
I.MEU
RUOLO.TALENTO.PASSIONE.IDEE
AI
AI
AI
IA
IA
XIII congresso nazionale
simeu
GENOVA 30 MAG - 1 GIU 2024
SOCIETÀ ITALIANA MEDICINA D'EMERGENZA-URGENZA
SIMEU

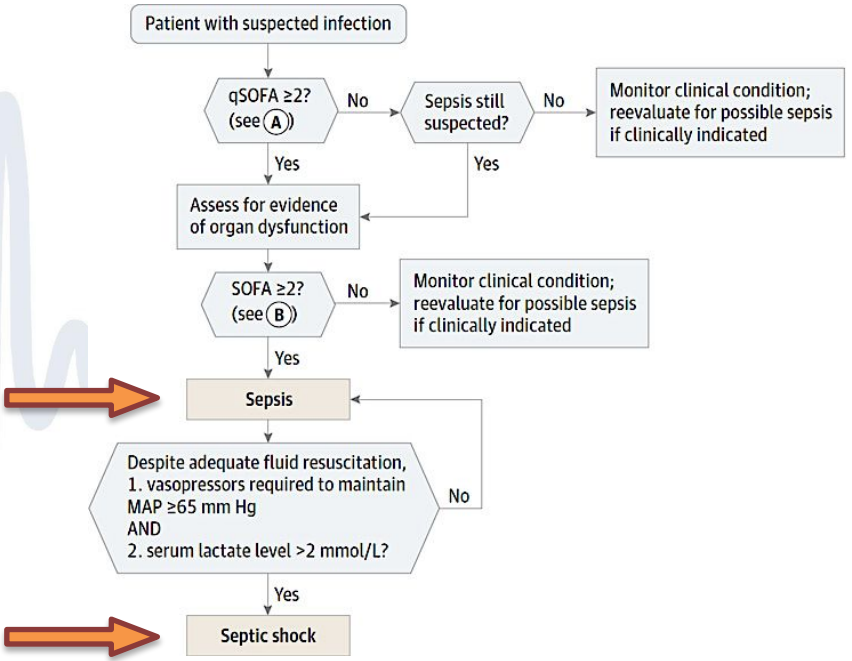
Variations in Capillary and Serum Lactates Levels Based on Different Etiologies of Septic Patients in the Emergency Department

Giacomo Maroncelli
Università degli Studi di Ferrara

XIII congresso nazionale
simeu
GENOVA 30 MAG - 1 GIU 2024

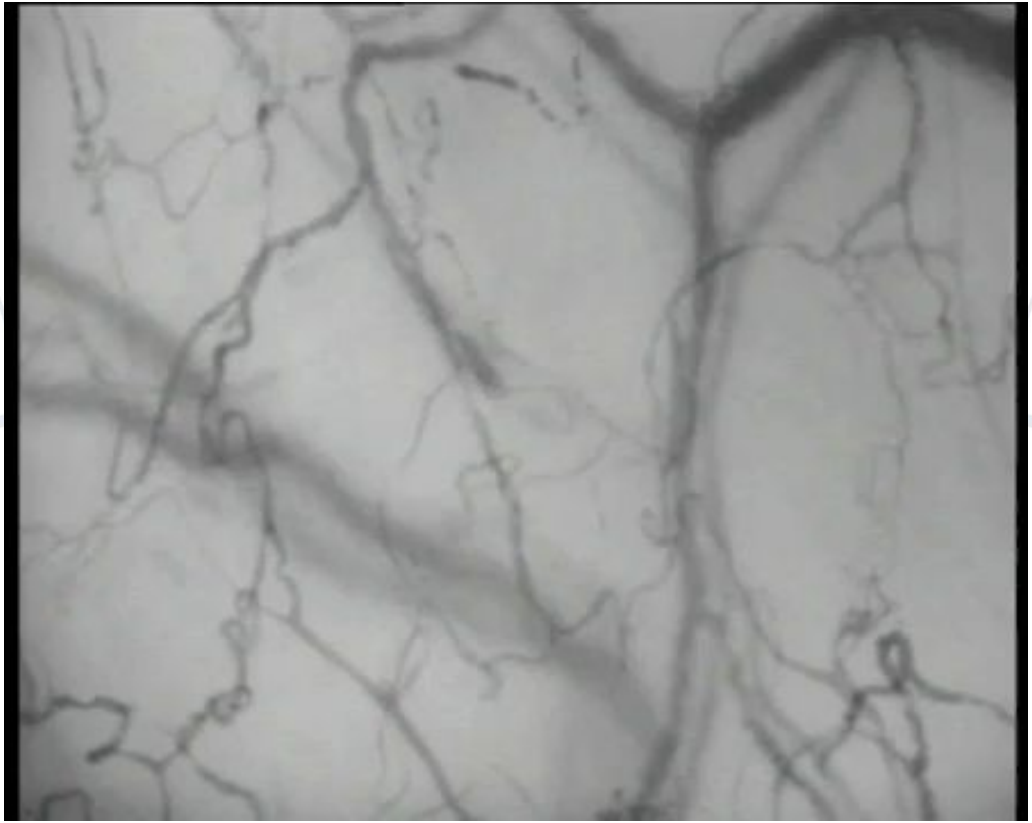
DEFINITIONS

Sepsis is a life-threatening organ dysfunction resulting from a dysregulated host response to wide range of infections.

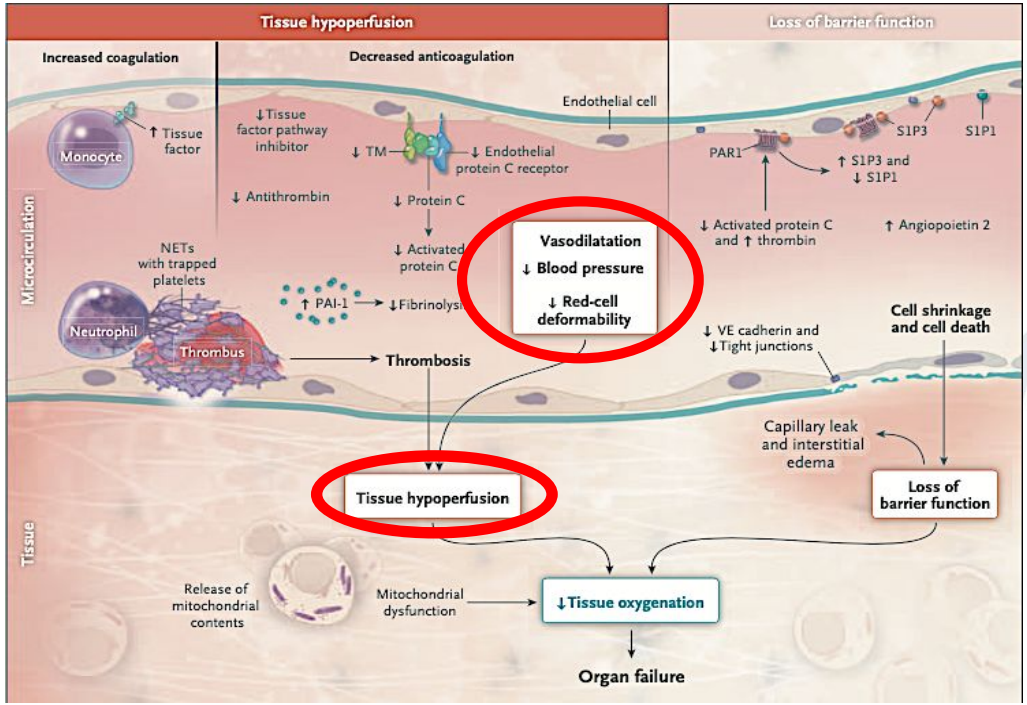


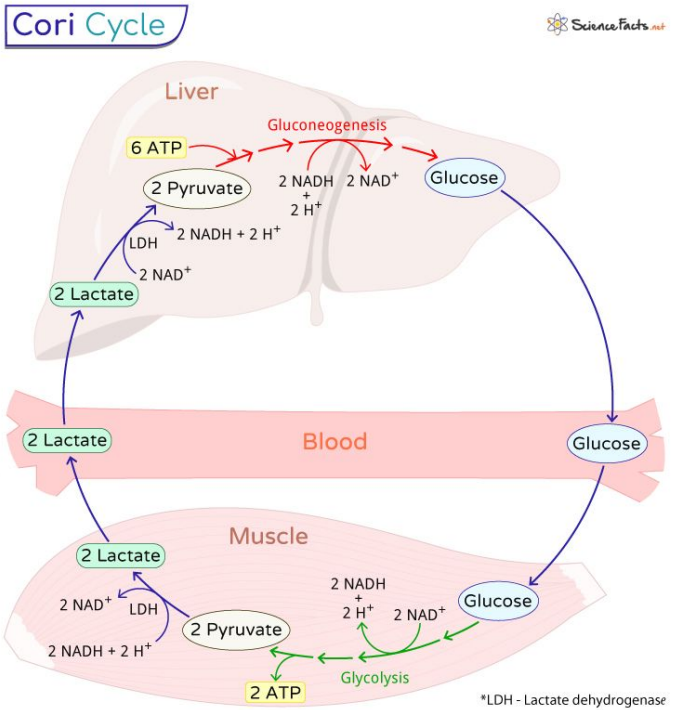
Singer M *et al. JAMA*. 2016; 315:801-810.

MICROCIRCULATION DAMAGE



LACTATES





Angus DC *et al.* N Engl J Med. 2013; 369: 840-851

ENDPOINTS

PRIMARY ENDPOINT

Define variations in CLs and serum lactates (SLs) levels vary according to sepsis etiology in patients admitted to the Emergency Department (ED).

SECONDARY ENDPOINT

Evaluate whether Neutrophiles-Linfocite Ratio (NLR) and Diastolic Shoxk Index (DSI) could statistically differ depending on etiology.

CAPILLARY LACTATES

Use of Point-of-Care Lactate in the Prehospital

Article

Comparison between Capillary and Serum Lactate Levels in Predicting Short-Term Mortality of Septic Patients at the Emergency Department

Matteo Guarino [1], Benedetta Perna [1], Alice Eleonora Cesaro [1], Michele Domenico Spampinato [1], Rita Previati [2], Anna Costanzini [1], Martina Maritati [3], Carlo Contini [3,†] and Roberto De Giorgio [1,*,†]

Colin A Graham,[1,2] Ling Yan Leung,[1] Ronson SL Lo,[1] Kwok Hung Lee,[1,2] Chun Yu Yeung,[1] Suet Yi Chan,[1] Giles N Cattermole,[1] Kevin KC Hung[1,2]

MATERIALS AND METHODS

- Prospective, observational and monocentric study conducted between October 2021 to May 2022.
- Inclusion criteria: *i*) clinical suspect of infectious disease; *ii*) qSOFA ≥2; *iii*) age ≥ 18 years; *iv*) a signed informed consent.
- Data considered: *i*) capillary and arterial blood lactates; *ii*) vital parameters; *iii*) lab tests; *iv*) treatment during hospitalization; *v*) occurrence of 48-hour and 7-day mortality.
- Approved by the local Ethics Committee.
- CLs were assessed with LactateProTM2®.

DIASTOLIC SHOCK INDEX (DSI)

RESEARCH

Open Access

Diastolic shock

in patients with

l outcomes

Check for updates

Gustavo A. Ospina-Tascón[1,2*], Jean

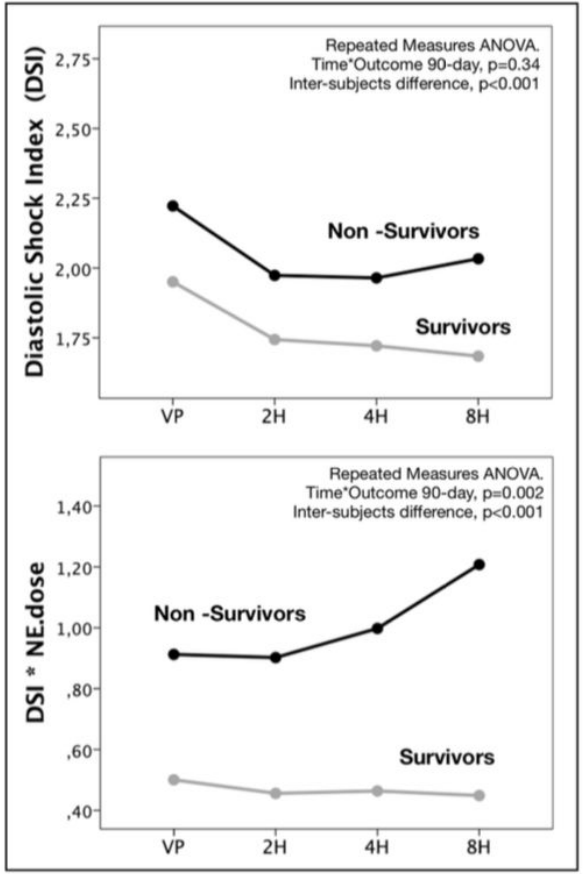
Alvaro I. Sánchez-Ortiz[1], Luis E. Cal

Humberto J. Madriñan-Navia[1], Jua

grid Alvarez[1],

Edgardo Quiñones[1],

r[1,5,6,7,8]



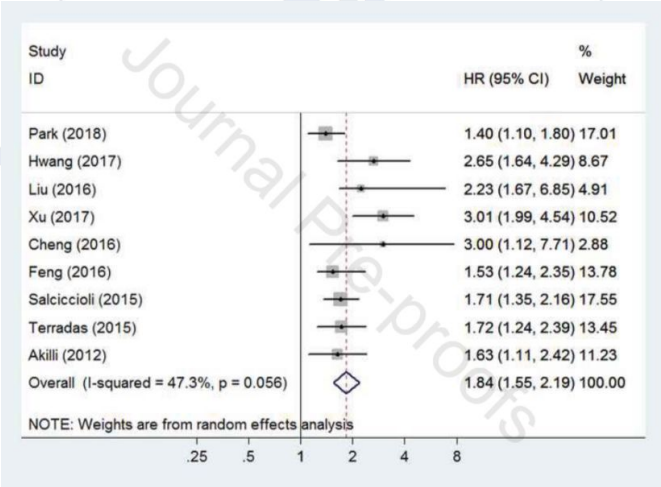
G

0:41

NEUTROPHILES-LINFOCITES RATIO (NLR)

Prognostic value of neutrophil–to–lymphocyte ratio in sepsis: A meta–analysis

Zhiwei Huang [1], Zhaoyin Fu [2], Wujun Huang [3], Kegang Huang [4]



Huang Z *et al*. Am J of Emergency Medicine. 2019; 10:023

RESULTS (1)

Features	NC 104 (52.0%)	GP 36 (18.0%)	GN 53 (26.5%)	FI 7 (3.5%)	p
Male sex, %	45 (43.3%)	12 (33.3%)	28 (52.8%)	3 (42.8%)	0.33
Age, years	87 (81, 91)	84 (78, 87)	83 (76, 87)	94 (90, 95)	<0.001
CLs, mmol/L	4.5 (3.0, 7.9)	9.0 (5.3, 12.7)	6.0 (4.0, 11.4)	4.3 (3.4, 6.6)	0.006
SLs, mmol/L	1.0 (0.6, 1.4)	1.8 (0.8, 2.6)	1.7 (1.1, 3.3)	1.6 (1.2, 3.1)	<0.001
MAP, mmHg	80 (73, 91)	73 (70, 83)	73 (67, 80)	73 (58, 73)	0.003
HR, bpm	90 (80, 100)	105 (80, 115)	97 (82, 106)	88 (78, 106)	0.21
RR, apm	24.0 (22.0, 28.0)	27.0 (22.0, 30.0)	24.0 (22.0, 28.0)	23.0 (22.0, 28.5)	0.20
Body temperature, °C	37.0 (36.5, 38.0)	37.9 (36.6, 38.2)	37.5 (36.5, 38.4)	37.5 (37.0, 37.9)	0.55
GCS	13.0 (10.0, 14.0)	12.5 (9.0, 15.0)	13.0 (11.0, 14.0)	12.0 (9.5, 13.5)	0.79
SpO2, %	96 (94, 98)	97 (95, 98)	96 (94, 98)	95 (91, 97)	0.15
FiO2, %	21 (21, 28)	26 (21, 40)	21 (21, 21)	21 (21, 21)	0.022
DSI	1.36 (1.15, 1.65)	1.55 (1.28, 1.96)	1.63 (1.29, 2.00)	1.90 (1.38, 2.59)	0.008
NEWS-2	8.0 (4.8, 10.0)	9.0 (7.8, 12.0)	8.0 (5.0, 10.0)	9.0 (7.0, 9.5)	0.077
SOFA	4.0 (3.0, 6.0)	4.5 (3.0, 7.0)	5.0 (4.0, 6.0)	5.0 (4.0, 5.5)	0.089

RESULTS (2)

Features	NC 104 (52.0%)	GP 36 (18.0%)	GN 53 (26.5%)	FI 7 (3.5%)	p
pH	7.43 (7.39, 7.48)	7.42 (7.38, 7.47)	7.46 (7.40, 7.48)	7.46 (7.44, 7.50)	0.14
P/F	325 (264, 394)	351 (244, 398)	342 (309, 393)	326 (298, 375)	0.60
NLR	8 (5, 12)	11 (6, 20)	12 (7, 25)	10 (4, 22)	0.035
Platelets, U/mmc	230 (161, 284)	235 (162, 295)	196 (147, 275)	252 (220, 272)	0.49
Creatinine, mg/dl	1.09 (0.77, 1.69)	1.26 (0.87, 1.77)	1.84 (1.20, 2.63)	1.49 (1.32, 1.64)	0.004
Total Bilirubin, mg/dl	0.75 (0.52, 1.11)	0.80 (0.53, 1.21)	0.80 (0.52, 1.11)	0.96 (0.40, 1.13)	>0.99
CCI	2 (1, 4)	2 (1, 4)	3 (2, 5)	2 (2, 4)	0.17
Sepsis Focus					<0.001
Respiratory, %	37 (35.6%)	12 (33.3%)	8 (15.1%)	1 (14.3%)	
Urinary, %	34 (32.7%)	8 (22.2%)	37 (69.8%)	4 (57.1%)	
Abdominal, %	10 (9.6%)	2 (5.6%)	2 (3.8%)	1 (14.3%)	
Miscellaneous, %	11 (10.6%)	9 (25.0%)	4 (7.5%)	1 (14.3%)	
Undefined, %	12 (11.5%)	5 (13.9%)	2 (3.8%)	0 (0%)	
48-hour Mortality, %	9 (8.7%)	5 (14%)	5 (9.4%)	0 (0%)	0.72
IHM, %	30 (29%)	12 (33%)	12 (23%)	2 (29%)	0.70

CONCLUSIONS

- These tools may be clinically useful to early predict etiology of sepsis and septic shock in relation to the various pathogenetic mechanisms.

- Furthermore, this analysis supports the involved tools to improve pharmacological management of sepsis.


Grazie!