Systemic Inflammatory Response Syndrome (SIRS)



Host response to Inflammation include 2 of:

1. Temp >38°C or <36°C
2. Heart rate >90x/'
3. Respiratory rate >20x/' or $PaCO_2$<32mmHg
4. White blood cells count >12.000/mm^3, < 4.000 or bands >10%

Bone et al. Chest 1992;101:1644

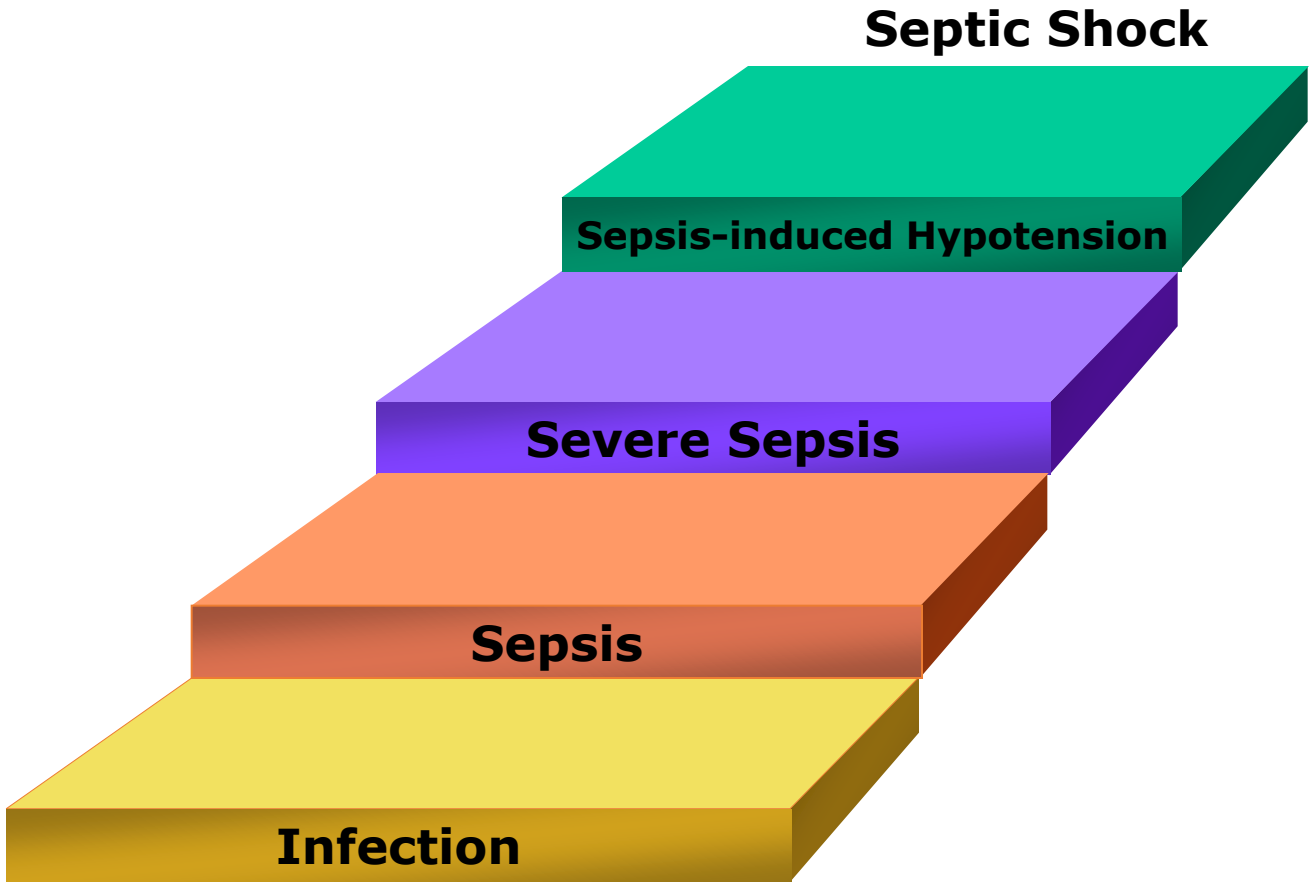
OLD FASHION

31st International Educational and Scientific Symposium of Society Critical Care Medicine, San Diego, 2002

P Predisposition
I Infection
R Response
O Organ Failure

OLD FASHION

Sepsis: A Continuum of Diseases



Bone, et al. 1992 Chest 101:1644-1655
Dellinger RP, Levy MM, Carlet JM, Bion J, Parker MM, Jaeschke R, et al. Crit Care Med 2008; 36(1): 296-327

OLD FASHION

Organ Dysfunction Variables

- Arterial hypoxemia (PaO_2/FIO_2 <300)
- Acute oliguria (urine output <0.5 mL/Kg hr or 45 mmol/L for at least 2 hrs, despite adequate fluid resuscitation)
- ↑ Creatinine 0.5 mg/dL
- Coagulation abN (INR >1.5 or aPTT >60 secs)
- Ileus
- Thrombocytopenia (platelet count <100,000/µL)
- Hyperbilirubinemia (plasma total bilirubin >4 mg/dL)

Dellinger RP, Levy MM, Carlet JM, Bion J, Parker MM, Jaeschke R, et al. Crit Care Med 2008; 36(1): 296-327

JAMA. 2016;315(8):801-810. doi:10.1001/jama.2016.0287

Special Communication | CARING FOR THE CRITICALLY ILL PATIENT

The Third International Consensus Definitions for Sepsis and Septic Shock (Sepsis-3)

Mervyn Singer, MD, FRCP; Clifford S. Deutschman, MD, MS; Christopher Warren Seymour, MD, MSc; Manu Shankar-Hari, MSc, MD, FFICM; Djillali Annane, MD, PhD; Michael Bauer, MD; Rinaldo Bellomo, MD; Gordon R. Bernard, MD; Jean-Daniel Chiche, MD, PhD; Craig M. Coopersmith, MD; Richard S. Hotchkiss, MD; Mitchell M. Levy, MD; John C. Marshall, MD; Greg S. Martin, MD, MSc; Steven M. Opal, MD; Gordon D. Rubenfeld, MD, MS; Tom van der Poll, MD, PhD; Jean-Louis Vincent, MD, PhD; Derek C. Angus, MD, MPH

RECOMMENDATIONS Sepsis should be defined as life-threatening organ dysfunction caused by a dysregulated host response to infection. For clinical operationalization, organ dysfunction can be represented by an increase in the Sequential [Sepsis-related] Organ Failure Assessment (SOFA) score of 2 points or more, which is associated with an in-hospital mortality greater than 10%. Septic shock should be defined as a subset of sepsis in which particularly profound circulatory, cellular, and metabolic abnormalities are associated with a greater risk of mortality than with sepsis alone. Patients with septic shock can be clinically identified by a vasopressor requirement to maintain a mean arterial pressure of 65 mm Hg or greater and serum lactate level greater than 2 mmol/L (>18 mg/dL) in the absence of hypovolemia. This combination is associated with hospital mortality rates greater than 40%. In out-of-hospital, emergency department, or general hospital ward settings, adult patients with suspected infection can be rapidly identified as being more likely to have poor outcomes typical of sepsis if they have at least 2 of the following clinical criteria that together constitute a new bedside clinical score termed quickSOFA (qSOFA): respiratory rate of 22/min or greater, altered mentation, or systolic blood pressure of 100 mm Hg or less.

Intensive Care Med
https://doi.org/10.1007/s00134-021-06506-y

GUIDELINES

Surviving sepsis campaign: international guidelines for management of sepsis and septic shock 2021

Laura Evans[1*], Andrew Rhodes[2], Waleed Alhazzani[3], Massimo Antonelli[4], Craig M. Coopersmith[5], Craig French[6], Flávia R. Machado[7], Lauralyn Mcintyre[8], Marlies Ostermann[9], Hallie C. Prescott[10], Christa Schorr[11], Steven Simpson[12], W. Joost Wiersinga[13], Fayez Alshamsi[14], Derek C. Angus[15], Yaseen Arabi[16], Luciano Azevedo[17], Richard Beale[9], Gregory Beilman[18], Emilie Belley-Cote[19], Lisa Burry[20], Maurizio Cecconi[21,22], John Centofanti[23], Angel Coz Yataco[24], Jan De Waele[25], R. Phillip Dellinger[11], Kent Doi[26], Bin Du[27], Elisa Estenssoro[28], Ricard Ferrer[29], Charles Gomersall[30], Carol Hodgson[31], Morten Hylander Møller[32], Theodore Iwashyna[33], Shevin Jacob[34], Ruth Kleinpell[35], Michael Klompas[36,37], Younsuck Koh[38], Anand Kumar[39], Arthur Kwizera[40], Suzana Lobo[41], Henry Masur[42], Steven McGloughlin[43], Sangeeta Mehta[44], Yatin Mehta[45], Mervyn Mer[46], Mark Nunnally[47], Simon Oczkowski[3], Tiffany Osborn[48], Elizabeth Papathanassoglou[49], Anders Perner[50], Michael Puskarich[51], Jason Roberts[52,53,54,55], William Schweickert[56], Maureen Seckel[57], Jonathan Sevransky[5], Charles L. Sprung[58,59], Tobias Welte[60], Janice Zimmerman[61] and Mitchell Levy[62]

Recommendation

2. We **recommend against** using qSOFA compared to SIRS, NEWS, or MEWS as a single screening tool for sepsis or septic shock

Strong recommendation, moderate-quality evidence

Recommendation

3. For adults suspected of having sepsis, we **suggest** measuring blood lactate

Weak recommendation, low-quality evidence

Intensive Care Med
https://doi.org/10.1007/s00134-021-06506-y

PETRI
Perhimpunan Kedokteran Tropis dan Penyakit Infeksi Indonesia

GUIDELINES

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Diagnosis of infection

Recommendation
11. For adults with suspected sepsis or septic shock but unconfirmed infection, we **recommend** continuously re-evaluating and searching for alternative diagnoses and discontinuing empiric antimicrobials if an alternative cause of illness is demonstrated or strongly suspected *Best Practice statement*

Time to antibiotics

Recommendations
12. For adults with possible septic shock or a high likelihood for sepsis, we **recommend** administering antimicrobials immediately, ideally within 1 h of recognition *Strong recommendation, low quality of evidence (Septic shock)* Strong recommendation, very low quality of evidence (Sepsis without shock)
13. For adults with possible sepsis without shock, we **recommend** rapid assessment of the likelihood of infectious versus non-infectious causes of acute illness *Best Practice Statement* **Remarks** Rapid assessment includes history and clinical examination, tests for both infectious and non-infectious causes of acute illness and immediate treatment for acute conditions that can mimic sepsis. Whenever possible this should be completed within 3 h of presentation so that a decision can be made as to the likelihood of an infectious cause of the patient's presentation and timely antimicrobial therapy provided if the likelihood of sepsis is thought to be high
14. For adults with possible sepsis without shock, we **suggest** a time-limited course of rapid investigation and if concern for infection persists, the administration of antimicrobials within 3 h from the time when sepsis was first recognised *Weak recommendation, very low quality of evidence*
15. For adults with a low likelihood of infection and without shock, we **suggest** deferring antimicrobials while continuing to closely monitor the patient. *Weak recommendation, very low quality of evidence*

Intensive Care Med
https://doi.org/10.1007/s00134-021-06506-y

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Biomarkers to start antibiotics

Recommendation
16. For adults with suspected sepsis or septic shock, we **suggest against** using procalcitonin plus clinical evaluation to decide when to start antimicrobials, as compared to clinical evaluation alone
Weak recommendation, very low quality of evidence

Published guidelines for the management of community-acquired pneumonia recommend initiation of antimicrobials for patients with community-acquired pneumonia regardless of procalcitonin level [132].

Prognostic accuracy of the quick Sequential Organ Failure Assessment (qSOFA)-lactate criteria for mortality in adults with suspected bacterial infection in the emergency department of a hospital with limited resources

http://orcid.org/0000-0003-3857-300X
Robert Sinto, Suhendro Suwarto, Khie Chen Lie , Kuntjoro Harimurti, Djoko Widodo
Herdiman T Pohan

Results Of 3026 patients screened, 1213 met the inclusion criteria. The AUROC of qSOFA-lactate criteria was 0.74 (95% CI 0.71 to 0.77). The AUROC of qSOFA-lactate was not statistically significantly different to the SOFA score (AUROC 0.75, 95% CI 0.72 to 0.78; p=0.462). The qSOFA-lactate was significantly higher than qSOFA (AUROC 0.70, 95% CI0.67 to 0.74; p=0.006) and SIRS criteria (0.57, 95% CI0.54 to 0.60; p<0.001).

Conclusions The prognostic accuracy of the qSOFA-lactate criteria is as good as the SOFA score in the emergency department of a hospital with limited resources. The performance of the qSOFA criteria is significantly lower than the qSOFA-lactate criteria and SOFA score.

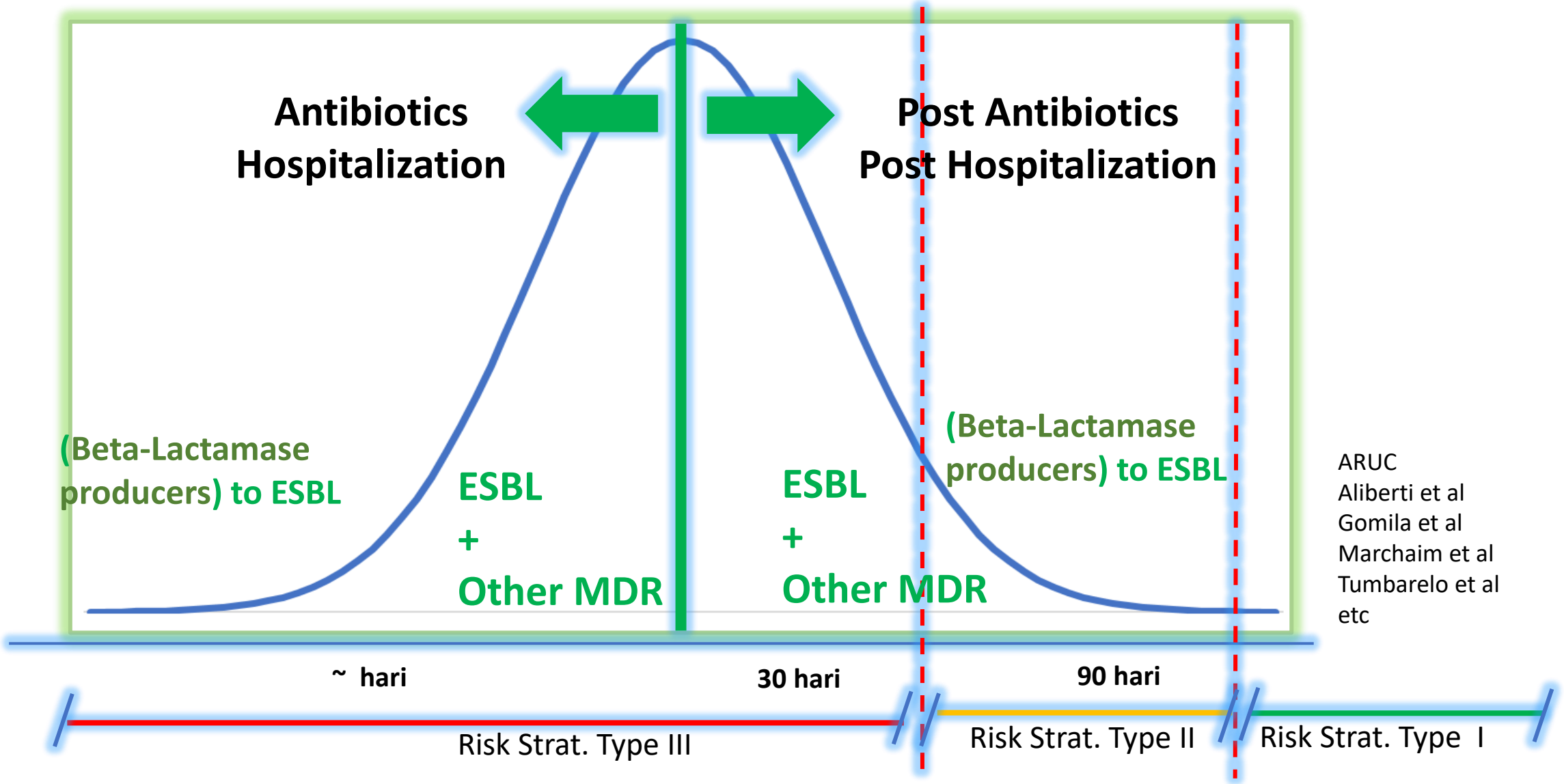
Emergency Medicine Journal, Vol 37 issue 6, 2020

Sepsis : The Risk Factors

Severity – Immune Status – Medical History

RI Natadidjaja
Internist - Konsultan

RASPRO Indonesia Files and Documents



Komisi Akreditasi Rumah Sakit

Journal of Hospital Accreditation, 2021
Vol 03, Edisi 2, hal 114-118
Tanggal Publikasi, 25 Juli 2021

Laporan Peningkatan Mutu

PENINGKATAN MUTU PENGGUNAAN ANTIBIOTIK BIJAK MELALUI KESESUAIAN TEMUAN HASIL KULTUR DENGAN KAJIAN RISIKO PASIEN MENURUT MODEL REGULASI ANTIMIKROBA SISTEM PROSPEKTIF (RASPRO)

RONALD IRWANTO NATADIDJAJA[1,2], HADIANTI ADLANI[2], HADI SUMARSONO[2,3]
[1]Departemen Ilmu Penyakit Dalam FK TRISAKTI, Jakarta
[2]RASPRO Indonesia Study Group
[3]Ikatan Apoteker Indonesia

Tabel 3. Kesesuaian Temuan Hasil Kultur dengan Kajian Risiko Pasien Menurut Model RASPRO

	Multisensitif		MDR				Prediksi	
			ESBL		Non ESBL			
	n	%	n	%	n	%	Sesuai	Tidak Sesuai
Gram Negatif								
Acinetobacter sp.	0	0,00	0	0,00	4	10,00	4	0
Pseudomanas sp.	0	0,00	0	0,00	7	17,50	7	0
Klebsiela pneumonia	15	26,32	2	22,22	6	15,00	21	2
Escheceria coli	18	31,58	7	77,78	6	15,00	28	3
Citrobacter koseri	0	0,00	0	0,00	1	2,50	1	0
Enterobacter sp.	1	1,75	0	0,00	1	2,50	2	0
Proteus sp.	0	0,00	0	0,00	2	5,00	2	0
Providencia stuartii	0	0,00	0	0,00	1	2,50	1	0
Pantoea agglomerans	1	1,75	0	0,00	0	0,00	1	0
Raoultella ornithinolytica	0	0,00	0	0,00	1	2,50	1	0
Serratia fonticola	1	1,75	0	0,00	0	0,00	1	0
Total	**36**	**63,15**	**9**	**100,00**	**29**	72,50	**69**	**5**
Gram Positif								
Staphylococcus aureus	4	7,02	0	0,00	1 *	2,50	5	0
Staphylococcus epidermidis	1	1,75	0	0,00	2 **	5,00	3	0
Enterococcus faecalis	4	7,02	0	0,00	2	5,00	5	1
Enterococcus faecium	1	1,75	0	0,00	1	2,50	1	1
Streptococcus sp.	8	14,04	0	0,00	4	10,00	12	0
Staphylococcus sp.	3	5,26	0	0,00	1	2,50	3	1
Total	**21**	**36,84**	0	0,00	**11**	27,50	**29**	**3**
TOTAL	**57**	**100,00**	**9**	**100,00**	**40**	**100,00**	**98**	**8**

* MRSA ** MRSE

Tabel 4. Persentase Kesesuaian Hasil Kultur dengan Kajian Risiko Infeksi Multisensitif dan MDR Model RASPRO

	Sesuai		Tidak Sesuai		Total	
	n	%	n	%	n	%
Multisensitif	54	94,74	3	5,26	57	100,00
MDR	44	89,80	5	10,20	49	100,00

ORIGINAL ARTICLE

Bali Medical Journal (*Bali MedJ*) 2021, Volume 10, Number 3: 1031-1036
P-ISSN.2089-1180, E-ISSN: 2302-2914

Bali Medical Journal
www.BaliMedicalJournal.org
Published by Bali Medical Journal

The Association between Medical History-based Risks and Sepsis Events in Immunocompromised Patients according to Type III Stratification of the Indonesian Regulation on the Prospective Antimicrobial System (*Regulasi Antimikroba Sistem Prospektif / RASPRO*)

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Received: 2021-07-09
Accepted: 2021-12-05
Published: 2021-12-30

ABSTRACT

Background: The Indonesian Regulation on the Prospective Antimicrobial System (*Regulasi Antimikroba Sistem Prospektif/ RASPRO*) is a novel program. Its role has been reinforced by the Indonesian Ministry of Law and Human Rights Stipulation, which may predict the risk of sepsis events. Our study aimed to evaluate whether the risk factors listed in the *RASPRO* consensus have actual effects on sepsis events.
Method: The study was a retrospective cohort using secondary data with 98 subjects. The subjects were categorized into two groups, i.e., the *RASPRO* group with type III stratification (RASPRO Group) and Non-type III stratification *RASPRO* group (Non-RASPRO Group). Subjects with infection but with conditions other than the abovementioned criteria were categorized into the Non-RASPRO group.
Results: We found that among subjects in the RASPRO group, a history of antibiotic use over the past <30 days (OR 3.42; 95%CI 1.32–8.85; p=0.011) and a history of having procedure using medical instruments within the last <30 days (OR 2.62; 95%CI 1.06–6.45; p=0.037) seemed to be greatest risk factors for sepsis events.
Conclusion: The RASPRO group has a higher risk for sepsis events than the non-RASPRO with a history of antibiotic undergoing a procedure using a medical instrument within the last <30 days possessed the greatest risk factors for sepsis events.

Keywords: *RASPRO*, stratification, risks, sepsis.
Cite This Article: Natadidjaja, R.I., Kusuma, A.S., Sudradjad, G.B., Nugrohowati, L. 2021. The Association between Medical History-based Risks and Sepsis Events in Immunocompromised Patients according to Type III Stratification of the Indonesian Regulation on the Prospective Antimicrobial System (*Regulasi Antimikroba Sistem Prospektif / RASPRO*). *Bali Medical Journal* 10(3): 1031-1036. DOI: 10.15562/bmj.v10i3.2561

J Biomed Kesehat 2019 : 2 (1) : 15-19

Korelasi antara kadar *procalcitonin* dengan serum *transaminase* pada pasien sepsis: sebuah studi pendahuluan

Nur Hadi Kuswoyo[1] Ronald Irwanto Natadidjaja[2]

The corelation between procalcitonin to transaminase serum level in sepsis patients: a preliminary study

RESULT

Mean age data is 47.5 ± 3.57 years old. Mean of PCT level in sepsis patient is 6.5083± 0.78 ng/ml, while the mean oftransaminase serum (SGPT) level each is 60.4167± 1.65 /mm3. The coefficient corelation of PCT to the SGPT show r = 0.812 ($p<0.05$).

CONCLUSION

This research showed that liver dysfuunction may indicates the early event of sepsis. The high correlation between PCT and transamnase elevation resulted in this research.

Journal of Medical Case Reports and Reviews

Received 20 June 2025 | Accepted 25 June 2025 | Published Online 5 July 2025

DOI:https://doi.org/10.52845/JMCRR/2025/8-7-4

JMCRR 08 (7), 1515-1521

ISSN (O) 2589-8655 | (P) 2589-8647 IF: 2.964

Original research Articles

Correlation Between Procalcitonin and Creatinine Levels in Sepsis Patients

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2. Department of Internal Medicine, Faculty of Medicine, Universitas Trisakti

3. Trisakti-RASPRO Indonesia Antimicrobial Stewardship (TRIASE) Learning Centre

Abstract:-

BACKGROUND: Procalcitonin is a very important biochemical marker that is closely correlated with the severity of the host's inflammatory response to microbial infection. Creatinine is a breakdown product of creatine that provides energy for muscles, which is then released into the blood, after which it passes through the kidneys and is excreted. These two parameters are related in several circumstances, especially in patients with severe bacterial infections that can affect kidney function. The purpose of this study was to determine the correlation between procalcitonin and creatinine levels in sepsis patients.

METHODS: This study used an observational analytical design with a cross-sectional approach. The population of this study was sepsis patients who were in the emergency unit of the Karawang Regional General Hospital. The sample selection technique used was consecutive sampling. Data were obtained through patient medical records. Data were processed and analyzed using the Spearman Correlation Test.

RESULTS: Based on the results of the study on 30 respondents, there was a significant correlation between procalcitonin levels and creatinine in sepsis patients at the Karawang General Hospital ($r = 0.755$; $p = <0.001$).

CONCLUSION: There was a significant correlation between procalcitonin levels and creatinine in sepsis patients at the Karawang General Hospital.

Keywords: Procalcitonin, Creatinine, Sepsis

Sepsis
The antibiotic recommendation insight

RI Natadidjaja
Internist - Konsultan

Futuristic Fashion in Antimicrobial Used - The WHO "Kick of" in 2023

- Shifting WATCH to ≥ 60% ACCESS

RASPRO Indonesia

www.new.rasproindonesia.com

Aztrenonam
Ceftazidime Avibactam
Ceftaroline Fosamil
Ceftolozane Tazobactam

Imipenem cilastatin-relebactam

Fosfomycin IV
Colistin
Polymixin B
Tygecycline

RESERVED

This group includes antibiotics and antibiotic classes that should be reserved for treatment of confirmed or suspected infections due to multi-drug-resistant organisms. Reserve group antibiotics should be treated as "last resort" options.

Quinolones
Azithromycin

2nd , 3rd& 4th Generation of Cephalosporin

Piperacillin Tazobactam
Carbapenems

WATCH

This group includes antibiotic classes that have higher resistance potential and includes most of the highest priority agents among the Critically Important Antimicrobials for Human Medicine and/or antibiotics that are at relatively high risk of selection of bacterial resistance. These medicines should be prioritized as key targets of stewardship programs and monitoring. Selected Watch group antibiotics are recommended as essential first or second choice empiric treatment options for a limited number of specific infectious syndromes and are listed as individual medicines on the WHO Model Lists of Essential Medicines.

Ampicillin Sulbactam
Ampicillin
Amoxicillin Clavulanate
Amoxicillin

1st Generation of Cephalosporin

Amikacin
Gentamycin

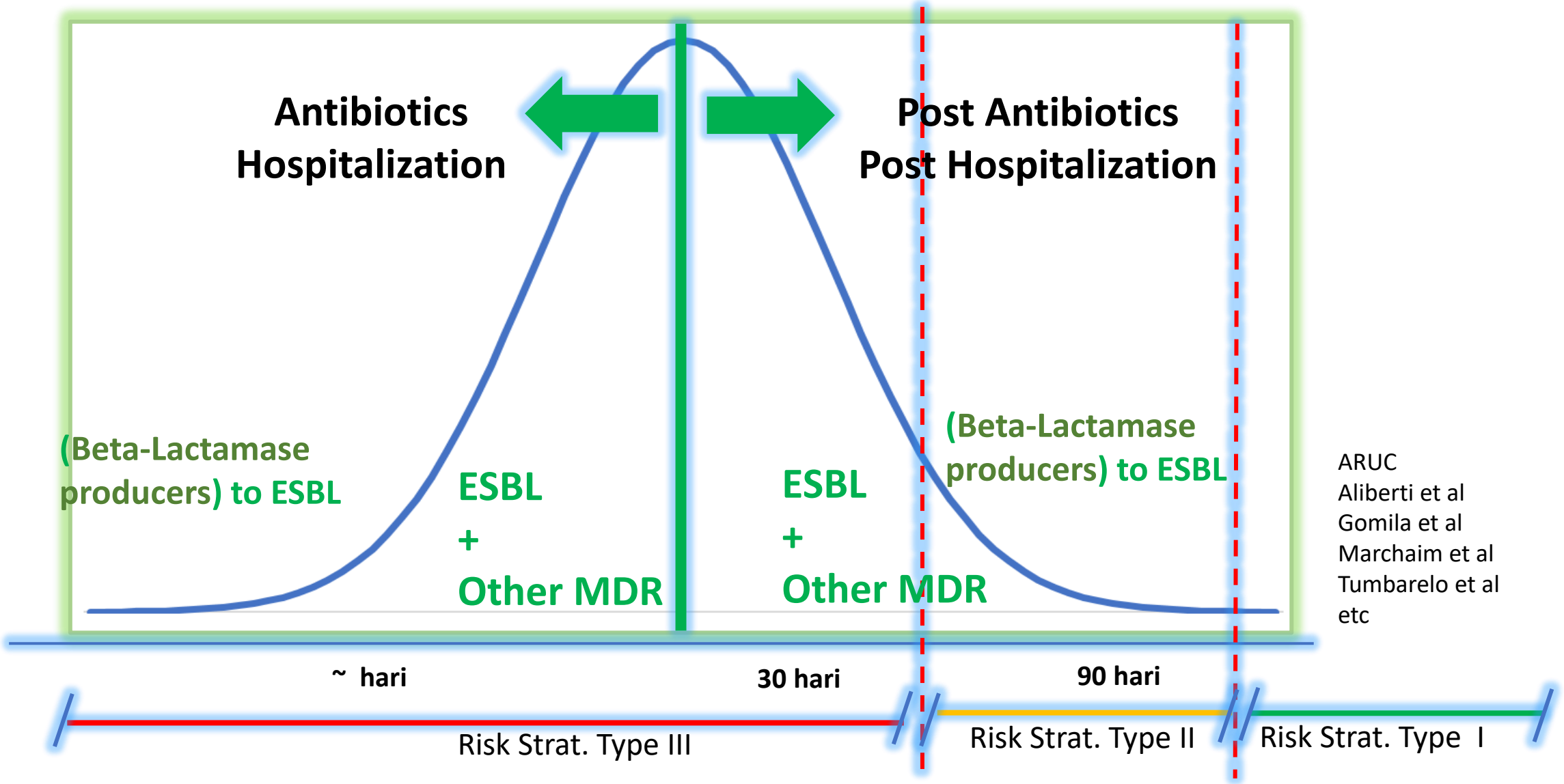
ACCESS

This group includes antibiotics that have activity against a wide range of commonly encountered susceptible pathogens while also showing lower resistance potential than antibiotics in the other groups. Selected Access group antibiotics are recommended as essential first or second choice empiric treatment options for infectious syndromes reviewed by the EML Expert Committee and are listed as individual medicines on the Model Lists of Essential Medicines to improve access and promote appropriate use.

AWARE 2021

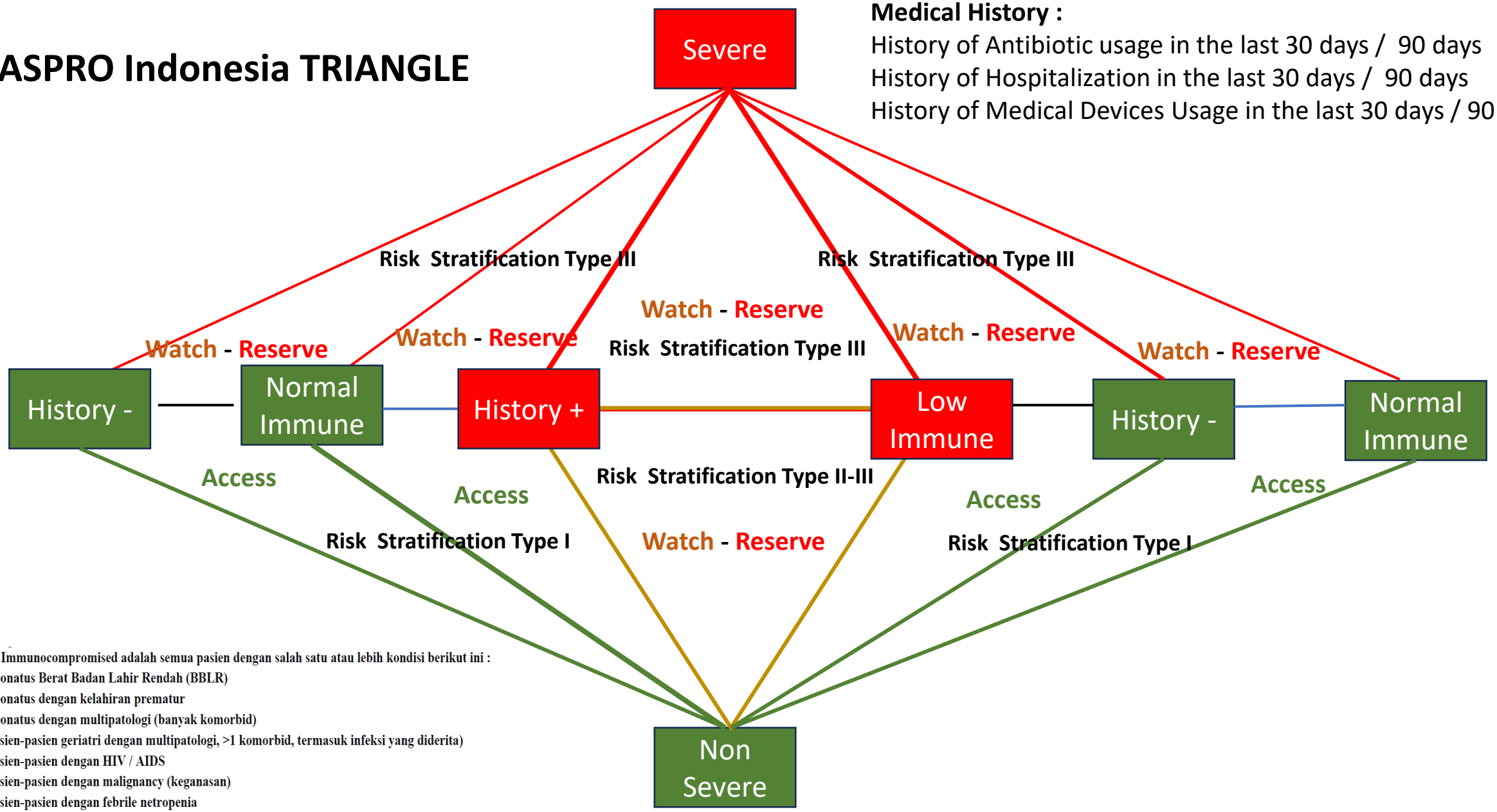
World Health Organization

RASPRO Indonesia Files and Documents



RASPRO Indonesia TRIANGLE

Medical History :
History of Antibiotic usage in the last 30 days / 90 days
History of Hospitalization in the last 30 days / 90 days
History of Medical Devices Usage in the last 30 days / 90 days



Pasien Immunocompromised adalah semua pasien dengan salah satu atau lebih kondisi berikut ini :

1. Neonatus Berat Badan Lahir Rendah (BBLR)
2. Neonatus dengan kelahiran prematur
3. Neonatus dengan multipatologi (banyak komorbid)
4. Pasien-pasien geriatri dengan multipatologi, >1 komorbid, termasuk infeksi yang diderita)
5. Pasien-pasien dengan HIV / AIDS
6. Pasien-pasien dengan malignancy (keganasan)
7. Pasien-pasien dengan febrile netropenia
8. Pasien-pasien dengan penyakit kronis / infeksi kronis / infeksi berulang, sirosis hati dan gagal ginjal kronik
9. Pasien-pasien dengan autoimmune dan/atau penggunaan immunosupresan lama

International Journal of INFECTION CONTROL

ORIGINAL ARTICLE

Antibiotic usage at a private hospital in Central Java: results of implementing the Indonesian Regulation on the Prospective Antimicrobial System (Regulasi Antimikroba Sistem Prospektif Indonesia [RASPRO])

Ronald Irwanto Natadidjaja[1,2]*, Tarcisius Henry[1], Hadianti Adlani[1], Aziza Ariyani[1] and Rika Bur[1]

[1]RASPRO Indonesia Study Group, Jakarta, Indonesia; [2]Infectious Disease Division, Trisakti School of Medicine, Trisakti University, Jakarta, Indonesia

NO.	SPECIFICATION	FLOW	STOP	TREATMENT	AB
1.	Bacterial infection site(s) & symptoms clearly explained	No	STOP	No AB Treatment	
		Yes	Site(s):		
2.	Sepsis/Febrile Neutropenia/Categorized into HAIs	Yes	STOP	Stratification Type III	
		No			
3.	Organ perforation	Yes	STOP	Stratification Type III	
		No			
4.	Bacterial infection encephalopathy	Yes	STOP	Stratification Type III	
		No			
5.	Immunocompromised and/or uncontrolled DM with history of antibiotic(s) taking in the last 30 days	Yes	STOP	Stratification Type III	
		No			
6.	Immunocompromised and/or uncontrolled DM with history of hospitalization more than 48 hours in the last 30 days	Yes	STOP	Stratification Type III	
		No			
7.	Immunocompromised and/or uncontrolled DM with history of medical devices usage in the last 30 days	Yes	STOP	Stratification Type III	
		No			
8.	Immunocompromised and/or uncontrolled DM with history of antibiotic(s) taking in the last 90 days	Yes	STOP	Stratification Type II	
		No			
9.	Immunocompromised and/or uncontrolled DM with history of hospitalization more than 48 hours in the last 90 days	Yes	STOP	Stratification Type II	
		No			
10.	Immunocompromised and/or uncontrolled DM with history of medical devices usage in the last 90 days	Yes	STOP	Stratification Type II	
		No		Stratification Type I	

RASPRO Alur Antibiotik Awal (RASAL 1.0)

NO.	SPESIFIKASI	FLOW	KET.	TINDAKAN	AB
1.	Fokus infeksi dengan gejala infeksi	Tidak	henti	Tidak perlu antibiotik	
		Ya	Fokus Infeksi :		
2.	Klinis progresif Sepsis / Septic Shock / Febril Netropenia / Terkategori HAIs	Ya	henti	Antibiotik Stratifikasi Risiko Tipe III	
		Tidak			
3.	Perforasi organ mengancam	Ya	henti	Antibiotik Stratifikasi Risiko Tipe III	
		Tidak			
4.	Encephalopathy et causa infeksi bakterial	Ya	henti	Antibiotik Stratifikasi Risiko Tipe III	
		Tidak			
5.	(Immunocompromised dan / atau DM tidak terkontrol) + riwayat konsumsi antibiotik ≤ 30 hari yang lalu	Ya	henti	Antibiotik Stratifikasi Risiko Tipe III	
		Tidak			
6.	(Immunocompromised dan / atau DM tidak terkontrol) + riwayat perawatan ≥ 48 jam ≤ 30 hari yang lalu	Ya	henti	Antibiotik Stratifikasi Risiko Tipe III	
		Tidak			
7.	(Immunocompromised dan / atau DM tidak terkontrol) + penggunaan instrumen medis atau riwayat penggunaan instrumen medis ≤ 30 hari yang lalu	Ya	henti	Antibiotik Stratifikasi Risiko Tipe III	
		Tidak			
8.	(Immunocompromised dan / atau DM tidak terkontrol) + riwayat konsumsi antibiotik ≤ 90 hari yang lalu	Ya	henti	Antibiotik Stratifikasi Risiko Tipe II	
		Tidak			
9.	(Immunocompromised dan / atau DM tidak terkontrol) + riwayat perawatan ≥ 48 jam ≤ 90 hari yang lalu	Ya	henti	Antibiotik Stratifikasi Risiko Tipe II	
		Tidak			
10.	(Immunocompromised dan / atau DM tidak terkontrol) + riwayat penggunaan instrumen medis ≤ 90 hari yang lalu	Ya	henti	Antibiotik Stratifikasi Risiko Tipe II	
		Tidak	Antibiotik Stratifikasi Risiko Tipe I		

Clinical eHealth 7 (2024) 176–189

Contents lists available at ScienceDirect

Clinical eHealth

journal homepage: ww.keaipublishing.com/CEH

A survey on define daily dose of watch- and access-category antibiotics in two Indonesian hospitals following the implementation of digital antimicrobial stewardship tool

Ronald Irwanto Natadidjaja [a,b,*], Aziza Ariyani [a], Hadianti Adlani [a,c], Raymond Adianto [a], Iin Indah Pertiwi [a], Grace Nerry Legoh [a], Alvin Lekonardo Rantung [a], Hadi Sumarsono [a]

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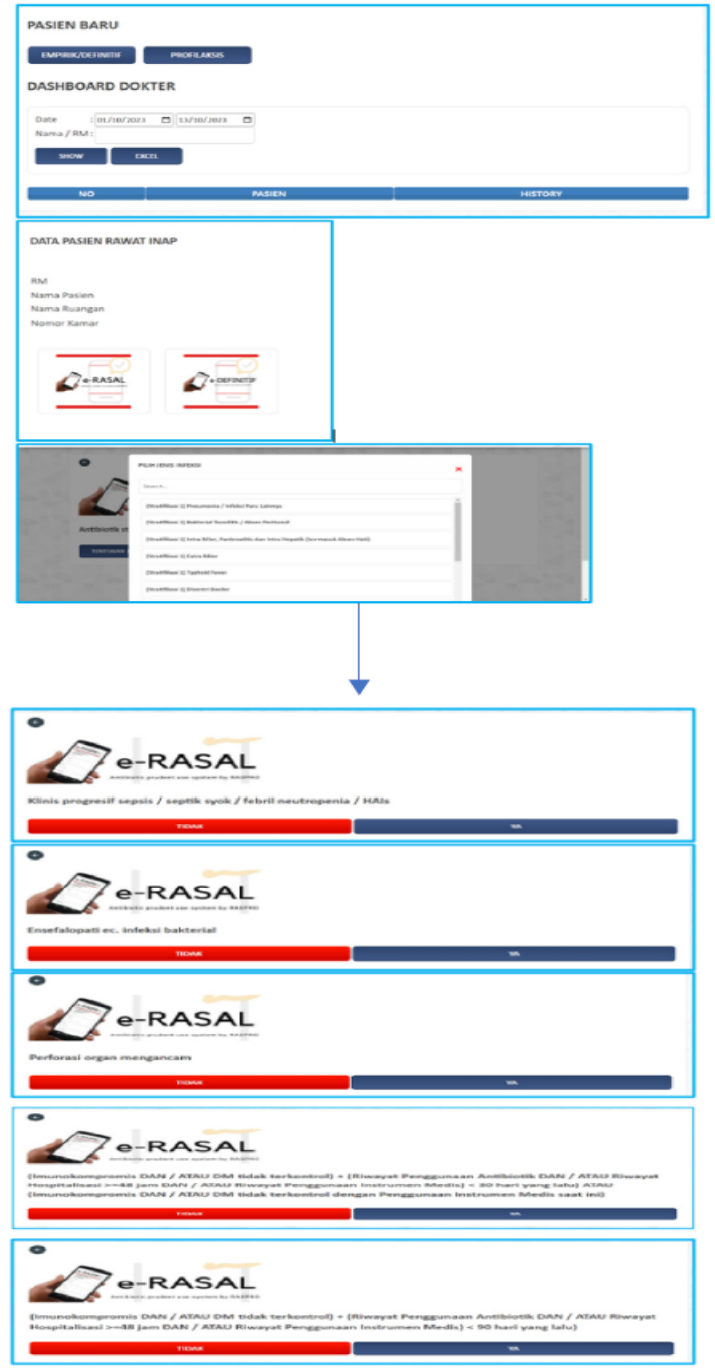

HOSPITAL FACILITY

ADULTS

Community-acquired pneumonia

CURB-65 Severity Scoring System

Signs & Symptoms (1 point each)

- Presence of Confusion (new onset)
- Urea > 19 mg/dL (or > 7 mmol/L)*
- Respiratory rate > 30/min
- Systolic BP < 90 mmHg (<12 kPa) or Diastolic BP ≤ 60 mmHg (<8 kPa)
- Age ≥ **65** years

Score 0-1
- Consider outpatient treatment

Score 2
- Consider inpatient treatment
- **Consider adding clarithromycin to beta-lactam for atypical coverage**
- Perform microbiology tests

Score ≥3
- Inpatient treatment (consider ICU)
- **Consider adding clarithromycin**
- Perform microbiology tests

Other considerations such as severe comorbid illnesses or inability to maintain oral therapy should be taken into account. CURB-65 has not been extensively validated in low-income settings.

The **CRB-65 score, which does not require laboratory values for its calculation, can also be used, the score value interpretation is the same as for CURB-65*

Mild to Moderate Cases

All dosages are for normal renal function

Antibiotics are listed in alphabetical order and should be considered equal treatment options unless otherwise indicated

First Choice

ACCESS — Amoxicillin 1 g q8h **ORAL**

OR

ACCESS — Phenoxymethylpenicillin (as potassium) 500 mg (800 000 IU) q6h **ORAL**

Second Choice

ACCESS — Amoxicillin+clavulanic acid 875 mg+125 mg q8h **ORAL**

OR

ACCESS — Doxycycline 100 mg q12h **ORAL**

Treatment

Antibiotic Treatment Duration

Treat for **5 days**

If severe disease, consider longer treatment and look for complications such as empyema, if patient not clinically stable at day 5

Severe Cases

All dosages are for normal renal function

Antibiotics are listed in alphabetical order and should be considered equal treatment options unless otherwise indicated

First Choice

WATCH — Cefotaxime 2 g q8h **IV/IM**

OR

WATCH — Ceftriaxone 2 g q24h **IV** (1 g q24h **IM***)

**A larger volume would be painful to give as intramuscular injection*

IF CURB-65 ≥2, CONSIDER ADDING

WATCH — Clarithromycin 500 mg q12h **ORAL** (or **IV**)

Clarithromycin has excellent oral bioavailability and the intravenous route should be reserved for patients with impaired gastrointestinal function

Second Choice

ACCESS — Amoxicillin+clavulanic acid 1 g+200 mg q8h **IV**
- A higher daily dose can be considered: 1 g+200 mg q6h

IF CURB-65 ≥2, CONSIDER ADDING

WATCH — Clarithromycin 500 mg q12h **ORAL** (or **IV**)

Clarithromycin has excellent oral bioavailability and the intravenous route should be reserved for patients with impaired gastrointestinal function

AWARE, 2021

World Health Organization

Pengaruh Pemberian Antibiotik berdasar Panduan terhadap Lama Tinggal pada Pasien Pneumonia Komunitas di Rumah Sakit

Antibiotic Treatment based on Guidelines for Reducing Length of Stay (LOS) in Patients with Community Acquired Pneumonia (CAP)

Fetri Charya Munarsih[1], Ronald Irwanto Natadidjadja[2], Syamsudin[1]

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Results. *The result showed that subjects with unproper empiric antibiotic based on ATS/IDSA 2007 guidelines tent to have hospital prolong stay 10.25 times (p <0.001) than others with proper on ATS/IDSA empiric antibiotic guidelines.*

Conclusion. *By this result, we observed a very significant statistic result difference in LOS between a group with proper empiric antibiotic based on ATS/IDSA 2007 guidelines and other who unproper.*

Variabel	Lama Rawat		Bivariat		Multivariat	
	<5 hari, n (%)	>5 hari, n (%)	Nilai p	OR (IK 95%)	Nilai p	OR (IK 95%)
Kesesuaian						
Sesuai	38 (38,8)	11 (11,2)	<0,001	10,65 (4,18–27,13)	<0,001	10,25 (3,93–26,71)
Tidak	12 (12,2)	37 (37,8)				

JURNAL ILMU KEFARMASIAN INDONESIA, Oktober 2020, hlm. 246-251 Vol. 18, No. 2
ISSN:1693-1831, E-ISSN: 2614-6495

Efektivitas Meropenem-Levofloxacin dengan Meropenem-Amikasin terhadap LOS & Leukosit Pasien Pneumonia Komuniti Stratifikasi III RASPRO

(Effectiveness of Meropenem-Levofloxacin with Meropenem-Amikasin Towards LOS & Leukocytes to RASPRO III Stratification Community Pneumonia Patients)

HADI SUMARSONO[1]*, DIAN RATIH LAKSMITAWATI[2], RONALD IRWANTO[1]

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Abstrak: Pemberian antibiotika di rumah sakit swasta "X" menerapkan konsep bernama *Ronald Irwanto Antimicrobial Steweardship Program* (RASPRO). Saran kombinasi antibiotika empiris pada pasien pneumonia komuniti dengan stratifikasi tipe III antara lain menggunakan kombinasi meropenem - levofloxacin atau meropenem - amikasin. Tujuan penelitian adalah untuk mengetahui pengaruh kombinasi antibiotika empiris meropenem - levofloxacin dengan meropenem - amikasin pada pasien pneumonia komuniti stratifikasi tipe III RASPRO terhadap LOS dan penurunan leukosit. Sampel uji dihitung menggunakan rumus perbedaan dua proporsi dan dianalisa menggunakan metode Chi square. Variabel perancu diabetes mellitus, imobilisasi dan geriatri dikontrol berdasarkan uji analisa multivariat regresi logistik. Hasil penelitian menunjukkan kombinasi meropenem - levofloxacin memiliki kecenderungan 1,81 kali untuk mengalami LOS < 5 hari dan 0,92 kali untuk mengalami penurunan leukosit ≥10% dibandingkan meropenem - amikasin, namun keduanya tidak signifikan (p 0,161 dan p 0,835). Hasil kontrol variabel perancu ditemukan bahwa geriatri sebagai variabel perancu yang bermakna dalam mempengaruhi LOS dan tidak ada variabel perancu yang dianggap dapat mempengaruhi penurunan leukosit. Sebagai kesimpulan, tidak terdapat pengaruh kombinasi antibiotika empiris meropenem - levofloxacin dengan meropenem - amikasin terhadap LOS & penurunan leukosit pada pasien pneumonia komuniti stratifikasi tipe III RASPRO dengan menggunakan statistik setelah mengontrol variabel perancu.

BACTERIAL SEPSIS OF UNKNOWN SOURCE IN IMMUNOCOMPETENT PATIENT WITH DENGUE HEMORRHAGIC FEVER : A CASE REPORT

Melisa (1), **Ronald Irwanto Natadidjaja** (1,2)]

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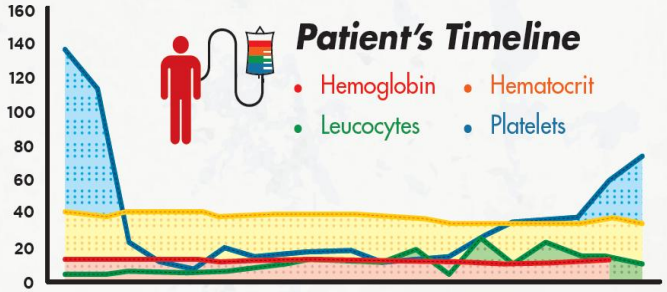
[2] | Division of Tropical Medicine and Infectious Disease, Department of Internal Medicine, Trisakti School of Medicine, Jakarta, Indonesia

3 CASE



Day of Administration	0	0	1	2	2	3	4	4	5	5	6	6	7	7	8	8	9	9	10
Hemoglobin	14.3	13.7	14.8	14.9	14.9	13.1	13.8	14.6	13.6	13.8	13.4	13.2	12.1	12.5	12	12	12.2	13.6	12.5
Hematocrit	41	40	43	43	43	38	39	42	40	40	39	38	35	36	35	35	36	39	36
Leucocytes	4.7	4.1	7	7	6.3	7.5	10	12	13.2	13.2	12.2	19.1	5.6	26.1	10.6	23.9	17.5	15.4	11.7
Plateletes	136	114	12	12	8	20	16	17	19	19	12	14	16	27	35	38	38	60	74

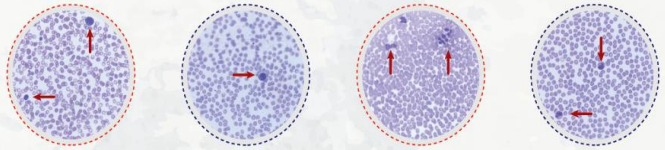


Fig.1 Fig.2 Fig.3 Fig.4

Peripheral Blood Film (PBF) shows changing characteristic from Blue Lymphocyte Predominant (Fig.1 & Fig.2) into segmented Neutrophils (Fig.3 & Fig.4)

A 38 year old man came with a chief complaint of fever for 5 days prior to hospital and afterward was diagnosed with DHF. During hospitalization his thrombocytopenia persisted, whereas during that time, his platelet count was expected to have risen.

Malaria, HIV, Hepatitis, Autoimmune, malignancy were already excluded. DIC profile was normal.

He received fresh frozen plasma and platelet apheresis transfusion, but the platelet counts failed to reach the normal range.

A serial tests were performed to find out caused of his prolonged thrombocytopenia. PBF shows changing characteristic from blue lymphocyte predominant into segmented neutrophils which indicates bacterial infection. Steroid administration did not elicit any improvement. His Procalcitonin level and leucocytes were escalating which indicates bacterial infection.

No clinical symptom of lung, skin and soft tissue, urinary tract, intra abdominal infection.

We treated the patient for sepsis with antibiotics and he displayed good response.

Subsequently, his platelet level slowly increased and leucocytes began to drop.

4 CONCLUSION

Prolonged thrombocytopenia in DHF is uncommon when the platelet counts will automatically raised into normal range with clinical improvement.

Elevation of Procalcitonin and better response to antibiotics in this case confirms that prolonged thrombocytopenia in DHF predominantly was caused by bacterial sepsis, that we predict caused by bacterial translocation from gut.

Therefore, physicians should consider bacterial translocation as differential diagnosis for prolonged thrombocytopenia in DHF.

World Congress of Internal Medicine 2016

Conclusion

Sepsis is a threatening condition, where organ dysfunction occurs since the onset of sepsis

Sepsis requires immediate treatment while still paying attention to the rules of wise use of antibiotics

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