Chapitre 6 : Le support hémodynamique.

Quatrième question de la conférence de consensus

Quel support hémodynamique utiliser, pour quelles complications, et dans quel environnement ?

- Aucune des études sélectionnées par la revue systématique ne fournit d'informations utiles pour établir des recommandations spécifiques à la réanimation oncologique.
- Faute de données précises, il est nécessaire d'appliquer les recommandations actuellement proposées en réanimation générale en soins oncologiques

Intensive Care Med (2014) 40:1795–1815
DOI 10.1007/s00134-014-3525-z

CONFERENCE REPORTS AND EXPERT PANEL

Maurizio Cecconi
Daniel De Backer
Massimo Antonelli
Richard Beale
Jan Bakker
Christoph Hofer
Roman Jaeschke
Alexandre Mebazaa
Michael R. Pinsky
Jean Louis Teboul
Jean Louis Vincent
Andrew Rhodes

Consensus on circulatory shock and hemodynamic monitoring. Task force of the European Society of Intensive Care Medicine

No.	Statement/recommendation	GRADE level of recommendation; quality of evidence	Type of statement
13.	We recommend further hemodynamic assessment (such as assessing cardiac function) to determine the type of shock if the clinical examination does not lead to a clear diagnosis	Ungraded	Best practice
14.	We suggest that, when further hemodynamic assessment is needed, echocardiography is the preferred modality to initially evaluate the type of shock as opposed to more invasive technologies	Level 2; QoE moderate (B)	Recommendation
15.	In complex patients, we suggest to additionally use pulmonary artery catheterization or transpulmonary thermodilution to determine the type of shock	Level 2; QoE low (C)	Recommendation
16.	We recommend early treatment, including hemodynamic stabilization (with fluids and vasopressors if needed) and treatment of the shock etiology, with frequent reassessment of response	Ungraded	Best practice
17.	We recommend arterial and central venous catheter insertion in shock not responsive to initial therapy and/or requiring vasopressor infusion	Ungraded	Best practice
18.	In patients with a central venous catheter, we suggest measurements of $ScvO_2$) and V-$ApCO_2$ to help assess the underlying pattern and the adequacy of cardiac output as well as to guide therapy	Level 2; QoE moderate (B)	Recommendation
19.	We recommend serial measurements of blood lactate to guide, monitor, and assess	Level 1; QoE low (C)	Recommendation
20.	We suggest the techniques to assess regional circulation or microcirculation for research purposes only	Level 2; QoE low (C)	Recommendation

Intensive Care Med (2017) 43:304–377
DOI 10.1007/s00134-017-4683-6

CONFERENCE REPORTS AND EXPERT PANEL

Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock: 2016

Andrew Rhodes[1*], Laura E. Evans[2], Waleed Alhazzani[3], Mitchell M. Levy[4], Massimo Antonelli[5], Ricard Ferrer[6], Anand Kumar[7], Jonathan E. Sevransky[8], Charles L. Sprung[9], Mark E. Nunnally[2], Bram Rochwerg[3], Gordon D. Rubenfeld[10], Derek C. Angus[11], Djillali Annane[12], Richard J. Beale[13], Geoffrey J. Bellinghan[14], Gordon R. Bernard[15], Jean-Daniel Chiche[16], Craig Coopersmith[8], Daniel P. De Backer[17], Craig J. French[18], Seitaro Fujishima[19], Herwig Gerlach[20], Jorge Luis Hidalgo[21], Steven M. Hollenberg[22], Alan E. Jones[23], Dilip R. Karnad[24], Ruth M. Kleinpell[25], Younsuk Koh[26], Thiago Costa Lisboa[27], Flavia R. Machado[28], John J. Marini[29], John C. Marshall[30], John E. Mazuski[31], Lauralyn A. McIntyre[32], Anthony S. McLean[33], Sangeeta Mehta[34], Rui P. Moreno[35], John Myburgh[36], Paolo Navalesi[37], Osamu Nishida[38], Tiffany M. Osborn[31], Anders Perner[39], Colleen M. Plunkett[25], Marco Ranieri[40], Christa A. Schorr[22], Maureen A. Seckel[41], Christopher W. Seymour[42], Lisa Shieh[43], Khalid A. Shukri[44], Steven Q. Simpson[45], Mervyn Singer[46], B. Taylor Thompson[47], Sean R. Townsend[48], Thomas Van der Poll[49], Jean-Louis Vincent[50], W. Joost Wiersinga[49], Janice L. Zimmerman[51] and R. Phillip Dellinger[22]

A. INITIAL RESUSCITATION

1. Sepsis and septic shock are medical emergencies, and we recommend that treatment and resuscitation begin immediately (BPS).
2. We recommend that, in the resuscitation from sepsis-induced hypoperfusion, at least 30 mL/kg of IV crystalloid fluid be given within the first 3 h (strong recommendation, low quality of evidence).
3. We recommend that, following initial fluid resuscitation, additional fluids be guided by frequent reassessment of hemodynamic status (BPS).
4. We recommend further hemodynamic assessment (such as assessing cardiac function) to determine the type of shock if the clinical examination does not lead to a clear diagnosis (BPS).
5. We suggest that dynamic over static variables be used to predict fluid responsiveness, where available (weak recommendation, low quality of evidence).
6. We recommend an initial target mean arterial pressure (MAP) of 65 mm Hg in patients with septic shock requiring vasopressors (strong recommendation, moderate quality of evidence).
7. We suggest guiding resuscitation to normalize lactate in patients with elevated lactate levels as a marker of tissue hypoperfusion (weak recommendation, low quality of evidence).

Remarques sur les preuves

Les études originales sur le traitement du choc incluent les patients cancéreux et immunodéprimés

Research

Original Investigation | CARING FOR THE CRITICALLY ILL PATIENT

Effect of a Buffered Crystalloid Solution vs Saline on Acute Kidney Injury Among Patients in the Intensive Care Unit
The SPLIT Randomized Clinical Trial

Paul Young, FCICM; Michael Bailey, PhD; Richard Beasley, DSc; Seton Henderson, FCICM; Diane Mackle, MN; Colin McArthur, FCICM; Shay McGuinness, FANZCA; Jan Mehrtens, RN; John Myburgh, PhD; Alex Psirides, FCICM; Sumeet Reddy, MBChB; Rinaldo Bellomo, FCICM; for the SPLIT Investigators and the ANZICS CTG

JAMA. 2015;314(16):1701-1710. doi:10.1001/jama.2015.12334
Published online October 7, 2015.

Table 1. Characteristics of the Patients at Baseline

Characteristic	No. (%)	
	Buffered Crystalloid (n = 1152)	Saline (n = 1110)
Age, mean (SD), y	60.10 (16.79)	60.95 (16.25)
Men	739 (64)	746 (67)
Weight, mean (SD), kg	80.4 (20.1)	80.7 (20.0)
Ethnicity		
New Zealand European	749 (65)	723 (65)
Maori	116 (10)	110 (10)
Pacific Island peoples	90 (8)	91 (8)
Other	197 (17)	186 (17)
Comorbidities		
Chronic respiratory disease	27 (2)	30 (3)
Chronic cardiovascular disease	12 (1)	23 (2)
Leukemia/myeloma	9 (1)	7 (1)
Immunosuppression by disease	17 (1)	12 (1)
Immunosuppression by therapy	46 (4)	50 (5)
Hepatic failure	5 (<1)	7 (1)
Cirrhosis	8 (1)	12 (1)
Lymphoma	14 (1)	5 (<1)
AIDS	1 (<1)	1 (<1)
Metastatic cancer	25 (2)	31 (3)
Source of admission to ICU		
Operating room	822 (71)	798 (72)
After elective surgery	650 (56)	642 (58)
After emergency surgery	172 (15)	156 (14)
Emergency department	168 (15)	148 (13)
Hospital floor	87 (8)	88 (8)
Another hospital (excluding from another ICU)	43 (4)	47 (4)
Another ICU	32 (3)	29 (3)

Feature Articles

Does dopamine administration in shock influence outcome? Results of the Sepsis Occurrence in Acutely Ill Patients (SOAP) Study*

Yasser Sakr, MB, BCh, MSc; Konrad Reinhart, MD, PhD; Jean-Louis Vincent, MD, PhD, FCCP; Charles L. Sprung, MD; Rui Moreno, MD, PhD; V. Marco Ranieri, MD; Daniel De Backer, MD, PhD; Didier Payen, MD

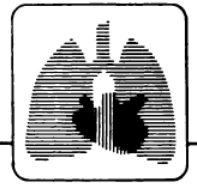
(Crit Care Med 2006; 34:589–597)

Table 2. Characteristics of patients with shock on admission

	All Patients (n = 1058)	No Dopamine (n = 683)	Dopamine (n = 375)	p Value
Age,[a] mean ± SD	63 ± 16	62 ± 17	64 ± 16	.194
Male[b] (%)	649 (61.9)	408 (60.2)	241 (65.0)	.144
Comorbid diseases (%)				
Cancer	133 (12.5)	90 (13.2)	43 (11.5)	.698
Hematologic cancer	36 (3.4)	22 (3.2)	14 (3.7)	.660
COPD	117 (11.1)	64 (9.4)	53 (14.1)	.018
Liver cirrhosis	54 (5.1)	32 (4.7)	22 (5.9)	.404
HIV infection	8 (0.8)	4 (0.6)	4 (1.1)	.294
Heart failure	140 (13.2)	68 (10.0)	72 (19.2)	<.001
Diabetes	81 (7.7)	52 (7.6)	29 (7.7)	.944
Medical admission (%)	504 (48.6)	338 (49.5)	176 (46.9)	.650
SAPS II score,[c] mean ± SD	47 ± 17	47 ± 17	47 ± 18	.975
SOFA score,[d] median (IQR)	8 (6–11)	8 (6–11)	8 (5–10)	.111
Infection (%)	397 (37.5)	256 (37.5)	141 (37.6)	.970

COPD, chronic obstructive pulmonary disease; SAPS, Simplified Acute Physiology Score; SOFA, Sequential Organ Failure Assessment; IQR, interquartile range.

Le sepsis (sepsis 1)



accp/sccm consensus conference

Definitions for Sepsis and Organ Failure and Guidelines for the Use of Innovative Therapies in Sepsis

THE ACCP/SCCM CONSENSUS CONFERENCE COMMITTEE:
Roger C. Bone, M.D., F.C.C.P., Chairman
Robert A. Balk, M.D., F.C.C.P.
Frank B. Cerra, M.D.
R. Phillip Dellinger, M.D., F.C.C.P.
Alan M. Fein, M.D., F.C.C.P.
William A. Knaus, M.D.
Roland M. H. Schein, M.D.
William J. Sibbald, M.D., F.C.C.P.

An American College of Chest Physicians/Society of Critical Care Medicine Consensus Conference was held in Northbrook in August 1991 with the goal of agreeing on a set of definitions that could be applied to patients with sepsis and its sequelae. New definitions were offered for some terms, while others were discarded. Broad definitions of sepsis and the systemic inflammatory response syndrome were proposed, along with detailed physiologic parameters by which a patient may be categorized. Definitions for severe sepsis, septic shock, hypotension, and multiple organ dysfunction syndrome were also offered. The use of severity scoring methods when dealing with septic patients was recommended as an adjunctive tool to assess mortality. Appropriate methods and applications for the use and testing of new therapies were recommended. The use of these terms and techniques should assist clinicians and researchers who deal with sepsis and its sequelae.

(Chest 1992; 101:1644-55)

MODS = multiple organ dysfunction syndrome; SIRS = systemic inflammatory response syndrome

Early clinical studies of multiple organ failure identified occult infection as the most important clinical correlate of the syndrome.[23,26,27,29] However, recent work has shown that organ system dysfunction can evolve in the absence of an untreated focus of invasive infection[30-32] and can be reproduced experimentally by the infusion of a diverse spectrum of endogenously derived mediators of inflammation.[33-36]

33 Tracey KJ, Fong Y, Hesse DG, Manogue KR, Lee At, et al. Anti-cachectin/TNF monoclonal antibodies prevent septic shock during lethal bacteremia. Nature 1987; 330:662-64

34 Okusawa S, Gelfand JA, Ikejima T, Connolly RJ, Dianarello CA. Interleukin 1 induces a shock-like state in rabbits: synergism with tumor necrosis factor and the effect of cyclooxygenase inhibition. J Clin Invest 1988; 81:1162-72

35 Wallace JL, Steel G, Whittle BJR, Lagente V, Vargaftig B. Evidence for platelet-activating factor as a mediator of endotoxin-induced gastrointestinal damage in the rat: effects of three platelet-activating factor agonists. Gastroenterology 1987; 93: 765-73

36 Sculier JP, Bron D, Verboven N, Klastersky J. Multiple organ failure during interleukin-2 and LAK cell infusion. Intensive Care Med 1988; 14:666-67

Intensive Care Med (1988) 14:666–667

Intensive Care Medicine

Multiple organ failure during interleukin-2 administration and LAK cells infusion

J. P. Sculier, D. Bron, N. Verboven and J. Klastersky

Service de Médecine et Laboratoire d'Investigation Clinique H. J. Tagnon, Institut Jules Bordet, Centre des Tumeurs de l'Université Libre de Bruxelles, Bruxelles, Belgium

Received: 17 August 1987; accepted: 17 March 1988

Case report

A 58-year-old man with a hypernephroma had a nephrectomy 2 years before, developing metastatic disease in bones and lungs. On admission he complained only of mild pain in the right hip. Extensive investigation was otherwise negative. Creatinine clearance was 75 ml/min. Recombinant human IL-2 (provided by Ortho Pharmaceutical Corp., Raritan, New Jersey, USA) was given intravenously in a dose of 30000 U/kg

Nouvelle définition du sepsis (sepsis 3)

Clinical Review & Education

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

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

Box 3. New Terms and Definitions

- Sepsis is defined as life-threatening organ dysfunction caused by a dysregulated host response to infection.
- Organ dysfunction can be identified as an acute change in total SOFA score ≥2 points consequent to the infection.
  - The baseline SOFA score can be assumed to be zero in patients not known to have preexisting organ dysfunction.
  - A SOFA score ≥2 reflects an overall mortality risk of approximately 10% in a general hospital population with suspected infection. Even patients presenting with modest dysfunction can deteriorate further, emphasizing the seriousness of this condition and the need for prompt and appropriate intervention, if not already being instituted.
- In lay terms, sepsis is a life-threatening condition that arises when the body's response to an infection injures its own tissues and organs.
- Patients with suspected infection who are likely to have a prolonged ICU stay or to die in the hospital can be promptly identified at the bedside with qSOFA, ie, alteration in mental status, systolic blood pressure ≤100 mm Hg, or respiratory rate ≥22/min.
- Septic shock is a subset of sepsis in which underlying circulatory and cellular/metabolic abnormalities are profound enough to substantially increase mortality.
- Patients with septic shock can be identified with a clinical construct of sepsis with persisting hypotension requiring vasopressors to maintain MAP ≥65 mm Hg and having a serum lactate level >2 mmol/L (18 mg/dL) despite adequate volume resuscitation. With these criteria, hospital mortality is in excess of 40%.

Abbreviations: MAP, mean arterial pressure; qSOFA, quick SOFA; SOFA: Sequential [Sepsis-related] Organ Failure Assessment.

Box 4. qSOFA (Quick SOFA) Criteria

Respiratory rate ≥22/min

Altered mentation

Systolic blood pressure ≤100 mm Hg

Définitions

= dysfonction d'organe secondaire à une réponse inappropriée de l'hôte envers une infection.

- sepsis : défini par un score SOFA supérieur ou égal à 2 ou une augmentation supérieure ou égale à 2 points si une dysfonction d'organe est présente avant l'infection.
  - Afin de dépister rapidement les patients ayant un sepsis : un score simplifié (quick SOFA). **Celui-ci n'a pas fait ses preuves par rapport au SIRS.**
- choc septique : défini par l'association d'un sepsis, de la nécessité de vasopresseurs pour maintenir une pression artérielle moyenne supérieure ou égale à 65 mm Hg et un taux de lactate supérieur à 2 mmol/L malgré un remplissage adéquat

Score SOFA

TABLEAU 1 **Score SOFA (*Sequential Organ Failure Assessment*)**

Organe/Système	Score				
	0	1	2	3	4
➥ Poumons					
PaO_2/FiO_2 mmHg (kPa)	● ⩾ 400 (53,3)	● < 400 (53,3)	● < 300 (40)	● < 200 (26,7) avec assistance respiratoire	● ⩽ 100 avec assistance respiratoire
➥ Coagulation					
Plaquettes, $\times 10^3$/uL	● ⩾ 150	● < 150	● < 100	● < 50	● < 20
➥ Foie					
Bilirubine, mg/dL (µmol/L)	● < 1,2 (20)	● 1,2-1,9 (20-32)	● 2,0-5,9 (33-101)	● 6,0-11,9 (102-204)	● > 12,0 (204)
➥ Cardiovasculaire					
	● PAM ⩾ 70 mmHg	● PAM < 70 mmHg	● Dopamine < 5 *ou* ● Dobutamine	● Dopamine 5,1-15 ● *ou* Adrénaline ⩽ 0,1 ● *ou* Noradrénaline ⩽ 0,1	● Dopamine > 15 ● *ou* Adrénaline > 0,1 ● *ou* Noradrénaline > 0,1
➥ Système nerveux central					
Score de Glasgow	● 15	● 13-14	● 10-12	● 6-9	● < 6
➥ Rein					
Créatinine, mg/dL (umol/L)	● < 1,2 (110)	● 1,2-1,9 (110-170)	● 2,0-3,4 (171-299)	● 3,5-4,9 (300-440)	● > 5,0 (440)
Diurèse, mL/j				● < 500	● < 200

PaO_2 : pression artérielle en oxygène ; FiO_2 : fraction d'oxygène inspiré ; PAM : pression artérielle moyenne. La dose de catécholamines est donnée en µg/kg/min sur au moins 1 heure.

Table 2. Terminology and *International Classification of Diseases* Coding

Current Guidelines and Terminology	Sepsis	Septic Shock
1991 and 2001 consensus terminology[9,10]	Severe sepsis Sepsis-induced hypoperfusion	Septic shock[13]
2015 Definition	Sepsis is life-threatening organ dysfunction caused by a dysregulated host response to infection	Septic shock is a subset of sepsis in which underlying circulatory and cellular/metabolic abnormalities are profound enough to substantially increase mortality
2015 Clinical criteria	Suspected or documented infection and an acute increase of ≥2 SOFA points (a proxy for organ dysfunction)	Sepsis[a] and vasopressor therapy needed to elevate MAP ≥65 mm Hg and lactate >2 mmol/L (18 mg/dL) despite adequate fluid resuscitation[13]

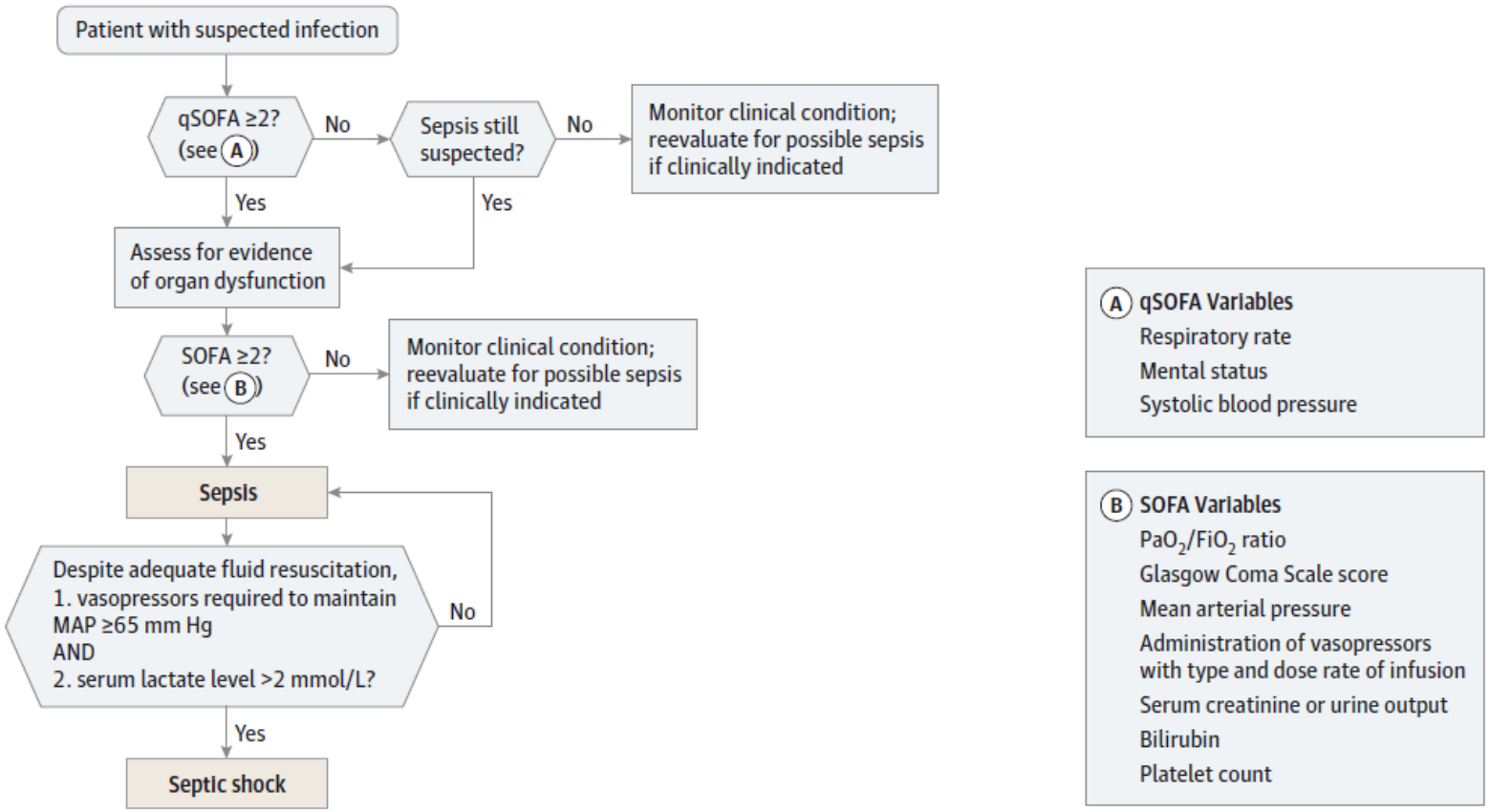
Quick SOFA

TABLEAU 2

Quick SOFA

Quick SOFA (⩾ 2 critères) :		
● FR ⩾ 22/min	● Glasgow ⩽ 13	● PAS ⩽ 100 mmHg

Figure. Operationalization of Clinical Criteria Identifying Patients With Sepsis and Septic Shock



The baseline Sequential [Sepsis-related] Organ Failure Assessment (SOFA) score should be assumed to be zero unless the patient is known to have preexisting (acute or chronic) organ dysfunction before the onset of infection. qSOFA indicates quick SOFA; MAP, mean arterial pressure.

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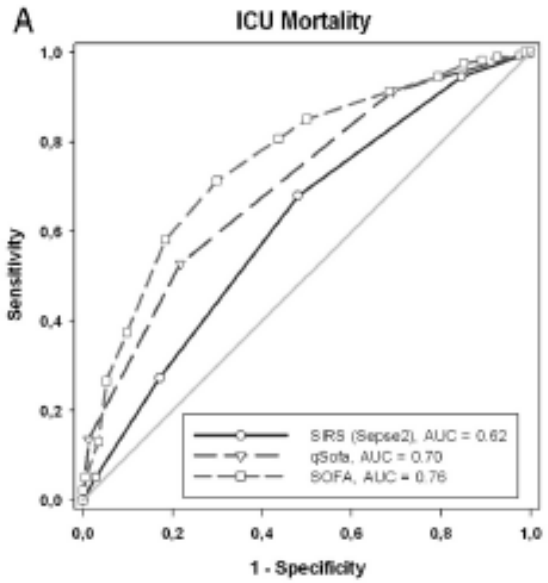
journal homepage: www.jccjournal.org

Accuracy of SOFA, qSOFA, and SIRS scores for mortality in cancer patients admitted to an intensive care unit with suspected infection☆

Ramon T. Costa [a,*], Antonio P. Nassar Jr [a,b], Pedro Caruso [a,c]

[a] ICU, AC Camargo Cancer Center, São Paulo, R. Prof. Antônio Prudente, 211 Liberdade, São Paulo, SP 01509-010, Brazil
[b] Discipline of Clinical Emergency, Hospital das Clínicas, Faculdade de Medicina, Universidade de São Paulo — São Paulo (SP), Av. Dr. Enéas de Carvalho Aguiar, 255 Cerqueira César, São Paulo, SP 05403-000, Brazil
[c] Pulmonary Division, Heart Institute (Incor), Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo, São Paulo, Av. Dr. Enéas de Carvalho Aguiar, 44 Pinheiros, São Paulo, SP 05403-900, Brazil



Les SOFA et qSOFA sont plus sensibles et plus précis que le SIRS pour prédire la mortalité en USI et à l'hôpital chez les patients cancéreux gravement malades avec suspicion d'infection.

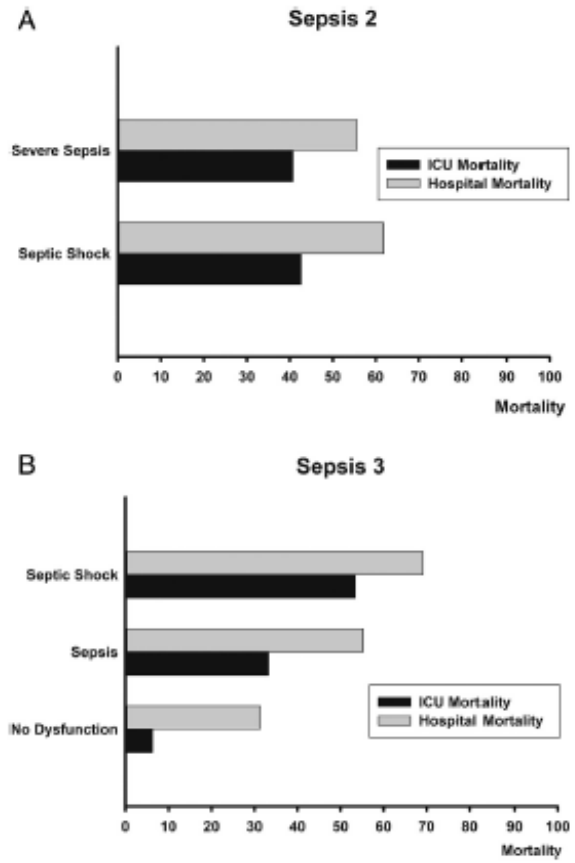


Fig. 2. Mortality across Sepsis-2 (a) and Sepsis-3 (b) definitions.

Original Research

Journal of Intensive Care Medicine
1-7

DOI: 10.1177/0885066619894933
journals.sagepub.com/home/jic

Sepsis and Septic Shock Definitions in Patients With Cancer Admitted in ICU

Neveux Nathan, MD[1], Jean-Paul Sculier, MD[1], Lieveke Ameye, PhD[2], Marianne Paesmans, MSc[2], Grigoriu Bogdan-Dragos, MD[1], and Anne-Pascale Meert, MD[1]

Table 4. Comparison of Old and New Definitions of Sepsis and Septic Shock.

	Old Definition		New Definition	
Sepsis Gravity	Alive at Hospital Discharge	In-Hospital Death	Alive at Hospital Discharge	In-Hospital Death
Sepsis	9		267	
	8 (89%)	1 (11%)	180 (67%)	87 (33%)
Severe sepsis	271		/	
	185 (68%)	86 (32%)		
Septic shock	68		57	
	27 (40%)	41 (60%)	18 (32%)	39 (68%)

Table 5. Comparison of AUROCs for SOFA, qSOFA, and SIRS Criteria for Predicting In-Hospital Mortality.

Studies	AUROC SOFA	AUROC qSOFA	AUROC SIRS
Seymour et al[3]	0.74	0.66	0.64
Raith et al[4]	0.75	0.61	0.59
Costa et al[5]	0.69	0.69	0.58
This study	0.74 (95% CI, 0.68-0.79)	0.65 (95% CI, 0.59-0.70)	0.58 (95% CI, 0.52-0.63)

Abbreviations: AUROC, areas under ROC curve; CI, confidence interval; qSOFA, quick Sequential Organ Failure Assessment; SIRS, systemic inflammatory response syndrome; SOFA, Sequential Organ Failure Assessment.

Vasopressin Versus Norepinephrine for the Management of Septic Shock in Cancer Patients: The VANCS II Randomized Clinical Trial*

Ludhmila Abrahão Hajjar, PhD[1,2]; Cristiane Zambolim, MD[1]; Alessandro Belletti, MD[3]; Juliano Pinheiro de Almeida, MD[1]; Anthony C. Gordon, MD[4]; Gisele Oliveira, MD[1]; Clarice Hyesuk Lee Park, MD[1]; Julia Tizue Fukushima, MSc[1]; Stephanie Itala Rizk, MD[1]; Tais Felix Szeles, MD[1]; Nestor Cordeiro dos Santos Neto, MD[1]; Roberto Kalil Filho, MD[1,2]; Filomena Regina Barbosa Gomes Galas, MD[1]; Giovanni Landoni, MD[3,5]

Objectives: Previous trials suggest that vasopressin may improve outcomes in patients with vasodilatory shock. The aim of this study was to evaluate whether vasopressin could be superior to norepinephrine to improve outcomes in cancer patients with septic shock.

Design: Single-center, randomized, double-blind clinical trial, and meta-analysis of randomized trials.
Setting: ICU of a tertiary care hospital.
Patients: Two-hundred fifty patients 18 years old or older with cancer and septic shock.

(*Crit Care Med* 2019; 47:1743–1750)

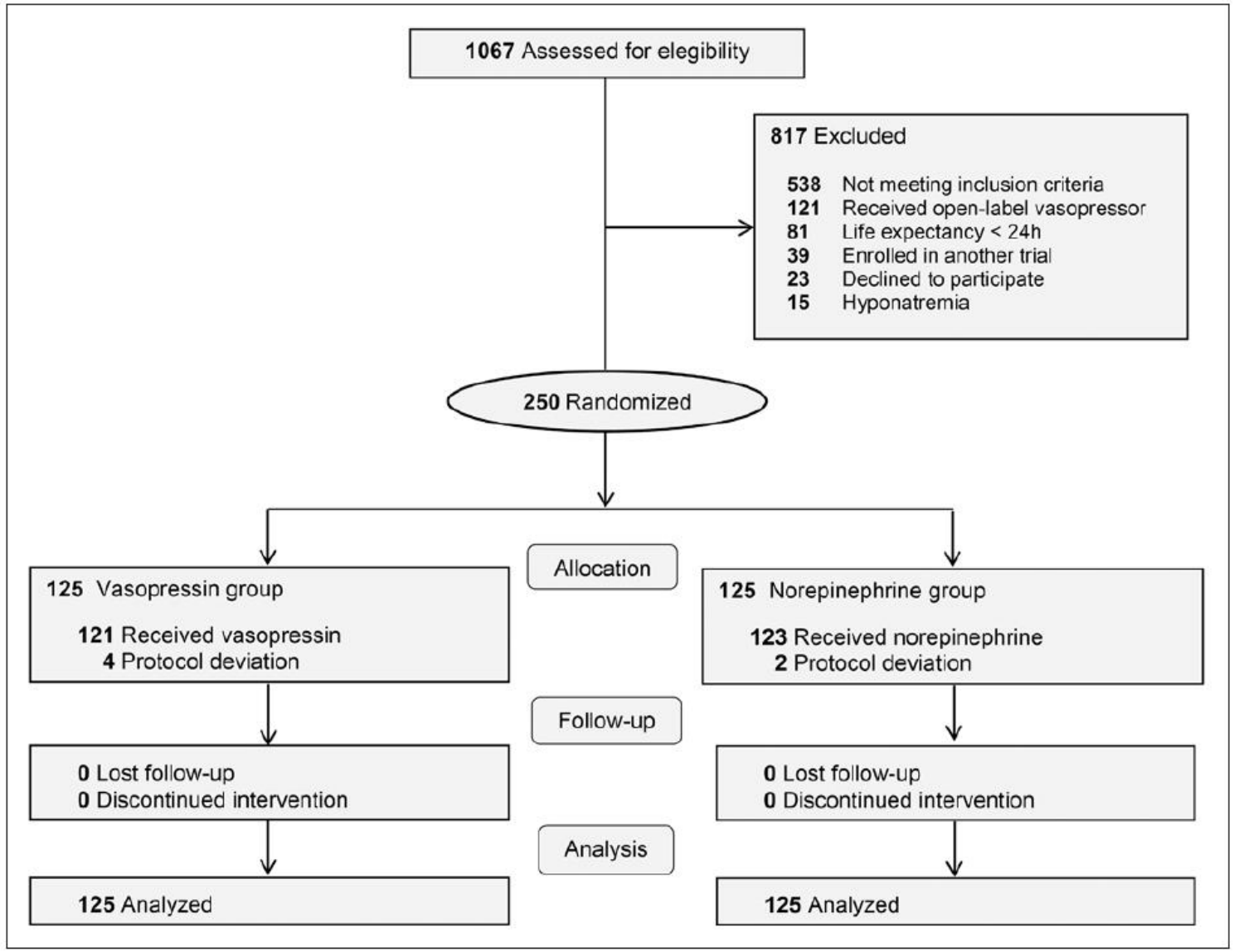


Figure 1. Study flowchart.

TABLE 1. Characteristics of Infection

Variable	Vasopressin, *n* = 125, *n* (%)	Norepinephrine, *n* = 125, *n* (%)	*p*
Infection site			
Lung	71 (56.8)	67 (53.6)	0.836[a]
Abdomen	24 (19.2)	22 (17.6)	
Urinary tract	13 (10.4)	12 (9.6)	
Bloodstream	4 (3.2)	6 (4.8)	
Others	13 (10.4)	18 (14.4)	
Cultures			
Positive cultures	63 (51.2)	77 (61.6)	0.099[a]
Gram-positive	33 (26.4)	37 (29.6)	0.573[a]
Gram-negative	33 (26.4)	50 (40)	0.022[a]
Fungi	17 (13.6)	17 (13.6)	1.000[a]
Multi-drug resistant	10 (8)	23 (18.4)	0.015[a]
Organ dysfunction at ICU admission			
Cardiovascular	125 (100)	125 (100)	1.00
Respiratory	64 (51.2)	62 (49.6)	0.800[a]
Renal	53 (42.4)	52 (41.6)	0.898[a]
Neurologic	27 (21.6)	31 (24.8)	0.549[a]
Hematologic	26 (20.8)	32 (25.6)	0.369[a]
Hepatic	10 (8)	6 (4.8)	0.301[a]

[a]Pearson's chi square test.

TABLE 2. Outcomes

Variable	Vasopressin, *n* = 125	Norepinephrine, *n* = 125	Absolute Difference (95% CI)	*p*
Primary outcome, n (%)				
28-d mortality	71 (56.8)	66 (52.8)	4.0 (–8.2 to 16.1)	0.525[a]
Secondary outcomes				
90-d mortality, *n* (%)	90 (72.0)	94 (75.2)	–3.2 (–14.0 to 7.7)	0.566[a]
Days alive and free of mechanical ventilation, median (IQR)	20 (6–28)	22 (7–28)		0.748[b]
Days alive and free of vasopressor agent, median (IQR)	10 (1–23)	12 (1–24)		0.669[b]
Days alive and free of dialysis, median (IQR)	20 (7–28)	21 (7–28)		0.819[b]
SOFA 24 hr, median (IQR)	8 (5–11)	7 (5–10)		0.425[b]
SOFA 96 hr, median (IQR)	7 (2–12)	7 (3–12)		0.825[b]

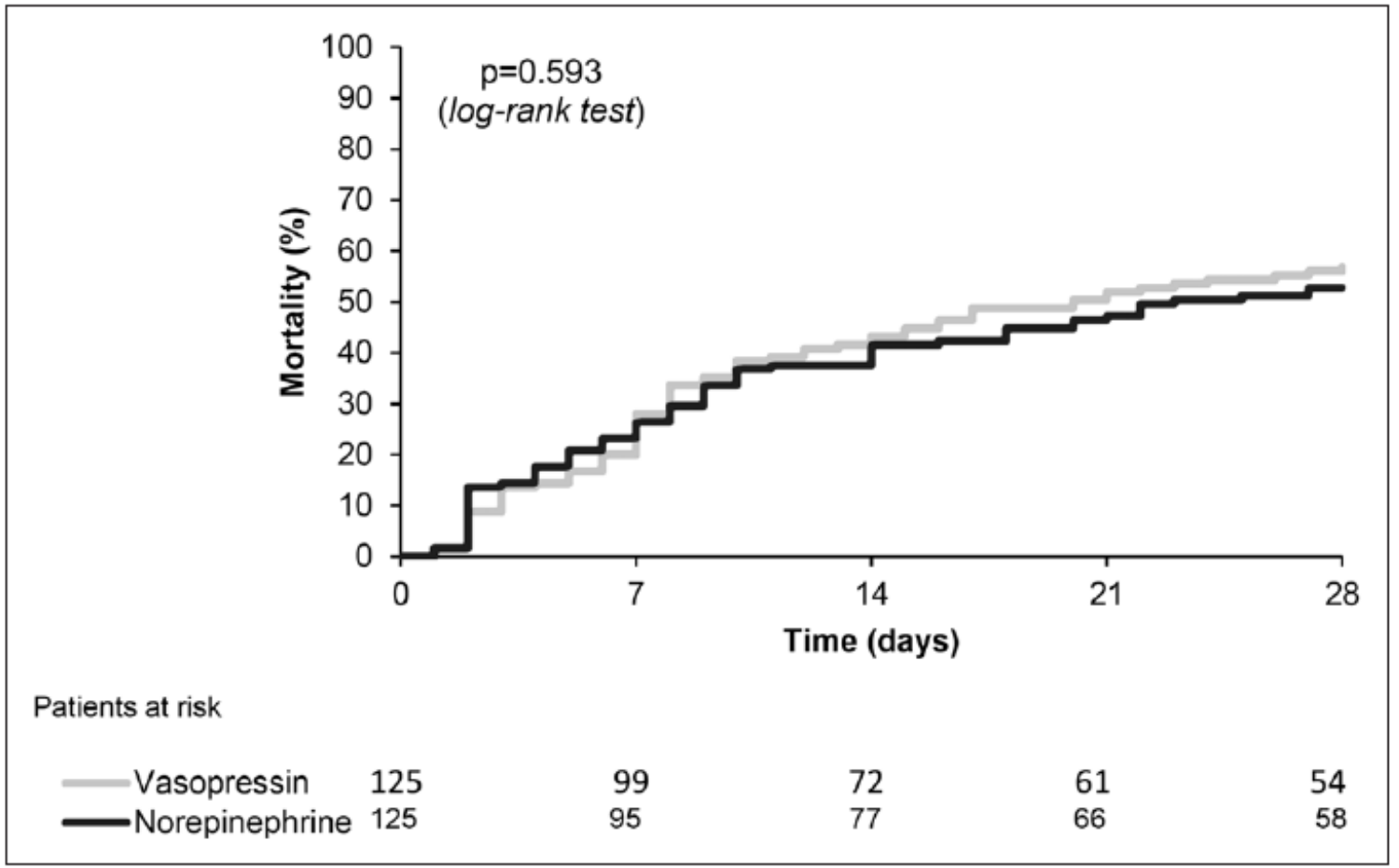


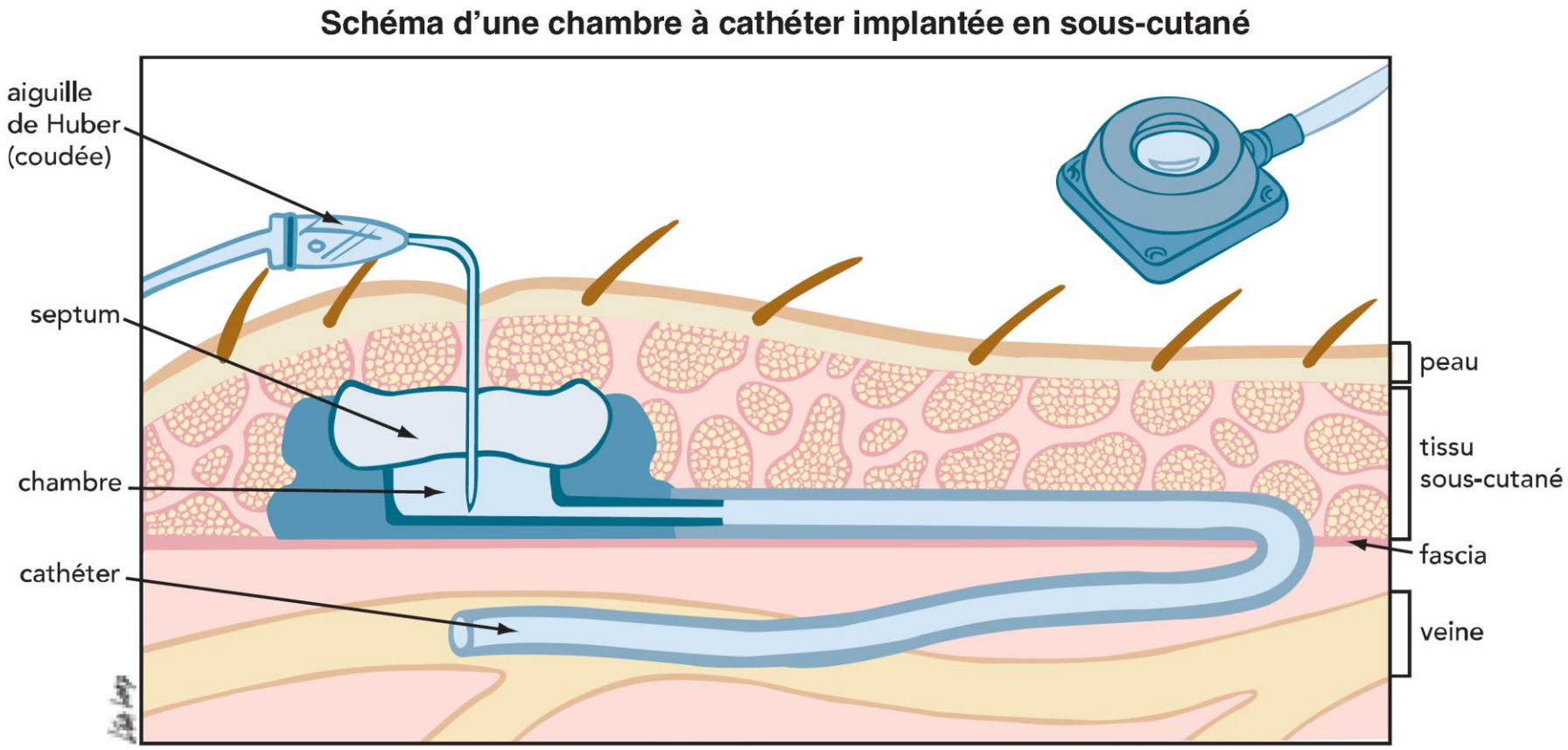
Figure 2. Kaplan-Meier probability for 28 d mortality using the log-rank test.

Recommandations

Les lignes directrices internationales pour la prise en charge du choc chez les patients gravement malades et non immunodéprimés admis aux soins intensifs doivent être appliquées aux patients atteints de cancer (Avis d'expert, recommandation forte).

Considérations techniques

Cathéters veineux centraux et cathéters à chambre

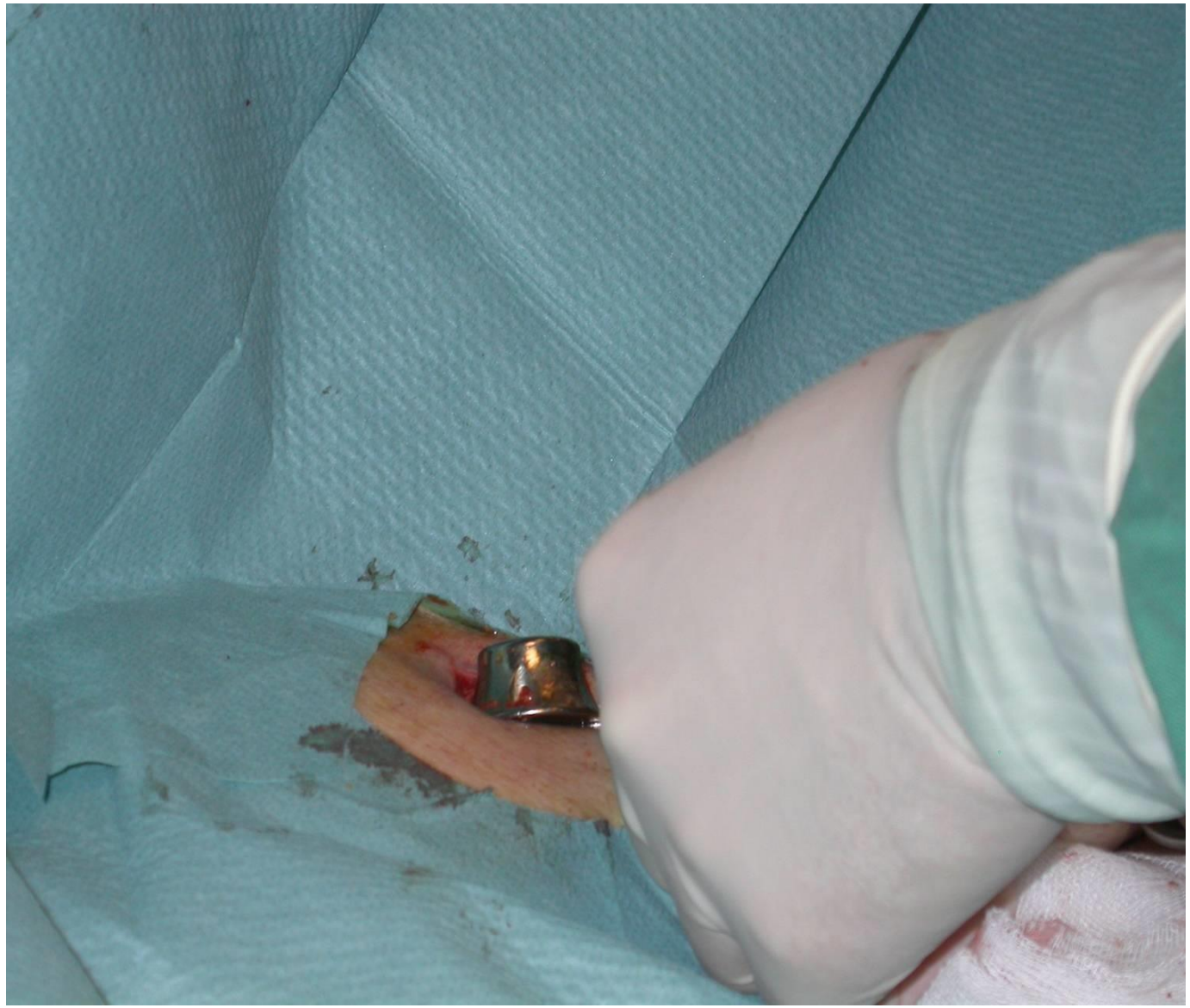


Occlusion du cathéter

- Absence de reflux avec impossibilité d'injection (thrombose et/ou précipités)
- Ne pas essayer de déboucher en forçant (risque de rupture, de migration ou de thrombo-embolie)
- Changer la position du patient, essayer une manoeuvre de Valsalva
- Sinon : déboucher à l'héparine : 5000 U dans 10 ml, essayer d'injecter et retirer l'héparine par bolus de 2 à 5 ml
- En cas d'échec : minifibrinolyse à l'urokinase: 3 heures d'incubation après injection dans le cathéter de 2,5 ml d'une solution à 5.000 UI/ml d'urokinase

Infection cathéter à chambre

- Faire prélèvements adéquats : pus au point d'entrée, hémoculture aspirée par le PAC, hémoculture par voie périphérique
- Tenter un traitement antibiotique par le PAC en couvrant initialement empiriquement les staphylocoques (vancomycine) et en adaptant ensuite aux résultats des hémocultures
- Faire systématiquement des hémocultures de contrôle
- en cas de sepsis sévère ou d'échec : retrait du PAC



Thrombose veineuse cathéter à chambre

- À envisager en cas de douleur et de gonflement dans le territoire d'amont avec éventuellement apparition d'une circulation collatérale
- Faire échographie (et hémocultures pour exclure thrombose septique)
- Traitement par héparine i.v.

Blot; ICM 23 : 1837-1842 ; 2000

Accuracy of totally implanted ports, tunnelled, single- and multiple-lumen central venous catheters for measurement of central venous pressure

Cathéters veineux centraux et thrombopénie

- En cas de troubles de coagulation, notamment thrombopénies sévères, les cathéters veineux centraux peuvent être placés sans risque majeur sous couverture de transfusions de plaquettes et par un médecin expérimenté.
- Le taux de plaquettes sera maintenu au dessus de 50.000/mm^3
- Eventuellement, un guidage par Doppler (échographie) peut s'avérer utile.