Apport des soins intensifs et des soins de soutien en oncologie thoracique

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Conflit d’intérêt

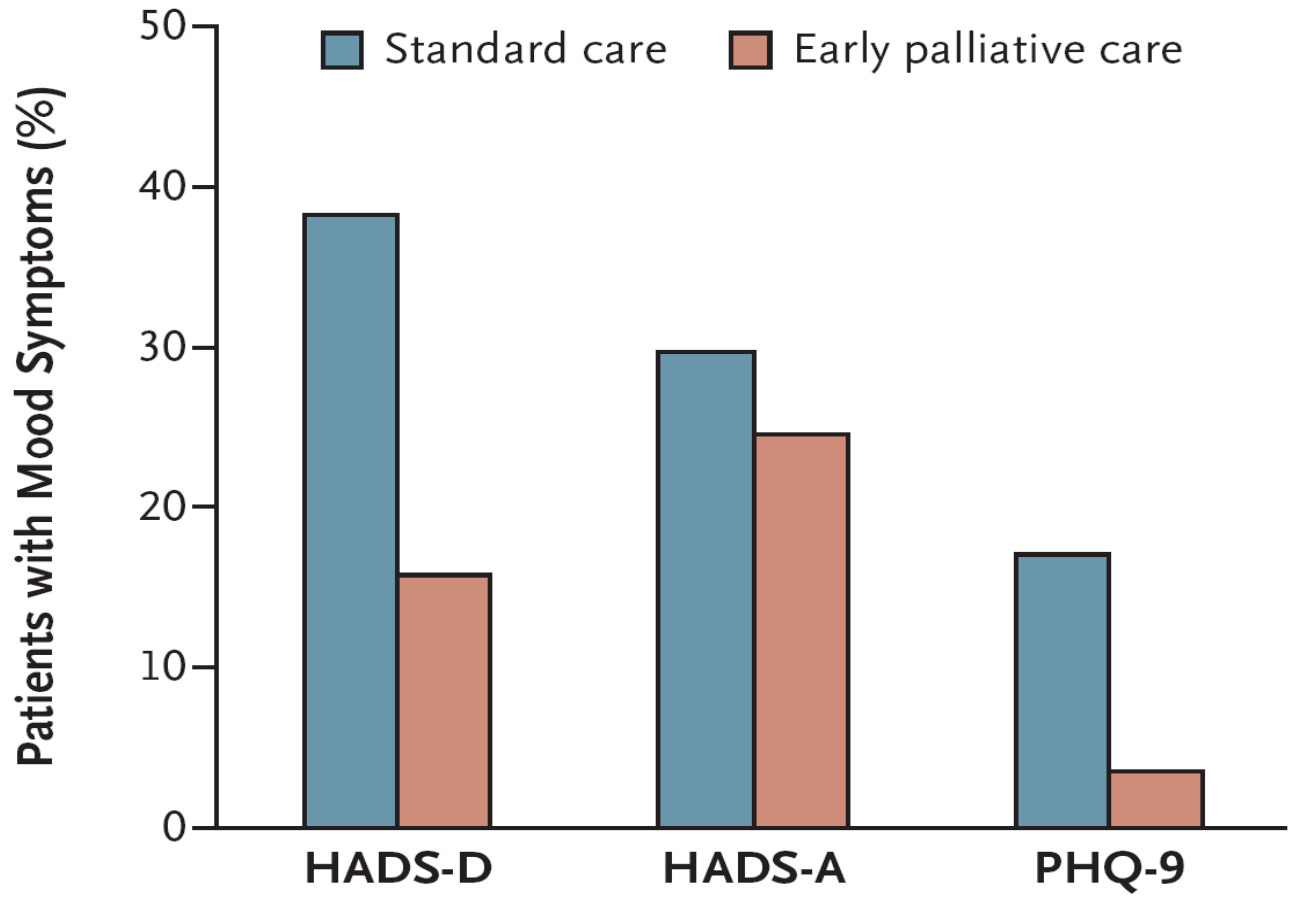
- Aucun

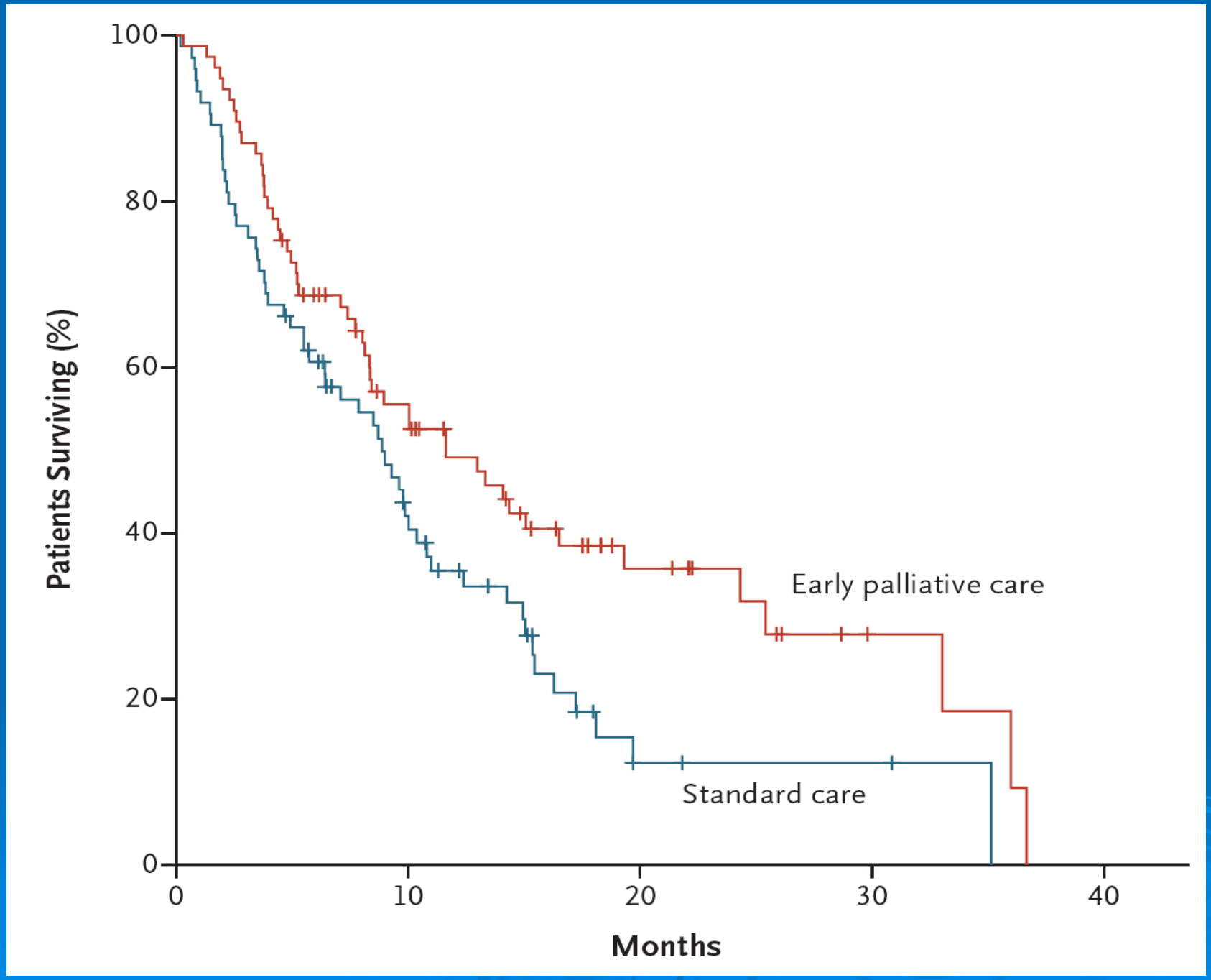
Introduction

- Dans les pays occidentaux, le cancer bronchique est la cause la plus fréquente de décès par cancer
- Les patients atteints d'un cancer peuvent présenter de multiples complications
- Une approche intégrée multidisciplinaire est indispensable

Early Palliative Care for Patients with Metastatic Non–Small-Cell Lung Cancer

Jennifer S. Temel, M.D., Joseph A. Greer, Ph.D., Alona Muzikansky, M.A., Emily R. Gallagher, R.N., Sonal Admane, M.B., B.S., M.P.H., Vicki A. Jackson, M.D., M.P.H., Constance M. Dahlin, A.P.N., Craig D. Blinderman, M.D., Juliet Jacobsen, M.D., William F. Pirl, M.D., M.P.H., J. Andrew Billings, M.D., and Thomas J. Lynch, M.D.




Patients Surviving (%)
100
80
60
40
20
0
0
10
20
30
40
Months
Early palliative care
Standard care

Cas clinique

- Homme de 63 ans
- BPCO Gold III (VEMS 1450 cc soit 45 % des valeurs prédites et DLCO 76 %)
- Lobectomie inférieure gauche pour épithélioma épidermoïde
- USI en post opératoire?

Doit-on admettre toutes les thoracotomies à l'USI?

- 15–40% des patients présentent des complications cardio-respiratoires.
- 2 possibilités :
  - 1) admission USI en routine
  - 2) admission USI sélective

Eur Respir J 2009; 34: 17–41
DOI: 10.1183/09031936.00184308

ERS/ESTS TASK FORCE

ERS/ESTS clinical guidelines on fitness for radical therapy in lung cancer patients (surgery and chemo-radiotherapy)

A. Brunelli*, A. Charloux*, C.T. Bolliger, G. Rocco, J-P. Sculier, G. Varela, M. Licker, M.K. Ferguson, C. Faivre-Finn, R.M. Huber, E.M. Clini, T. Win, D. De Ruysscher and L. Goldman on behalf of the European Respiratory Society and European Society of Thoracic Surgeons joint task force on fitness for radical therapy

TABLE 3 Admission criteria in the high dependency unit: moderate- to high-risk patients

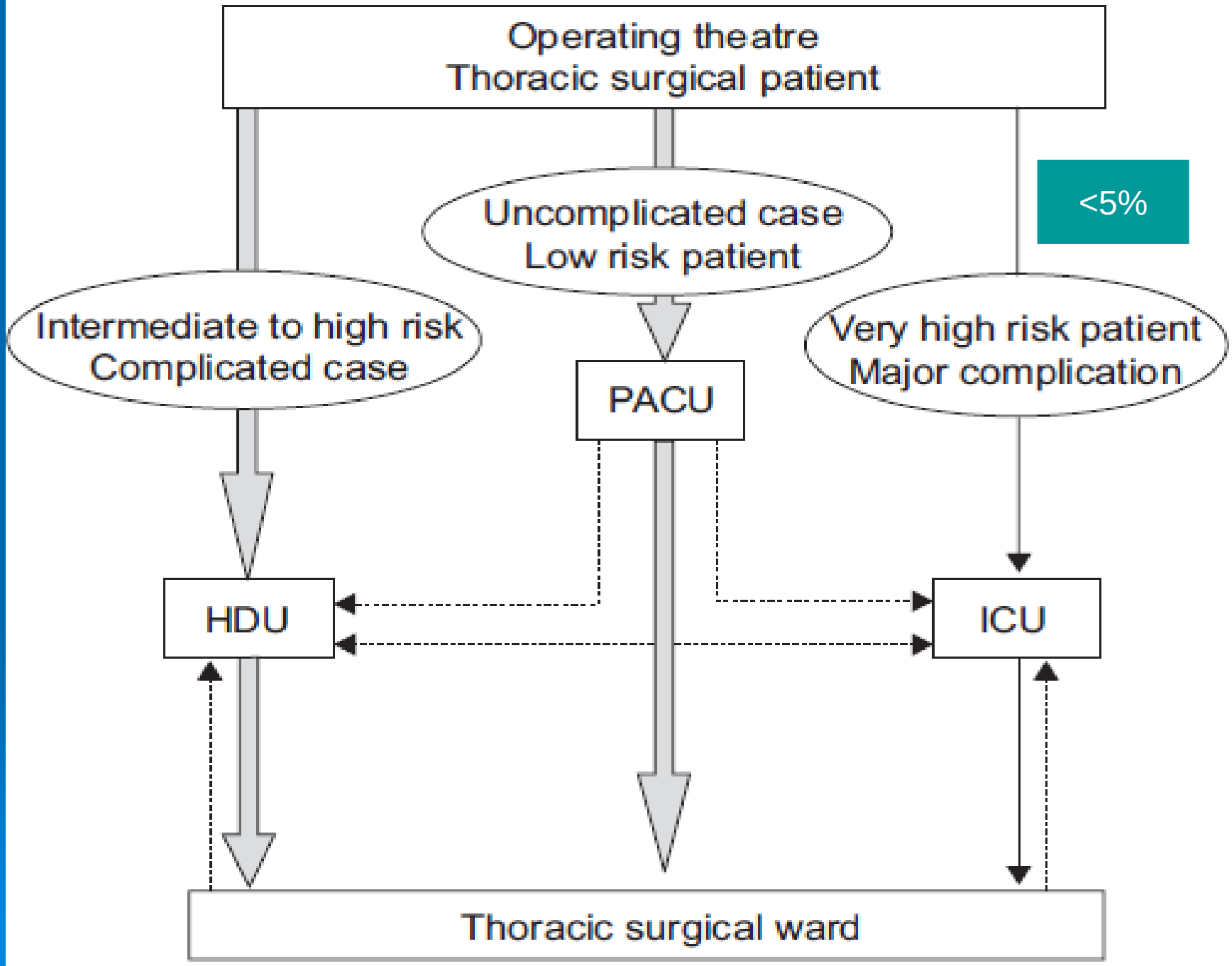
Pre-operative comorbidities and functional status

- Coronary artery disease (angina pectoris, prior myocardial infarction, myocardial revascularisation)
- Cardiac insufficiency (left ventricular ejection fraction <40%, history of heart failure)
- Cardiac arythmias or heart conduction block
- Renal dysfunction (plasma creatinine >220 $mg \cdot dL^{-1}$)
- Symptomatic peripheral arterial or cerebrovascular disease
- Severe COPD (FEV_1 <50% pred)
- Anticipated need for noninvasive ventilation (*e.g.* central or obstructive sleep apnoea)
- Liver dysfunction (Child–Turcotte–Pugh score class A and or MELD score >8)[#]
- Maximal V'_{O_2} max <15 $mL \cdot kg^{-1} \cdot min^{-1}$
- Pneumonectomy, bilobectomy; bilateral lung resection
- Extended lung resection involving the diaphragm, pericardium or parietal wall
- Intra-operative major bleeding

Early post-operative time course in the post-anesthaesia care unit

- Unstable haemodynamics
  - ECG signs of myocardial ischaemia
  - Need for vasopressor support (other than related to epidural anaesthesia)
  - Fluid/blood replacement
- Need for noninvasive ventilation support

[#]: according to [185]. COPD: chronic obstructive pulmonary disease; FEV_1: forced expiratory volume in 1 s; MELD: model for end-stage liver disease; V'_{O_2}: oxygen consumption.


Operating theatre
Thoracic surgical patient
Uncomplicated case
Low risk patient
<5%
Intermediate to high risk
Complicated case
PACU
Very high risk patient
Major complication
HDU
ICU
Thoracic surgical ward

Affection actuelle

- Epithélioma épidermoïde du LSD (Stade IIIA) avec extension ganglionnaire médiastinale ipsilatérale

- Radiochimiothérapie concomitante (CDDP-Navelbine)

- Principales complications attendues: nausées-vomissements

Nausées-vomissements

Antiemetics: American Society of Clinical Oncology Clinical Practice Guideline Update

Ethan Basch, Ann Alexis Prestrud, Paul J. Hesketh, Mark G. Kris, Petra C. Feyer, Mark R. Somerfield, Maurice Chesney, Rebecca Anne Clark-Snow, Anne Marie Flaherty, Barbara Freundlich, Gary Morrow, Kamakshi V. Rao, Rowena N. Schwartz, and Gary H. Lyman

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Table 2. Emetic Risk of Intravenous Antineoplastic Agents

Emetic Risk	Agent
High	Carmustine
	Cisplatin
	Cyclophosphamide $\geq$ 1,500 mg/m^2
	Dacarbazine
	Dactinomycin
	Mechlorethamine
	Streptozotocin
Moderate	Azacitidine
	Alemtuzumab
	Bendamustine
	Carboplatin
	Clofarabine
	Cyclophosphamide $<$ 1,500 mg/m^2
	Cytarabine $>$ 1,000 mg/m^2
	Daunorubicin*
	Doxorubicin*
	Epirubicin*
	Idarubicin*
	Ifosfamide
	Irinotecan
	Oxaliplatin
Low	Fluorouracil
	Bortezomib
	Cabazitaxel
	Catumaxomab
	Cytarabine $\leq$ 1,000 mg/m^2
	Docetaxel
	Doxorubicin HCL liposome injection
	Etoposide
	Gemcitabine
	Ixabepilone
	Methotrexate
	Mitomycin
	Mitoxantrone
	Paclitaxel
	Panitumumab
	Pemetrexed
	Temsirolimus
	Topotecan
	Trastuzumab
Minimal	2-Chlorodeoxyadenosine
	Bevacizumab
	Bleomycin
	Busulfan
	Cetuximab
	Fludarabine
	Pralatrexate
	Rituximab
	Vinblastine
	Vincristine
	Vinorelbine

Table 3. Antiemetic Dosing by Chemotherapy Risk Category

Risk Category	Dosing on Day of Chemotherapy	Dosing on Subsequent Days
High emetic risk*		
NK_1 antagonist		
Aprepitant	125 mg oral	80 mg oral; days 2 and 3
Fosaprepitant	150 mg IV	
$5\text{-}HT_3$ antagonist		
Granisetron	2 mg oral; 1 mg or 0.01 mg/kg IV	
Ondansetron	8 mg oral twice daily; 8 mg or 0.15 mg/kg IV	
Palonosetron	0.50 mg oral; 0.25 mg IV	
Dolasetron	100 mg oral ONLY	
Tropisetron	5 mg oral; 5 mg IV	
Ramosetron	0.3 mg IV	
Corticosteroid if aprepitant is used†		
Dexamethasone	12 mg oral or IV	8 mg oral or IV; days 2 and 3 or days 2-4
Corticosteroid if fosaprepitant is used†		
Dexamethasone	12 mg oral or IV	8 mg oral or IV day 2; 8 mg oral or IV twice per day on days 3 and 4
Moderate emetic risk‡		
$5\text{-}HT_3$ antagonist		
Palonosetron	0.50 mg oral; 0.25 mg IV	
Corticosteroid		
Dexamethasone	8 mg oral or IV	8 mg; days 2 and 3
Low emetic risk		
Corticosteroid		
Dexamethasone	8 mg oral or IV	

Consultation aux urgences

- Toux avec aggravation de dyspnée depuis 4-5 jours
  - détresse respiratoire fébrile
  - râles crépitant à droite
  - sibilances diffuses

Le patient atteint d'un CB aux urgences

- Les patients atteints de CB sont avec ceux atteints de tumeurs du sein et de tumeurs digestives, les patients qui consultent le plus souvent aux urgences
- 40 % des patients atteints de CB ont recours au moins une fois durant leur parcours néoplasique
- 50% de ces consultations aboutiront à une hospitalisation dont plus de 10 % à l'USI

J. Gorham et al. / Lung Cancer 80 (2013) 203–208

Table 1
Complaints of the lung cancer patients consulting at the emergency department.

	n	%
Respiratory symptoms	113	20.6
Dyspnea	71	62.8
Cough	20	17.7
Chest pain	13	11.5
Hemoptysis	9	8.0
Fever	105	19.2
Neuro-psychiatric symptoms	78	14.2
Focal neurologic dysfunction	35	44.9
Pain (headache)	26	33.3
Cognitive dysfunction	11	14.1
Seizure	3	3.8
Psychiatric/anxiety	3	3.8
Gastrointestinal symptoms	60	10.9
Abdominal pain	21	35.0
Nausea, vomitting	20	33.3
Diarrhea	12	20.0
Melena/hematochezia	4	6.7
Dysphagia	3	5.0
Pain	45	8.2
Chronic pain management	40	88.9
Other acute pain	5	11.1
Fatigue, anorexia, alteration of the general state	37	6.8
Cardiovascular symptoms	35	6.4
Syncope/faintness	16	45.7
Limb edema	14	40.0
Chest pain	5	14.3
Musculoskeletal symptoms	29	5.3
Pain	29	100.0
Abnormal paraclinic examination	22	4.0
Dermatological symptoms	16	2.9
Rash	9	56.3
Subcutaneous nodules	4	25.0
Infection	3	18.8
Urological symptoms	8	1.5
Mictalgia	6	75.0
Anuria/oliguria	2	25.0

Abnormal paraclinic examination: patient was called to came to the emergency department because of an abnormal paraclinic test performed during a regular consultation.

J. Gorham et al. / Lung Cancer 80 (2013) 203–208

Table 2
Diagnosis performed for the patients with lung cancer having consulted at the emergency department.

	n	%
Infection	161	29.4
Tracheobronchial tree and lungs	94	58.4
Febrile neutropenia	38	23.6
Gastrointestinal	11	6.8
Other	10	6.2
Urinary	5	3.1
Fever of unknown origin	3	1.9
Neoplastic progression	120	21.9
Loco-regional	44	36.7
Brain metastasis	35	29.2
Other	41	34.1
Pain management problem	68	12.4
Chronic pain	41	60.3
Acute pain	27	39.7
Gastrointestinal complication	46	8.4
Gastrointestinal side effect of chemotherapy	22	47.8
Constipation/bowel obstruction	9	19.6
gastroeosophagial reflux	8	17.4
Other	7	15.2
Cardiovascular complication	39	7.1
Pulmonary embolism/deep vein thrombosis	17	43.6
Orthostatic hypotension	7	17.9
Cardiac arrhythmias	6	15.4
Myocardial infarction/angina pectoris	5	12.8
Heart failure	4	10.3
Neurology and/or psychiatric complication	25	4.6
Psychiatric/anxiety	9	36.0
Seizure	5	20.0
Herniated disc	4	16.0
Confusion of drug intoxication	4	16.0
Stroke	3	12.0
Pulmonary complication	18	3.3
Respiratory distress	14	77.8
Hemoptysis	4	22.2
Metabolic complication	14	2.6
Hypercalcemia	5	35.7
Hyponatremia	3	21.4
Diabetic decompensation	3	21.4
Gout	2	14.3
Hyperkaliema	1	7.1
Hypoglycemia	1	7.1
Hematologic complication	14	2.6
Anemia	8	57.1
Thrombocytopenia	6	42.9
Uro-nephrologic complication	11	2.0
Acute renal failure	6	54.5
Renal lithiasis	3	27.3
Ifosfamide cystitis	2	18.2
Dermatologic complication	11	2.0
Skin allergy	8	72.7
Masse	3	27.3
Degradation of the general status	11	2.0
Other	9	1.6
New diagnostic of cancer	7	77.8
Social problem	2	22.2

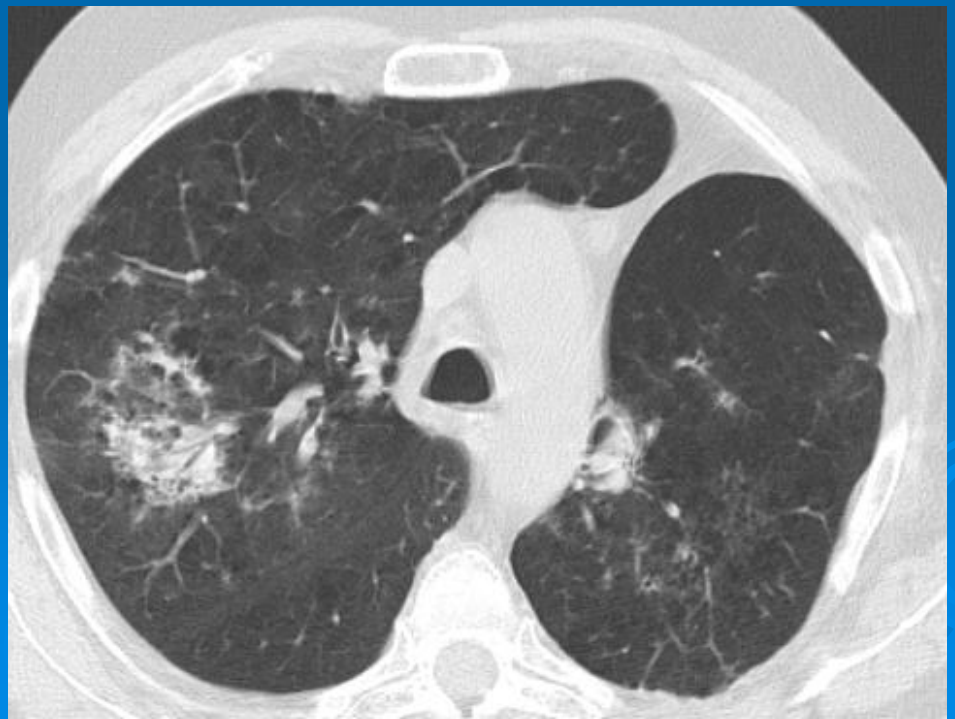
Facteurs de risque d'hospitalisation

Table 4
Multivariate analysis: factors associated with hospitalization.

	Odds ratio	95% Confidence interval	*p*-Value
Type of arrival: ambulance or transfer	12.094	3.64–40.177	<0.001
Presence of signs associated with the chief complaint	2.791	1.857–4.195	<0.001
Chief complaint: neuro-psychiatric	2.719	1.434–5.154	0.002
Chief complaint: alteration of the general state	2.687	1.133–6.369	0.02
Heart rate < 60 ou > 100/min	2.162	1.419–3.293	<0.001
Time of arrival: 9 pm–7 am	2.102	1.101–4–014	0.02
Age ≥ 70 years	2.04	1.257–3.310	0.004
Chief complaint: dermatological	0.039	0.005–0.303	0.002

Résultats

- Gazométrie (AA): 7.34/51/56
- Biologie: neutropénie à 440 PMN/mm³, Hb 9.4 g/dl, syndrome inflammatoire



Neutropénie fébrile

- Complication potentiellement mortelle nécessitant une prise en charge antibiothérapique rapide.
- 16% des cas de NF compliquant les traitements des tumeurs solides concernent des CB
- 7% des patients CB admis aux urgences
- Mortalité est fort variable selon les études (1 à 20%)

Schelenz. Ann Oncol 2012
Gorham. Lung Cancer 2013

A prospective study of febrile neutropenia in lung cancer patients

Thierry Berghmans, Anne-Pascale Meert and Jean-Paul Sculier

TABLE 1. Characteristics of the 95 febrile neutropenic patients with NSCLC or SCLC.

	Non-small cell lung cancer	**Small cell lung cancer**
Number of patients	62	33
Age: median (range)	62 years (37-83)	66 years (43-77)
Gender: male/female	45/17	20/13
Stage	II 2 IIIA 7 IIIB 10 IV 43	Limited disease 8 Extensive disease 25

HOSPITAL CHRONICLES 2007, 2(1): 38–43

TABLE 2. Infection types according to tumour histology

Infection types	Non-small cell lung cancer (63 infectious episodes among 62 patients)	Small cell lung cancer (39 infectious episodes among 33 patients)
Bacteriemia	11 Primary origin 2 Lung 6 Digestive tract 1 Urinary 1 Skin 1	7 Primary origin 3 Lung 2 Urinary 2
Lung	21 (including 6 bacteriemia)	11 (including 2 bacteriemia)
Digestive tract	6 (including one bacteriemia)	2
Urinary tract	1 (corresponding to a bacteriemia)	6 (including 2 bacteriemia)
Head and neck	4	2
Skin	2 (including one bacteriemia)	-
Fever of unknown origin	27	15

TABLE 3. Documented pathogens according to tumour histology.

Pathogens	Non-small cell lung cancer	Small cell lung cancer	Total
Gram-positive bacteria	7	6	13
Streptococcus sp	2	1	3
Enterococcus sp	2	2	4
Staphylococcus aureus	2	2	4
Bacillus sp.	-	1	1
Clostridium difficile	1	-	1
Gram-negative bacteria	25	14	39
Escherichia coli	4	9	13
Haemophilus influenzae	8	1	9
Moraxella catarrhalis	2	1	3
Pseudomonas aeruginosa	3	-	3
Klebsiella sp	2	-	2
Acinetobacter sp	-	2	2
Other Gram negative bacteria	6	1	7
Other pathogens			4
Candida albicans	-	2	2
Herpes simplex	-	2	2
Total	32	24	56

Traitement neutropénie fébrile

- Antibiothérapie à large spectre couvrant Pseudomonas aeruginosa, beta-lactamine/ carbapeneme
- Antibiothérapie orale (ciprofloxacine + amoxycilline/acide clavulanique, moxifloxacine) chez les patients à faible risque de complication.
- Sauf en cas de situation spécifique, les aminoglycosides et les glycopeptides ne doivent pas être administrés systématiquement
- Dans le cas particulier du CB, la couverture antibiotique devrait inclure *Streptococcus pneumoniae* étant donné la fréquence de cette bactérie

Table 3. MASCC Scoring System to Identify Patients With Cancer and Febrile Neutropenia at Low Risk of Medical Complications*

Characteristic	Weight
Burden of febrile neutropenia with no or mild symptoms†	5
No hypotension (systolic blood pressure > 90 mmHg)	5
No chronic obstructive pulmonary disease‡	4
Solid tumor or hematologic malignancy with no previous fungal infection§	4
No dehydration requiring parenteral fluids	3
Burden of febrile neutropenia with moderate symptoms†	3
Outpatient status	3
Age < 60 years	2

Abbreviation: MASCC, Multinational Association for Supportive Care in Cancer.

*Maximum score is 26; scores ≥ 21 indicate a low risk for medical complications. Data adapted.[12,127]

†Burden of febrile neutropenia refers to the general clinical status of the patient as influenced by the febrile neutropenic episode. It should be evaluated on the following scale: no or mild symptoms (score of 5), moderate symptoms (score of 3), and severe symptoms or moribund (score of 0). Scores of 3 and 5 are not cumulative.

‡Chronic obstructive pulmonary disease means active chronic bronchitis, emphysema, decrease in forced expiratory volumes, or need for oxygen therapy and/or steroids and/or bronchodilators requiring treatment at the presentation of the febrile neutropenic episode.

§Previous fungal infection means demonstrated fungal infection or empirically treated suspected fungal infection.

Therapeutic use of granulocyte and granulocyte-macrophage colony-stimulating factors in febrile neutropenic cancer patients

A systematic review of the literature with meta-analysis

Table 4 Meta-analysis on mortality in febrile neutropenic cancer patients treated with CSF [*RR* relative risk (a value <1 meaning a reduction of mortality favouring the CSF arm); *95% CI* 95% confidence interval]

Reference	CSF	Antibiotics	Antibiotics + CSF	RR	95% CI
[1]	GM	3/50	3/50	1.00	0.21–4.72
[2]	GM	0/15	1/14	10.71	0.02->100
[9]	GM	2/43	2/39	1.10	0.16–7.46
[14]	GM	0/30	0/28	1.00	0->100
[18]	GM	2/69	1/65	0.53	0.05–5.72
[3]	G	15/58	5/61	0.32	0.12–0.82
[7]	G	15/107	12/108	0.79	0.39–1.61
[9]	G	2/43	4/39	2.21	0.43–11.38
[11]	G	0/92	0/94	1.00	0->100
Overall				0.71	0.44–1.15
Subgroup	G			0.66	0.39–1.13
Subgroup	GM			0.97	0.34–2.79

Anémie

- 70 % des patients atteints d'un CB
- Impact sur la qualité de vie et l'état général
- Le plus souvent multifactorielle
- Cause la plus fréquente: carence martiale fonctionnelle
- Rechercher causes carentielles (fer, vitamine B12)
- Causes liées à la pathologie (inflammation, déficit en EPO, causes iatrogènes)

Utilisation des facteurs de croissance érythrocytaires

Use of erythropoiesis stimulating agents

A. Lapierre, P.-J. Souquet*

- Améliore le taux d'hémoglobine, la qualité de vie et diminue les transfusions sanguines.
- Risque d'accidents thromboemboliques.
- Diminution de la survie?
- Règles de prescription strictes: que pour des soins palliatifs ou au cours de traitements par chimiothérapie.

Revue des Maladies Respiratoires (2014) 31, 162—172

Recommandations de l'ESMO et de l'ASCO

- Que chez les patients en phase palliative, en cours de chimiothérapie ;
- instaurés à un taux d'Hb < 100 g/L avec un taux cible à 120 g/L ;
- contre-indiqués en cas de radiothérapie ;
- le risque d'événement thromboembolique doit être évalué avant le début de traitement ;
- ne se substitue pas au traitement étiologique de l'anémie (par exemple la correction d'une carence martiale par apport de fer).

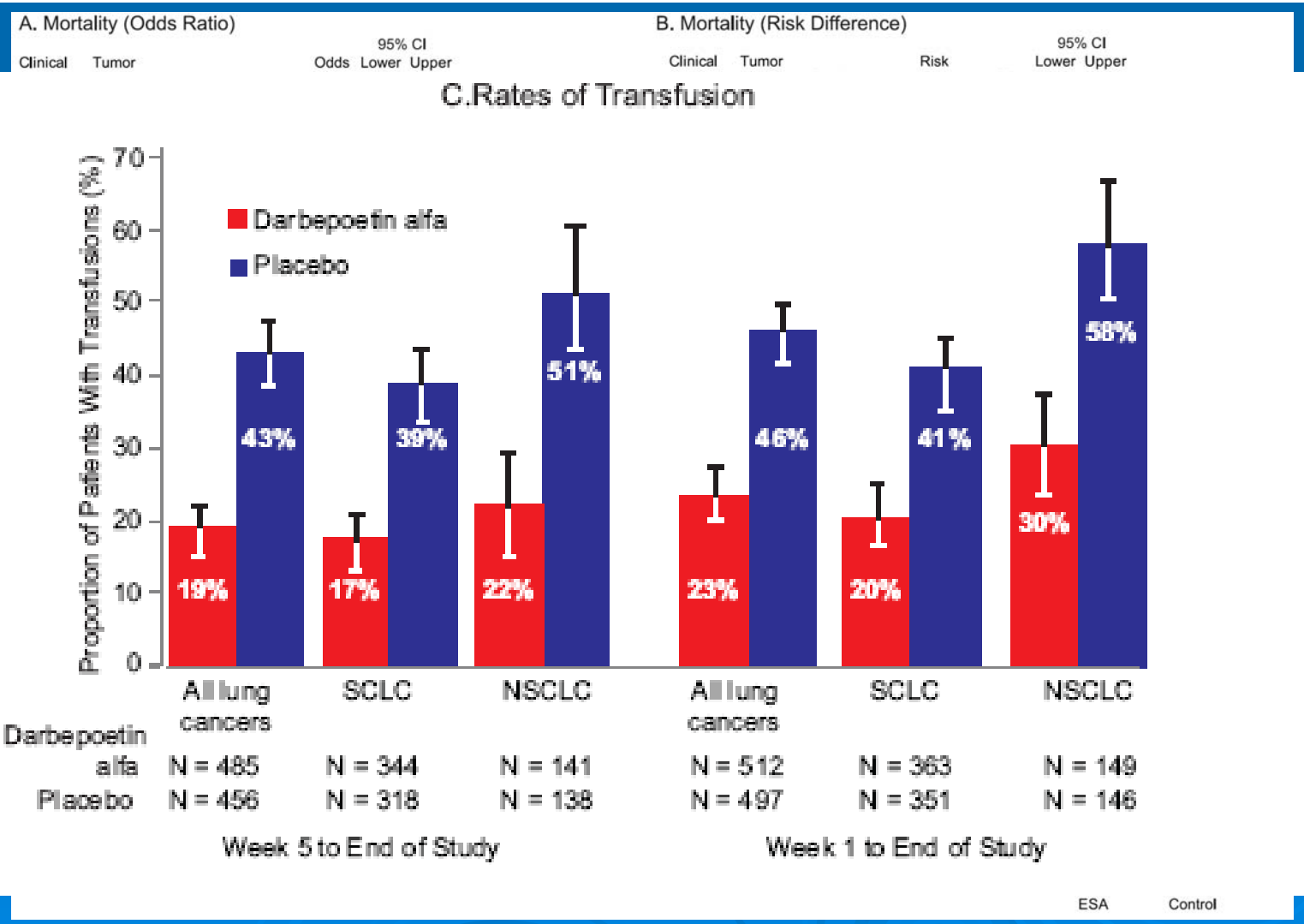
Tableau 1 Posologie des érythropoïétines (EPO) et adaptation de dose d'après Rizzo et al. [77].

DCI	Époétine alpha		Époétine bêta		Darbopoétine alpha	
Dose initiale	150 U/kg, 3 × sem	450 U/kg/sem [54]	150 U/kg, 3 × sem	450 U/kg/sem [60]	2,25 μg/kg/sem	500 μg/3 sem (6,75 μg/kg) [58]
Augmentation de dose	300 U/kg, 3 × sem si pas d'amélioration des besoins transfusionnels ou augmentation Hb < 10 g/L à 4 semaines	60 000 U/sem si pas d'amélioration des besoins transfusionnels ou augmentation Hb < 10 g/L à 4 semaines	300 U/kg 3 × sem si augmentation Hb < 10 g/L en 4 semaines	60 000 U/sem si augmentation Hb < 10 g/L en 4 semaines	4,5 μg/kg/sem si augmentation Hb < 10 g/L à 6 semaines	Pas de données
Diminution de dose	Diminuer les doses de 25 % si niveau d'Hb suffisant pour éviter les transfusions ou augmentation d'Hb > 10 g/L en 2 semaines		Diminuer les doses de 25—50 % si niveau d'Hb suffisant pour éviter les transfusions ou augmentation d'Hb > 20 g/L en 4 semaines		Diminuer les doses de 40 % si niveau d'Hb suffisant pour éviter les transfusions ou augmentation d'Hb > 10 g/L en 2 semaines	
Suspension du traitement	Si Hb atteint un niveau suffisant pour éviter les transfusions ; reprendre les doses en diminuant de 25 % quand Hb proche du seuil transfusionnel		Si Hb atteint un niveau suffisant pour éviter les transfusions ; reprendre les doses en diminuant de 25—50 % quand Hb proche du seuil transfusionnel		Si Hb atteint un niveau suffisant pour éviter les transfusions ; reprendre les doses en diminuant de 40 % quand Hb proche du seuil transfusionnel	
Arrêt définitif du traitement	À la fin de la chimiothérapie ou en l'absence de réponse à 8 semaines (augmentation Hb < 10 g/L)		À la fin de la chimiothérapie ou en l'absence de réponse à 8 semaines		À la fin de la chimiothérapie ou en l'absence de réponse à 8 semaines	

Hb : hémoglobine ; sem : semaine.

Benefits and risks of using erythropoiesis-stimulating agents (ESAs) in lung cancer patients: Study-level and patient-level meta-analyses

Johan Vansteenkiste[a,*], John Glaspy[b], David Henry[c], Heinz Ludwig[d], Robert Pirker[e], Dianne Tomita[f], Helen Collins[g], Jeffrey Crawford[h]



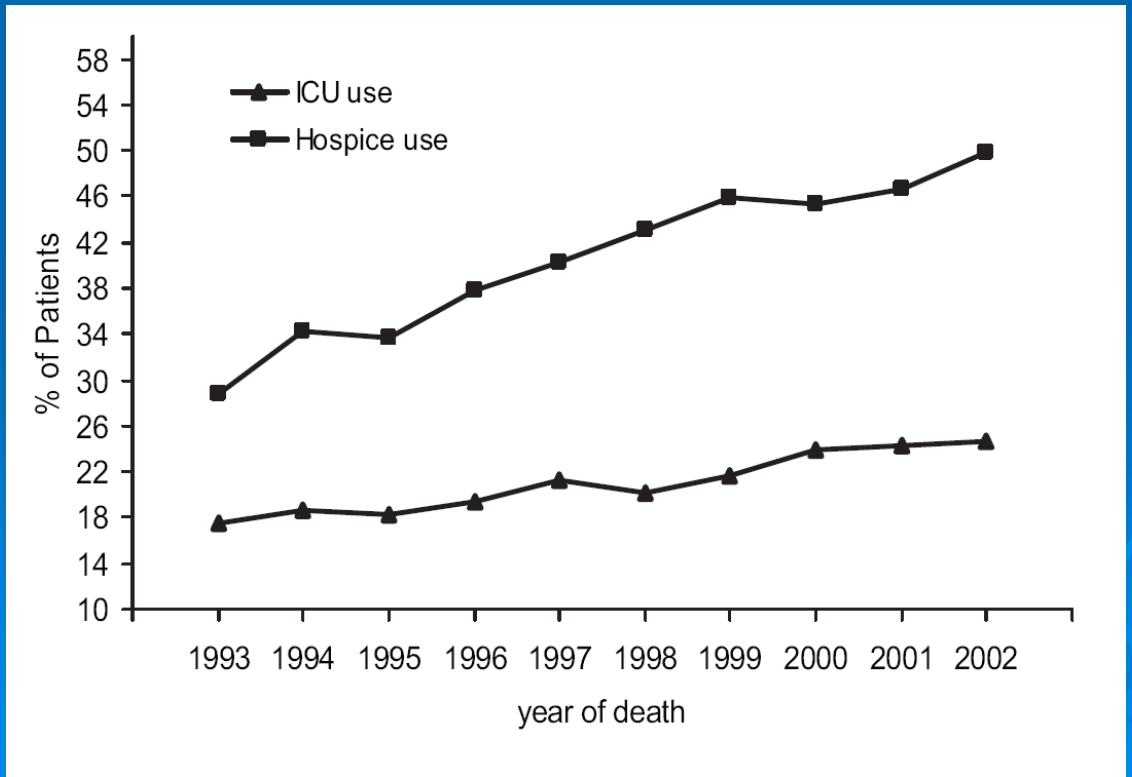
Lung Cancer 76 (2012) 478–485

Affection actuelle

- Mis sous Piperacilline/Tazobactam
- Admis à l'USI pour insuffisance respiratoire
- VNI

Le patient atteint de CB à l'USI

- Le CB représente 15 à 20% des admissions aux soins intensifs



Chest 133 : 72-78; 2008

S. Boussat
T. El'rini
A. Dubiez
A. Depierre
F. Barale
G. Capellier

Predictive factors of death in primary lung cancer patients on admission to the intensive care unit

Table 2 Reasons for admission of the 57 patients to the MICU

Reason	No. (%)
Acute pulmonary disease	39 (68.4)
Infection (pneumonia, acute bronchitis)	31 (54.4)
ARDS	2 (3.5)
Pulmonary embolism	2 (3.5)
Pneumothorax	3 (5.3)
Hemoptysis	2 (3.5)
Airway obstruction and atelectasis	1 (1.8)
Pleural effusion	1 (1.8)
Shock	14 (24.5)
Cardiogenic	6 (10.5)
Septic	8 (14.0)
Central nervous system dysfunction	6 (10.5)
Brain metastases	5 (8.7)
Ischemic stroke	1 (1.8)
Electrolyte abnormalities	6 (10.5)
Hypercalcemia	5 (8.7)
Hyponatremia	1 (1.8)
Hematological disorders	4 (7.0)
Aplasia	3 (5.3)
Disseminated intravascular coagulation	1 (1.8)
Iatrogenic	3 (5.3)
Acute respiratory failure after endoscopy	
Post-operative (all surgery)	9 (15.8)

Intensive Care Med (2000) 26: 1811–1816

VNI et CB

Early postoperative prophylactic noninvasive ventilation after major lung resection in COPD patients: a randomized controlled trial

Table 3 Outcomes

Variable	Population ($n = 360$)	NIV group ($n = 181$)	Control group ($n = 179$)	p value
ARE, n (%)	112 (31.1)	57 (31.5)	55 (30.7)	0.93
Acute respiratory failure, n (%)	78 (21.7)	34 (18.8)	44 (24.5)	0.20
IMV, n (%)	9 (2.5)	7 (3.9)	2 (1.1)	0.17
Pneumonia, n (%)	57 (15.8)	29 (16.0)	28 (15.6)	1
Operative site infection, n (%)	14 (3.5)	8 (4.4)	6 (3.4)	0.59
Length of hospital stay (day), mean ± SD	17.3 (35.9)	18.6 (40.7)	16.0 (30.3)	0.27
Mortality, n (%)	13 (3.6)	4 (2.2)	9 (5)	0.16

Lorut Intensive Care Med (2014) 40:220–227

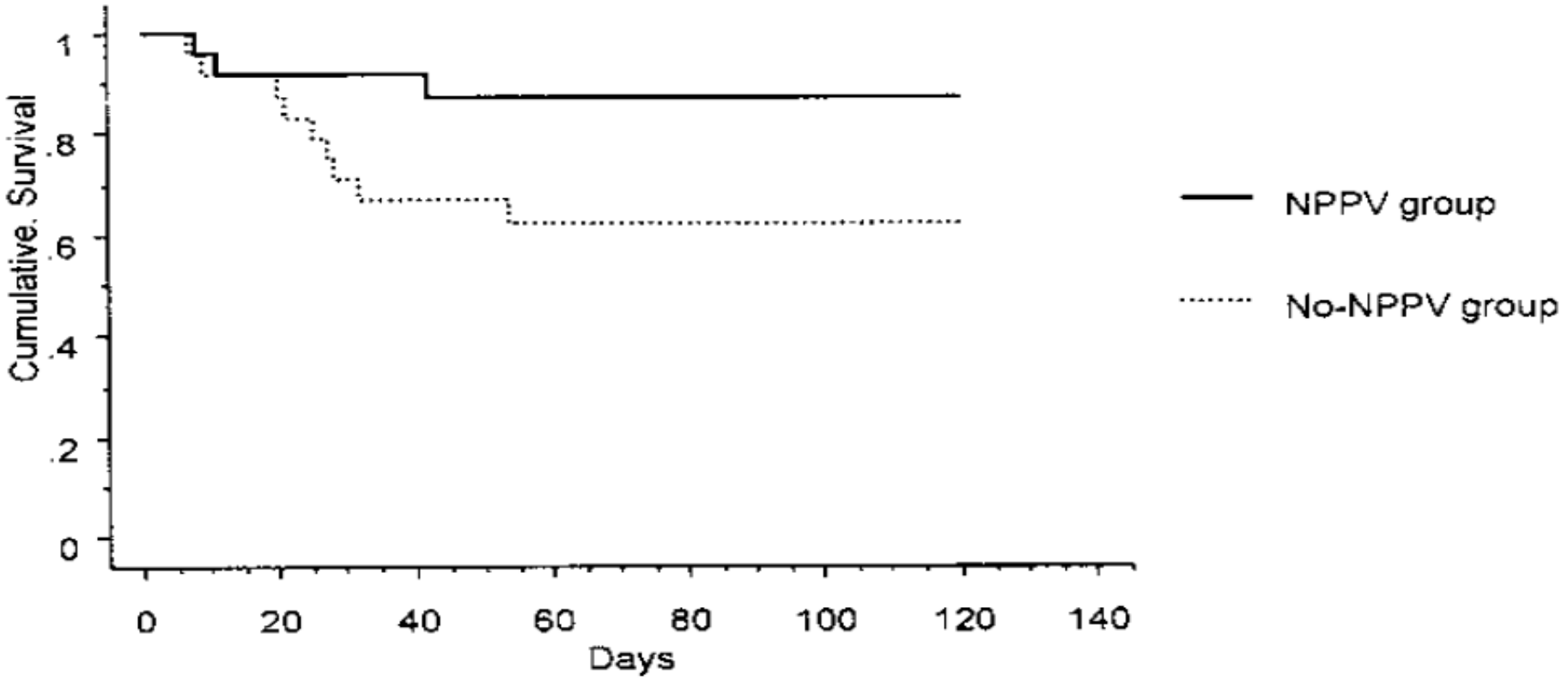
Noninvasive Ventilation Reduces Mortality in Acute Respiratory Failure following Lung Resection

IGOR AURIANT, ANNE JALLOT, PHILIPPE HERVÉ, JACQUES CERRINA, FRANCOIS LE ROY LADURIE, JEAN LAMET FOURNIER, BERNARD LESCOT, and FRANCOIS PARQUIN

TABLE 3. ENDOTRACHEAL MECHANICAL VENTILATION, MORTALITY, AND LENGTH OF INTENSIVE CARE UNIT AND HOSPITAL STAYS

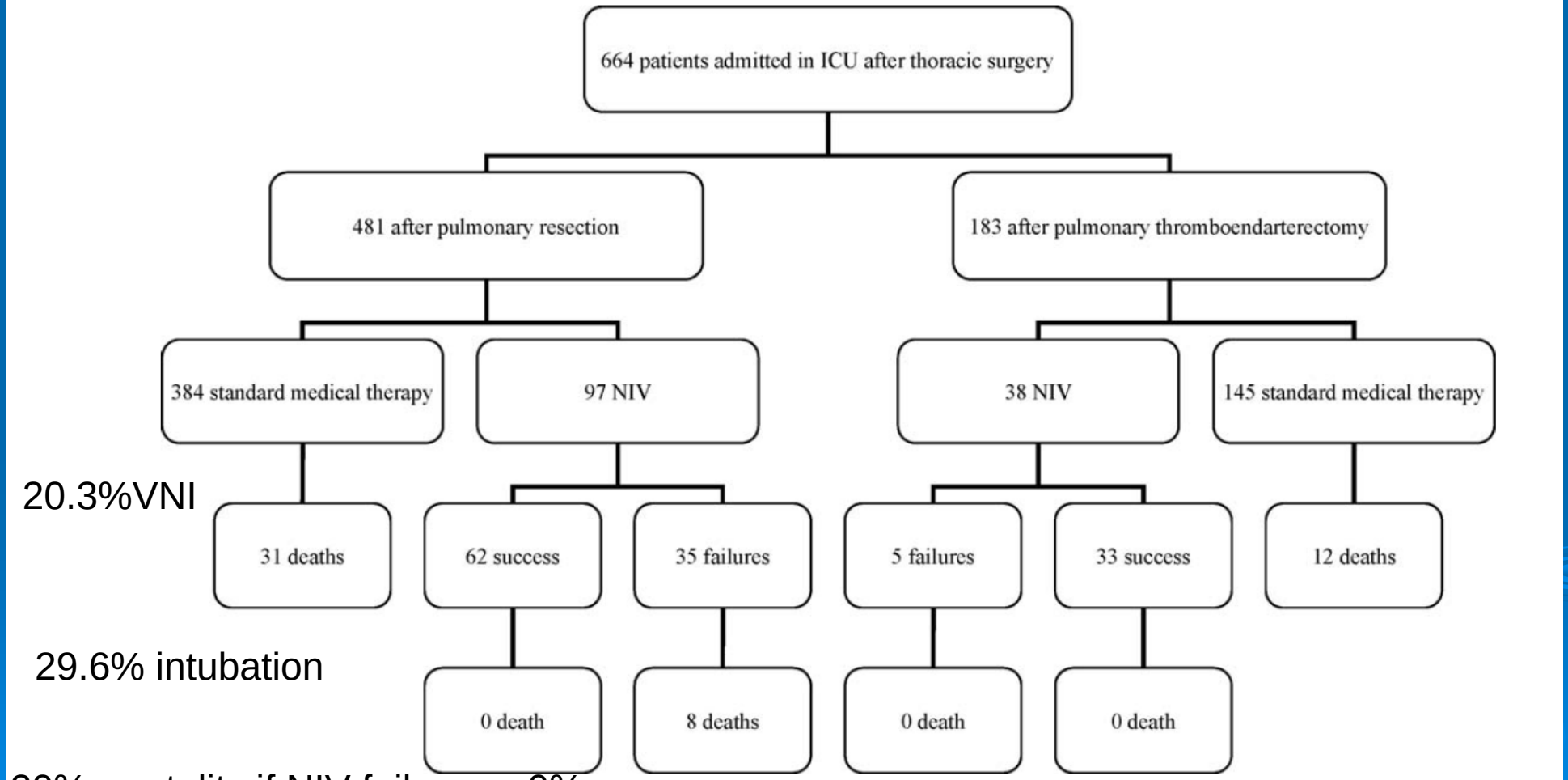
	No-NPPV ($n = 24$) Mean ± SD	NPPV ($n = 24$) Mean ± SD	p Value*
ETMV, n (%)	12 (50%)	5 (20.8%)	0.035
In-hospital deaths, n (%)	9 (37.5%)	3 (12.5%)	0.045
Length of ICU stay, d	14 ± 11.1	16.65 ± 23.6	0.52
Length of hospital stay, d	22.8 ± 10.7	27.1 ± 19.5	0.61
120 - d mortality, n (%)	9 (37.5%)	3 (12.5%)	0.045

Am J Respir Crit Care Med Vol 164. pp 1231–1235, 2001


Cumulative Survival
1
.8
.6
.4
.2
0
0
20
40
60
80
100
120
140
Days
NPPV group
No-NPPV group

Failure of noninvasive ventilation after lung surgery: a comprehensive analysis of incidence and possible risk factors☆

Sven Riviere[a,1], Julien Monconduit[a], Véronique Zarka[a], Patrice Massabie[a], Stéphane Boulet[a], Philippe Dartevelle[b], François Stéphan[a,*]



20.3%VNI

29.6% intubation

20% mortality if NIV failure vs 0%

g. 1. Distribution and outcomes of noninvasive ventilation after thoracic surgery. ICU: intensive care unit; NIV: noninvasive ventilation.

European Journal of Cardio-thoracic Surgery 39 (2011) 769—776

Evolution

- Dégradation respiratoire
- Nécessité d’intubation endotrachéale

VMI et CB

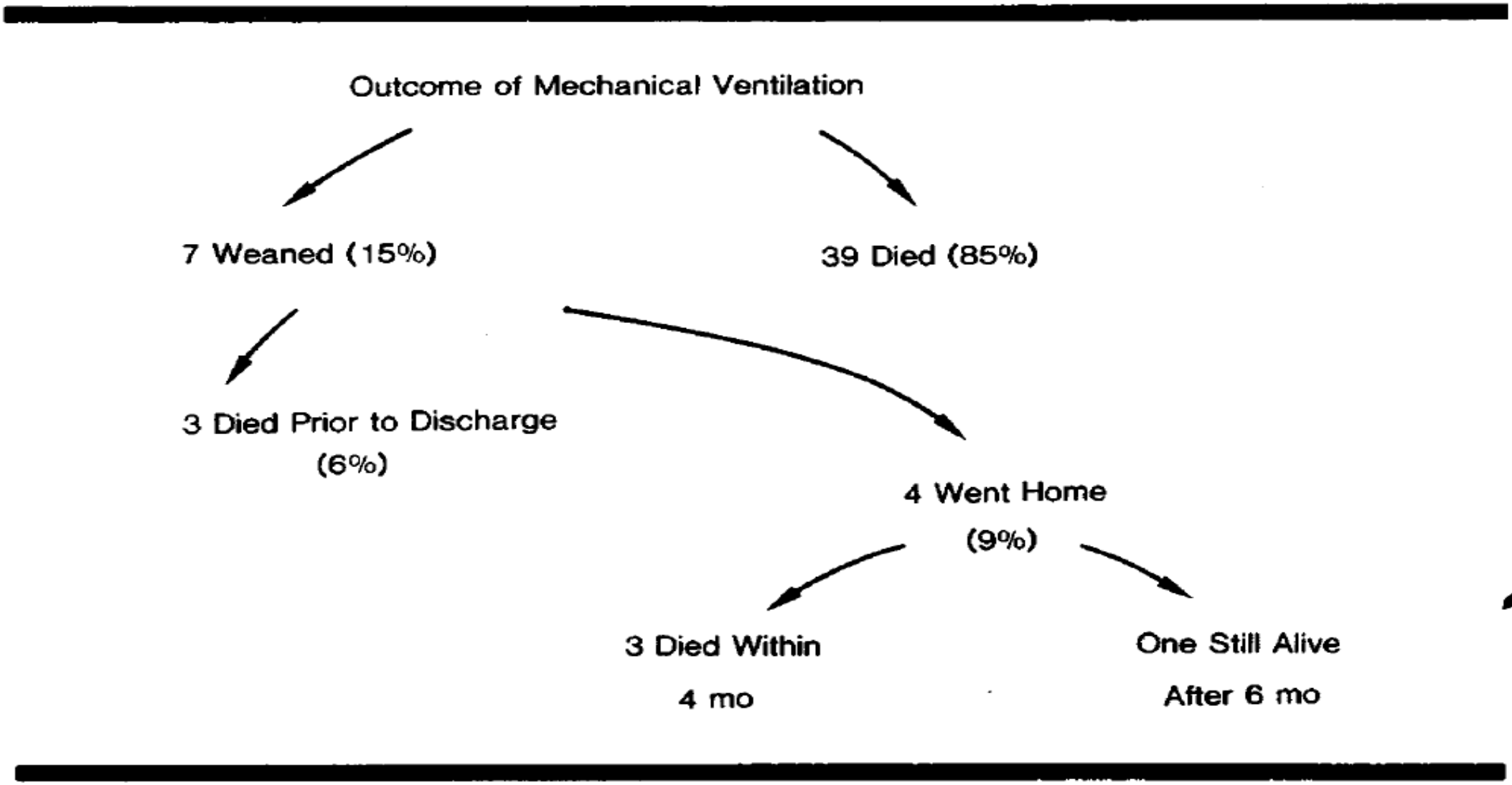
Outcome of Lung Cancer Patients Requiring Mechanical Ventilation for Pulmonary Failure

Michael S. Ewer, MD; M. K. Ali, MD, PhD; Mohamed S. Atta, MD; Rodolfo C. Morice, MD; P. V. Balakrishnan, MD

Etiology of Respiratory Failure

Etiologic Factor	Patients	
	No.	%
Tumor progression	22	48
Chemotherapy-related complications	11	23
Radiation-related complications	3	7
Exacerbation of underlying chronic obstructive lung disease	10	22
Total	**46**	**100**

JAMA, Dec 26, 1986—Vol 256, No. 24



Outcome of 46 lung cancer patients using mechanical ventilators.

Outcome of lung cancer patients with acute respiratory failure requiring mechanical ventilation

Yu-Ching Lin[a], Ying-Huang Tsai[a], Chung-Chi Huang[a], Kuang-Huang Hsu[b], Szu-Wei Wang[a], Thomas Chang-Yao Tsao[a], Meng-Chih Lin[a,*]

No. of patients	81
Age (years)	
Mean	67.46 ± 10.01
Range	31–88
Sex	
Male	81 (85.3%)
Female	14 (14.7%)
Cell type	
Small cell	22 (23.2%)
Non-small cell	73 (76.8%)
Squamous cell	29 (30.5%)
Adenocarcinoma	32 (33.7%)
Large cell	1 (1.1%)
Non-Small cell	11 (11.6%)
Stage	
Stage I	1 (1.1%)
Stage II	3 (3.2%)
Stage III	35 (36.8%)
Stage IV	56 (58.9%)
Weaned	
Yes	26 (27.4%)
No	69 (72.6%)
Outcome	
ICU mortality	59 (72.8%)
Hospital mortality	69 (85.2%)
Survivor	12 (14.8%)

Survie : 61 jours (6 à 302)

Facteurs prédictifs de sevrage

Table 6 Result of logistic regression.

Variable	Standardized estimate	Odd ratio	*P* value
Gender	−0.026	0.87	0.93
Age	0.29	1.05	0.40
APACHE III score	−0.90	0.93	0.03
Albumin	0.57	6.71	0.06
Partial support*	0.57	8.20	0.046
Highest FiO_2	−0.95	0.001	0.008
Total organ failure	−1.26	0.135	0.02
MV duration	−1.47	0.88	0.03

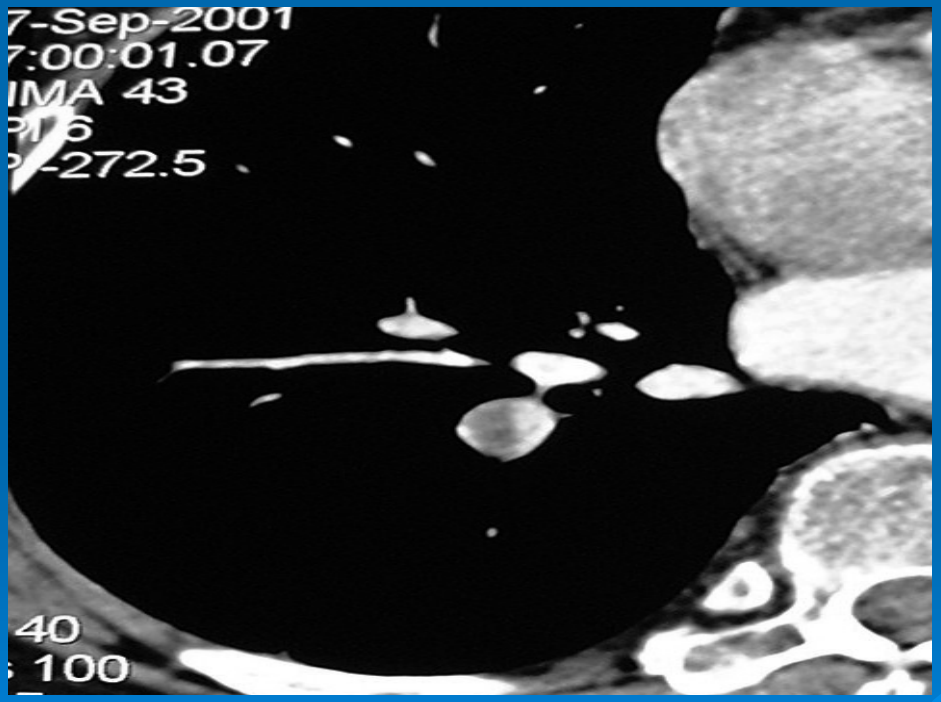
APACHE III denotes acute physiological and chronic health evaluation III, FiO_2 the partial pressure of arterial oxygen, MV the mechanical ventilation.
*Shift to partial support mode within 48 h after initiation of mechanical ventilation.

Respiratory Medicine (2004) 98, 43–51

Evolution

- Evolution favorable et détubation au J10
- 3 jours plus tard, œdème douloureux membre inférieur droit, détresse respiratoire aigue nécessitant réintubation
- ARCA

Thrombose veineuse profonde et embolie pulmonaire



Thromboembolism in lung cancer – An area of urgent unmet need

M. Alexander[a,b,*], S. Kirsa[c], R. Wolfe[b], M. MacManus[d], D. Ball[d,e], B. Solomon[e,f], K. Burbury[g]

Table 1
Patient characteristics.

	All patients ($n = 222$)	Patients with TE ($n = 24$)
Gender, *n* (%)		
Male	131 (59)	13 (54)
Female	91 (41)	11 (46)
Age		
Median | range	69 (39–91)	66 (42–90)
Diagnosis, *n* (%)		
NSCLC	203 (91)	22 (92)
Adenocarcinoma	116 (57)	17 (77)
Squamous cell carcinoma	57 (28)	3 (14)
Other	30 (15)	2 (9)
SCLC	19 (9)	2 (8)
Stage, *n* (%)		
NSCLC		
I–II	45 (20)	3 (13)
III–IV	157 (71)	19 (79)
SCLC		
Limited	5 (2)	0 (0)
Extensive	14 (7)	2 (8)
Disease status, *n* (%)		
Newly diagnosed	171 (77)	21 (88)
Relapsed disease	51 (23)	3 (12)
ECOG performance status, *n* (%)		
0–1	138 (62)	10 (42)
2–3	54 (24)	7 (29)
Unspecified	30 (14)	7 (29)
Charlson Index, *n* (%)		
2–3	86 (39)	5 (4)
4–5	20 (9)	1 (21)
>5	116 (52)	18 (75)
Median (range)	7 (2–14)	8 (2–11)
Comorbidities, *n* (%)		
Hypertension	67 (30)	9 (38)
Stroke	4 (2)	1 (4)
Diabetes	31 (14)	1 (4)
Congestive heart failure	6 (9)	0 (0)
Liver diseases	2 (1)	0 (0)
Atrial fibrillation/flutter	19 (9)	3 (13)
Obesity	6 (9)	1 (4)
Other risk TE factors, *n* (%)		
History of TE	11 (5)	3 (13)
Second primary malignancy	44 (20)	9 (38)

Lung Cancer 84 (2014) 275–280

Table 3
Univariate analysis of association between patient and disease risk factors and incidence of thromboembolism.

	TE ($n = 24$) No (%)	No TE ($n = 198$) No (%)	p value*
Newly diagnosed	21 (88)	150 (76)	0.06
Advanced disease	21 (88)	149 (75)	0.25
Metastatic disease	17 (71)	91 (46)	0.01
Brain metastasis	10 (42)	42 (21)	0.06
Second primary malignancy	9 (38)	31 (16)	0.01
Prior history of TE	3 (13)	8 (4)	0.17
Age >65	13 (54)	122 (62)	0.57
ECOG PS >2	2 (8)	12 (6)	0.66
Charlson comorbidity score ≥5	18 (75)	103 (52)	0.03

Table 4
The risk of thromboembolism during anti-cancer therapy.

		Crude HR (95%CI) time-fixed	Crude HR (95%CI) time-varying	Adjusted HR (95%CI) for age and sex	Adjusted HR (95%CI) for potential confounding variables[a]
Chemotherapy	No		Reference category		
	Yes	2.00 (0.85–4.72)	5.69 (2.18–14.81)	5.57 (2.12–14.61)	4.97 (1.95–12.71)
Radiotherapy	No		Reference category		
	Yes	1.05 (0.31–3.54)	5.19 (2.04–13.21)	5.26 (2.09–13.22)	4.97 (1.87–13.23)
Surgery	No		Reference category		
	Yes	0.98 (0.36–2.64)	1.66 (0.53–5.21)	1.51 (0.45–5.15)	0.96 (0.25–3.70)
Biologic	No		Reference category		
	Yes	0.93 (0.34–2.52)	1.66 (0.53–5.21)	1.51 (0.45–5.15)	1.01 (0.27–3.78)

Venous Thromboembolism Prophylaxis and Treatment in Patients With Cancer: American Society of Clinical Oncology Clinical Practice Guideline Update

Gary H. Lyman, Alok A. Khorana, Nicole M. Kuderer, Agnes Y. Lee, Juan Ignacio Arcelus, Edward P. Balaban, Jeffrey M. Clarke, Christopher R. Flowers, Charles W. Francis, Leigh E. Gates, Ajay K. Kakkar, Nigel S. Key, Mark N. Levine, Howard A. Liebman, Margaret A. Tempero, Sandra L. Wong, Ann Alexis Prestrud, and Anna Falanga

- La plupart des patients cancéreux hospitalisés nécessitent une thromboprophylaxie (en l'absence de CI).
- Celle-ci n'est pas recommandée en routine pour le patient ambulatoire
- Les HBPM sont recommandées pour le traitement des TVP et EP et leur prophylaxie secondaire (6 mois…)

VOLUME 31 · NUMBER 17 · JUNE 10 2013

JOURNAL OF CLINICAL ONCOLOGY

Pronostic du patient CB à l'USI

S. Boussat
T. El'rini
A. Dubiez
A. Depierre
F. Barale
G. Capellier

Predictive factors of death in primary lung cancer patients on admission to the intensive care unit

Table 1 Characteristics of the patient population

Patients	$n = 57$
Underlying conditions	
Smoking habits	52 (91 %)
Pulmonary chronic obstructive disease	21 (36.8 %)
Tuberculosis	6 (10.5 %)
Emphysema	3 (5.3 %)
Bronchiectasis	2 (3.5 %)
Ischemic or hypertensive cardiomyopathy	33 (57.8 %)
Pathologic subtypes	51 (89.5 %)
Squamous cell carcinoma	28 (55 %)
Adenocarcinoma	10 (19.6 %)
Poorly differentiated carcinoma	8 (15.6 %)
Oat cell carcinoma	5 (9.8 %)
Tumor extension	53 (93 %)
Stage I or II	10 (19 %)
Stage III	18 (34 %)
Stage IV	25 (47 %)
Karnofsky performance status	53 (93 %)
≥ 70	28 (53 %)
< 70	25 (47 %)

Intensive Care Med (2000) 26: 1811–1816

Mortalité à l'USI et à l'hôpital

Table 5 Prediction of MICU and hospital mortality using multivariate analysis

	MICU mortality	Hospital mortality
Acute pulmonary disease	OR = 11.4 (1.43–90.8)*	OR = 21.6 (1.16–401.0)*
Karnofsky status < 70	OR = 10.7 (1.80–63.8)*	OR = 9.63 (1.01–91.7)*

*$P < 0.05$ (95 % confidence interval)

Survie

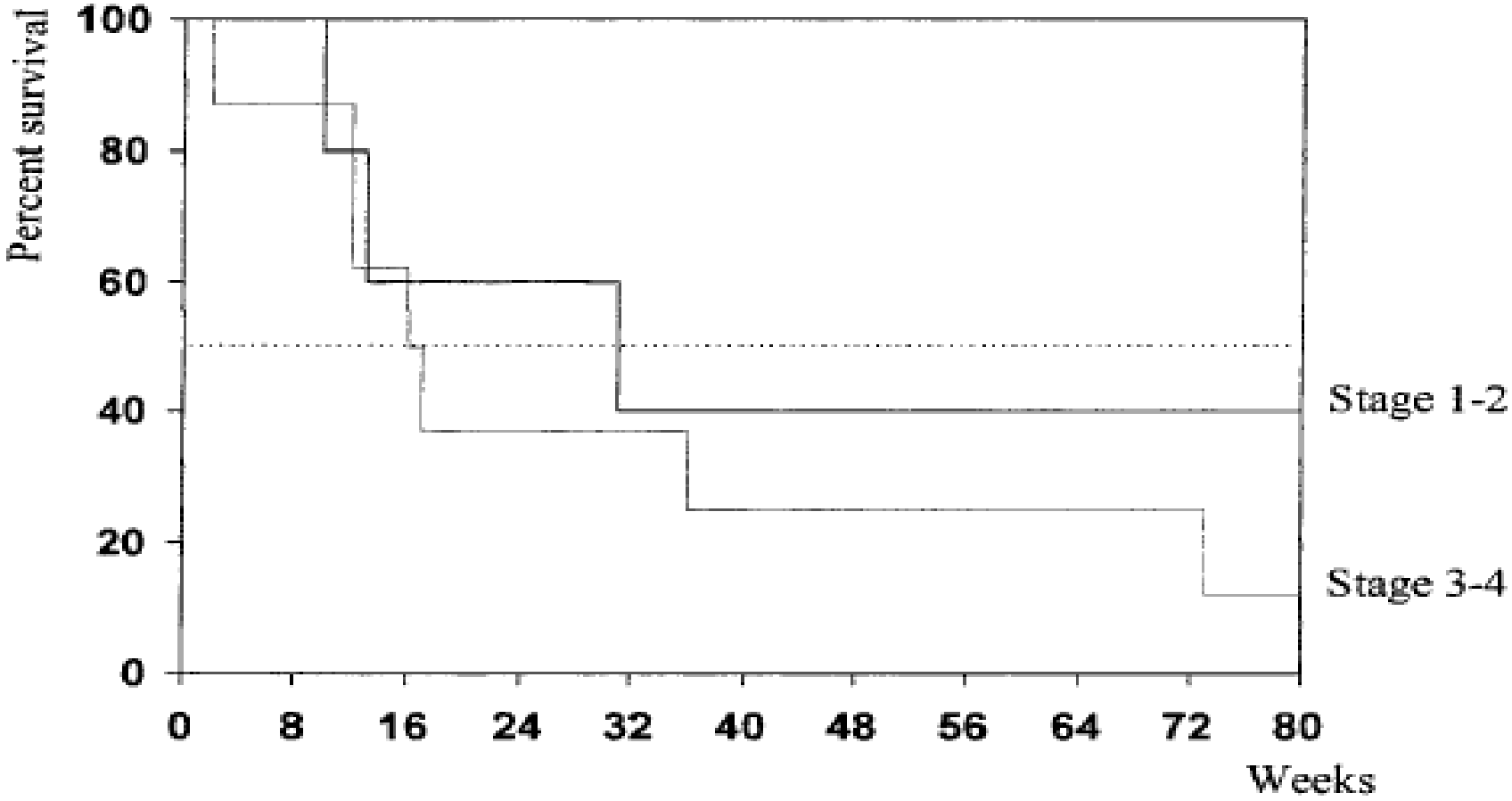


Fig. 1 Kaplan-Meier overall survival curves for the two groups after hospital discharge. *Dotted line* indicates median survival time

Outcome and prognostic factors of lung cancer patients admitted to the medical intensive care unit

A.K. Adam* and A.O. Soubani#

TABLE 1 Baseline clinical characteristics of all lung cancer patients, survivors and nonsurvivors admitted to the medical intensive care unit

Variables	All patients	Survivors	Nonsurvivors	p-value#
Subjects	139	108	31	
Age yrs	64.2±10.2	63.6±10.4	66.5±9.4	0.15
Sex				
Male	67 (48)	53 (49)	14 (45)	0.15
Female	72 (52)	55 (51)	17 (55)	0.15
Race				
White	41	30	11	0.12
African-American	95	78	17	0.03
Other	3	0	3	0.01
Smoking history	129 (93)	103 (95)	26 (84)	0.04
Type of lung cancer				
Nonsmall cell	96 (69)	79 (73)	17 (55)	0.03
Small	18 (13)	13 (12)	5 (16)	0.19
Other	1	0	1 (3)	0.22
Unknown	24 (17)	16 (15)	8 (26)	0.08
Stage of lung cancer				
1	5 (4)	4 (4)	1 (3)	0.41
2	1 (<1)	1 (1)	0	0.77
3	28 (20)	23 (21)	5 (16)	0.17
4	56 (40)	44 (41)	12 (39)	0.16
Limited disease	7 (5)	5 (5)	2 (6)	0.30
Extensive disease	8 (6)	7 (6)	1 (3)	0.30
Unknown	34 (24)	24 (22)	10 (32)	0.09
Treatment received				
Chemotherapy	8 (6)	5 (5)	3 (10)	0.18
Radiation therapy	26 (19)	23 (22)	3 (10)	0.08
Surgery	11 (8)	8 (7)	3 (10)	0.25
Combination	47 (34)	35 (32)	12 (38)	0.14
None	43 (31)	35 (32)	8 (26)	0.14
Unknown	4 (3)	2 (2)	2 (6)	0.18

Eur Respir J 2008; 31: 47–53

Mortalité

Mortalité à l'USI 22%

Mortalité à l'hôpital 40%

TABLE 5 Predictors of medical intensive care unit mortality on stepwise backward elimination regression analysis

Variables	Odds ratio	Confidence interval	p-value[#]
Vasopressors use	8.7	2.8–27	<0.0001
Multiorgan system failure ⩾2	40.8	5.1–328.3	<0.0001

Six-month prognosis of patients with lung cancer admitted to the intensive care unit

Intensive Care Med (2009) 35:2044–2050

Sébastien Roques
Antoine Parrot
Armelle Lavole
Pierre-Yves Ancel
Valérie Gounant
Michel Djibre
Muriel Fartoukh

Table 1 Patient's characteristics ($n = 105$)

Demographics	
Age, year	64.8 ± 10.6 (39–86)
Performance status, *n* (%)*	
0–1	56 (54)
2–4	47 (46)
Comorbid condition, *n* (%)	
Tobacco intoxication	94 (90)
Cardiovascular disease**	52 (50)
COPD**	34 (33)
Severity scores, points	
SAPS II	40 ± 21 (13–112)
SOFA	4.4 ± 4.7 (0–18)
Cancer subtype, *n* (%)	
NSCLC	87 (83)
SCLC	18 (17)
Extensive disease (TNM classification), *n* (%)***	
NSCLC	
No (Stage I-II-IIIA)	17 (17)
Yes (Stage IIIB-IV)	68 (66)
SCLC	
No (localized)	1 (1)
Yes (disseminated)	17 (17)
Metastasis	67 (64)
Cancer status, *n* (%)	
Controlled	13 (12)
Non-controlled	22 (21)
Unknown	70 (67)
Anticancer treatments prior to current hospital stay, *n* (%)	
None	46 (44)
Surgery	6 (6)
Chemotherapy/radiation therapy	53 (50)
Reason for ICU admission, *n* (%)	
Respiratory	97 (92)
Acute respiratory failure	62 (59)
Hemoptysis	47 (45)
Cardiovascular	8 (8)
Septic shock	10 (10)
Neurological	10 (10)
Main therapeutics in ICU, *n* (%)	
Mechanical ventilation	43 (41)
Vasopressors	33 (31)
Renal replacement	3 (3)
Outcome, *n* (%)	
Withholding or withdrawing therapy	45 (43)
Mortality	
ICU	45 (43)
Hospital	57 (54)
6 months****	76 (73)
Cancer treatment after hospital discharge, *n* (%) *****	
Yes	30 (30)
No	14 (14)

COPD Chronic obstructive pulmonary disease, *SCLC* small cell lung cancer, *NSCLC* non-small cell lung cancer, *ICU* intensive care unit, *SAPS* II simplified acute physiology score, *SOFA* sequential organ failure assessment

Values are expressed as mean ± SD (standard deviation) or *n* (%)

Missing data: *$n = 2$; **$n = 1$; ***in 2 patients with NSCLC stage III, the staging A or B could not be determined; ****in 1 patient, the follow-up duration averaged 5.8 months; *****$n = 4$

Table 3 Univariate and multivariate analyses of variables associated with 6-month mortality in the patients who survived after hospital discharge ($n = 48$)

Variables	Patients, n	6-month mortality, % (n)	Univariate analysis		Multivariate analysis	
			HR CI (95%)	P value	HR CI (95%)	P value
Age, year			0.99 (0.95–1.04)	0.7		
Performance status*						
0–1	33	33% (11)	–	0.3		
2–4	13	46% (6)	1.7 (0.6–4.5)			
COPD/CD						
No	18	33% (6)	–	0.5		
Yes	30	43% (13)	1.4 (0.5–3.6)			
NSCLC						
No	9	22% (2)	–	0.3		
Yes	39	44% (17)	2.3 (0.5–9.9)			
Cancer newly diagnosed						
No	29	38% (11)	–	0.9		
Yes	19	42% (8)	1.1 (0.4–2.6)			
Extensive cancer disease**						
No	11	18% (2)	–	0.2		
Yes	36	44% (16)	2.7 (0.6–11.7)			
Metastasis						
No	20	30% (6)	–	0.4		
Yes	28	46% (13)	1.6 (0.6–4)			
Airways obstruction						
No	43	42% (18)	–	0.35		
Yes	5	20% (1)	0.4 (0.05–2.8)			
Cancer progression						
No	39	31% (12)	–	0.001	–	0.0004
Yes	9	78% (7)	4.7 (1.8–12)		6.1 (2.2–17)	
Acute respiratory failure						
No	27	41% (11)	–	0.9		
Yes	21	38%(8)	1.1 (0.4–2.6)			
Hemoptysis						
No	21	24% (5)	–	0.07		
Yes	27	52% (14)	2.6 (0.9–7)			
Cardiovascular admission						
No	45	38% (17)	–	0.13		
Yes	3	67% (2)	3.1 (0.7–13.5)			
Severe sepsis/septic shock						
No	47	40% (19)				
Yes	1	0% (0)				
Neurological admission						
No	43	40% (17)	–	0.9		
Yes	5	40% (2)	1.09 (0.25–4.7)			
SAPS II (per point)			1.02 (0.98–1.06)	0.4		
SOFA (per point)			1.2 (1.03–1.4)	0.016		
Mechanical ventilation						
No	35	31% (11)	–	0.03	–	0.01
Yes	13	62% (8)	2.7 (1.1–6.6)		3.6 (1.35–9.4)	
Vasopressors						
No	38	34% (13)	–	0.04		
Yes	10	60% (6)	2.7 (1.03–7.2)			

CD Cardiovascular disease, *COPD* chronic obstructive pulmonary, *Missing data, **n = 2; **in one patient with NSCLC stage III, the

Survival in cancer patients undergoing in-hospital cardiopulmonary resuscitation: A meta-analysis☆

Gary M. Reisfield[a,*], Susannah Kish Wallace[b,1], Mark F. Munsell[c,2], Fern J. Webb[d,3], Edgar R. Alvarez[e,4], George R. Wilson[e,5]

- 42 études
- 1966-2005
- 1707 patients

Resuscitation (2006) 71, 152–160

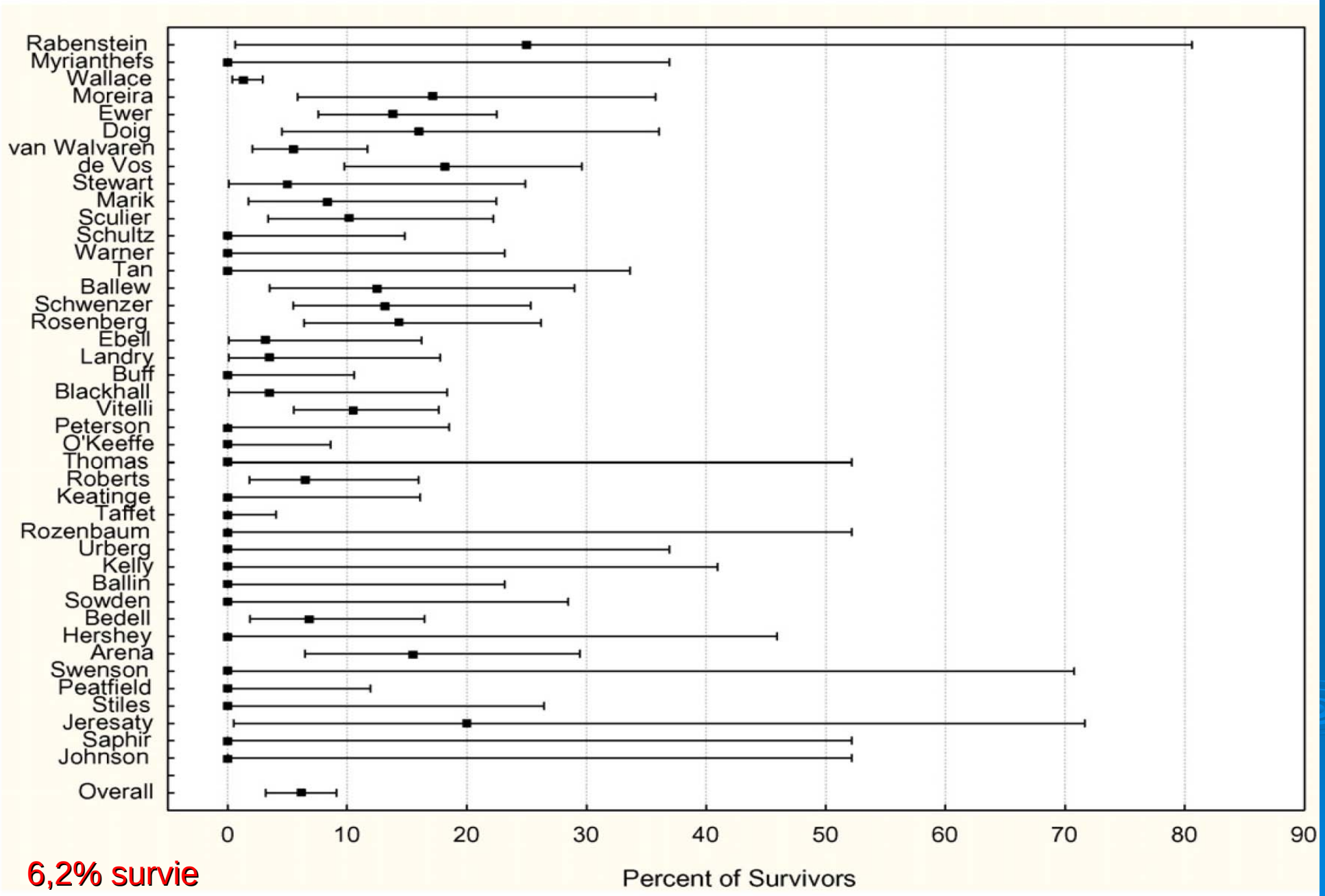


Figure 1 Percent of survivors with exact binomial 95% confidence intervals.

Table 3 Survival to hospital discharge among subgroups of patients who underwent in-hospital cardiopulmonary resuscitation

	Number of survivors	Number of patients in subgroup	Percent of survivors	Odds ratio	95% Confidence interval	*p*-Value
Type of malignancy						
Hematological	8	400	2.0	1.00	—	—
Solid tumor	51	718	7.1	3.75	1.76—7.98	0.001
Location of arrest						
Intensive Care Unit	11	500	2.2	1.00	—	—
Ward	18	179	10.1	4.97	2.30—10.74	<0.001
Extent of disease — among solid tumor patients						
Metastatic	23	411	5.6	1.00	—	—
Localised	28	295	9.5	1.77	1.00—3.14	0.051
Time period — all patients						
Pre-1990	12	324	3.7	1.00	—	—
1990—2005	93	1383	6.7	1.87	1.01—3.46	0.045
Time period — metastatic disease						
Pre-1990	0	115	0.0	1.00	—	—
1990—2005	23	296	7.8	13.66	2.37 to $+\infty$	<0.001
Time period — localised disease						
Pre-1990	11	108	10.2	1.00	—	—
1990—2005	17	187	9.1	0.9	0.40—1.96	0.758
Extent of disease — ICU						
Metastatic	6	113	5.3	1.00	—	—
Localised	2	41	4.9	0.91	0.18—4.72	0.915
Extent of disease — ward						
Metastatic	6	37	16.2	1.00	—	—
Localised	6	31	19.4	1.24	0.36—4.32	0.736

Tableau 3 Facteurs prédictifs de mortalité des patients atteints de CB admis en réanimation.

Auteur (année)	*N* de patients Type de patients	Mortalité à l'USI (Unité de soins intensifs)	Mortalité hospitalière	Mortalité à long terme	Facteurs
Ewer (1986) [31]	46 65 % CBNPC	85 %	91 %	9 8 %	Durée de la ventilation mécanique > 6 jours
Boussat (2000) [38]	57 75 % CBNPC 81 % stade III-IV	66 %	75 %		PS < 70, complication pulmonaire aiguë. *Stade*.
Jennens (2002) [38]	20 CBPC 60 % étendu			85 %	Maladie étendue, score de MANCHESTER élevé
Thyrault (2002) [40]	67 71,6 % CBNPC 66,7 % stade IV	46 %			Âge, IGSII, ODIN, insuffisance respiratoire aiguë, VMI
Lin (2004) [41]	81 77 % CBNPC 96 % stade III-IV	73 %	85 %		APACHE, FiO2, *n* organes défaillants
Reichner (2006) [24]	47 83 % CBNPC 59 % stade IIIB-IV	43 %	60 %		Score SOFA, VMI, CBNPC stade IV
Soares (2007) [32]	143 83 % CBNPC, 59 % stade IIIB-IV	42 %	59 %	67 %	Cancer progressif, obstruction néoplasique des voies aériennes, (comorbidités), âge, *n* organes défaillants
Sculier (2007) [42]	302	13 %			
Adam (2008) [43]	139 69 % CBNPC	22 %	40 %	48 %	Vasopresseurs, *n* organes défaillants
Sharma (2008) [44]	9 942 > 66 ans stade IIIB ou IV		41,3 %		
Roques (2009) [25]	105 83 % CBNPC 83 % stade IIIB-IV	43 %	54 %	73 %	PS, complication pulmonaire aiguë. *Cancer progressif, VMI*
Toffart (2011) [22]	103 68 % CBNPC 75 % stade IIIB-IV	31 %	48 %	63 % à 3 mois 88 % à 1 an	*PS, maladie métastatique, dysfonction d'organes*
Andréjak (2011) [45]	76 64 % CBNPC 64 % Stade IIIB-IV	47,4 %	65,6 %		VMI, vasopresseur, thrombocytopénie, complication liée au traitement du cancer
Bonomi (2012) [46]	1 134 > 65 ans CBNPC stades IIIB et IV		33 %	71 % à 3 mois 90 % à 1 an	Pathologie respiratoire, sepsis, insuffisance rénale, VMI
Chou (2012) [33]	70 stades III et IV		58,6 %		Score SOFA
Slatore (2012) [47]	49 373 80,3 % CBNPC, 45,7 % stade IV		24 %	65 % à 6 mois	VMI
Anisoglou, (2013) [48]	105 80 % CBNPC 72 % stade IV	44,7 %	56,1 %	77,1 % à 6 mois	APACHE II, SOFA, PS, comorbidités sévères VMI de longue durée, vasopresseurs, > 2 organes défaillants, sepsis

A.-P. Meert

Revue des Maladies Respiratoires Actualités (2014) 6, 133-141

Autres soins de soutien

Tableau 4 Soins de soutien adaptés en fonction des symptômes présentés par les patients atteints de CB.

Symptômes	Cause	Traitement spécifique	Traitement non spécifique
Symptôme respiratoire			
Dyspnée	Épanchement pleural	Ponction, drainage, talcage	Oxygénothérapie (y compris VNI, VMI), opioïdes, anxiolytiques
	Épanchement péricardique	Ponction, fenêtre, ballon, sclérose	
	Lymphangite	Chimiothérapie, corticoïdes	
	Atélectasie par obstruction intrinsèque ou compression extrinsèque	Prothèse, désobstruction (laser…)	
	Hémoptysies	Traitement endobronchique, embolisation, corrections troubles coagulation, chirurgie, transfusion	
	Infection pulmonaire	Antibiothérapie	
	Embolie pulmonaire	Anticoagulation, thrombolyse	
	Décompensation de BPCO	Bronchodilatateurs, corticoïdes	
	Insuffisance cardiaque	Inhibiteur enzyme de conversion, diurétiques	
	Résection pulmonaire		
	Anémie	Transfusion, facteur de croissance lignée rouge	
	Pneumonie radique	Corticostéroïdes	
	Syndrome cave supérieur	Chimiothérapie, radiothérapie, prothèse endo-cave, anticoagulation, chirurgie	

Fièvre	Infection respiratoire	Antibiothérapie	
	Neutropénie fébrile	Antibiothérapie (bêta-lactame ou carbapénème ou ciprofloxacine + amoxicilline/acide clavulanique ou moxifloxacine) Prophylaxie par facteurs de croissance dans les CBPC ?	
Symptômes neurologiques			
	Crise convulsive	Antiépileptique	
	Épidurite carcinomateuse	Radiothérapie, chimiothérapie ou une chirurgie de décompression	Corticothérapie
	Métastases cérébrales	Radiothérapie, chirurgie	Corticothérapie
Symptômes digestifs	Nausées, vomissements	Antagoniste 5-HT3, corticostéroïde, antagoniste du récepteur neurokinin 1 (NK1), métoclopramide	Hydratation
	Dysphagie	Prothèse œsophagienne, chimio- ou radiothérapie, antidouleurs, hydratation, traitement anti-herpétique (acyclovir) et/ou anti-mycotique (fluconazole) si nécessaire	
Symptômes hématologiques	Anémie	Transfusion, facteur de croissance lignée rouge	
Divers	Hypercalcémie	Hydratation, diphosphonates, calcitonine	
	Hyponatrémie	NaCl, urée, restriction hydrique	
	Fatigue		
	Anorexie	Soutien nutritionnel	
	Thrombose veineuse	Anticoagulation	

Conclusions

- Les CB peuvent s'accompagner de complications qu'il convient de pouvoir identifier en urgence afin de proposer un traitement spécifique.
- Les motifs les plus fréquents de consultation aux urgences sont les pathologies respiratoires, la fièvre (neutropénie fébrile), les pathologies neurologiques; la douleur et les pathologies digestives.
- Les patients atteints de CB sont avec ceux atteints de tumeurs du sein et de tumeurs digestives, les patients qui consultent le plus souvent aux urgences
- Ces complications peuvent nécessiter une prise en charge en réanimation.

Conclusions

- La cause d'admission en réanimation est le plus souvent d'origine respiratoire
- Le taux de mortalité en réanimation est en amélioration
- Le pronostic à l'USI dépend des perturbations physiologiques aigues induites par la complication
- Ensuite, le pronostic dépend des caractéristiques du cancer
- 30% des patients survivants pourront recevoir un traitement anti-cancéreux

The results of the different life-supporting techniques

- Institut Jules Bordet experience
- January 1999 - December 2006
- 515 ICU admissions of lung cancer patients (302 patients)
- 13% deaths in the ICU

Rev Mal Respir 2007 ; 24 : 6S114-6S119

Results of life support techniques

	N patients	ICU mortality
Resuscitation	18	83.3%
IMV	49	67.3%
NIV	55	32.7%
Renal replacement	4	25%
Chemotherapy	45	17.8%

Rev Mal Respir 2007 ; 24 : 6S114-6S119

D. Renal replacement

Table 1—*Characteristics of the 143 Study Patients**

Prognosis of Lung Cancer Patients With Life-Threatening Complications*

Márcio Soares, MD, PhD; Michael Darmon, MD; Jorge I. F. Salluh, MD, MSc; Carlos G. Ferreira, MD, PhD; Guillaume Thiéry, MD; Benoit Schlemmer, MD; Nelson Spector, MD, PhD; and Élie Azoulay, MD, PhD

Squamous-cell carcinoma	56 (39)
Adenocarcinoma	49 (34)
SCLC	25 (17)
Large cell	8 (6)
Other	5 (3)
Extensive disease (TNM classification)	
No (I-IIIa)	59 (41)
Yes (IIIb-IV)	84 (59)
Distant metastasis	44 (31)
Airway obstruction	36 (25)
Cancer status	
Controlled	55 (38)
Uncontrolled, newly diagnosed	55 (38)
Uncontrolled, recurrence/progression	33 (23)
Performance status	
0–2	111 (78)
3–4	32 (22)
Previous anticancer treatments	
Combined therapy	51 (36)
Surgery to cure the cancer only	20 (14)
Radiation therapy only	16 (11)
Chemotherapy only	13 (9)
No previous anticancer treatments	43 (30)
Weight loss ≥ 10%	13 (9)
Comorbidity score (ACE-27)	
None	53 (37)
Mild	54 (38)
Moderate	19 (13)
Severe	17 (12)
Most frequent comorbidities	
COPD	48 (34)
Systemic arterial hypertension	33 (23)
Diabetes mellitus	10 (7)
Chronic heart failure	7 (5)
Factors during the ICU stay	
MV	100 (70)
Vasopressors	82 (57)
Dialysis	12 (8)
Acute organ failures	2 (1–3)
Outcome data	
Length of ICU stay, d	6 (3–13)
Length of hospital stay, d	15 (8–32)
DFLST	41 (29)
ICU mortality	60 (42)
Hospital mortality	84 (59)

Prognosis of Critically Ill Patients With Cancer and Acute Renal Dysfunction

Márcio Soares, Jorge I.F. Salluh, Marilia S. Carvalho, Michael Darmon, José R. Rocco, and Nelson Spector

- 975 cancer patients in ICU
- 309 patients (32%) with renal dysfunction
  - 76 (25%) lung cancer
- 98 (32%) dialysis

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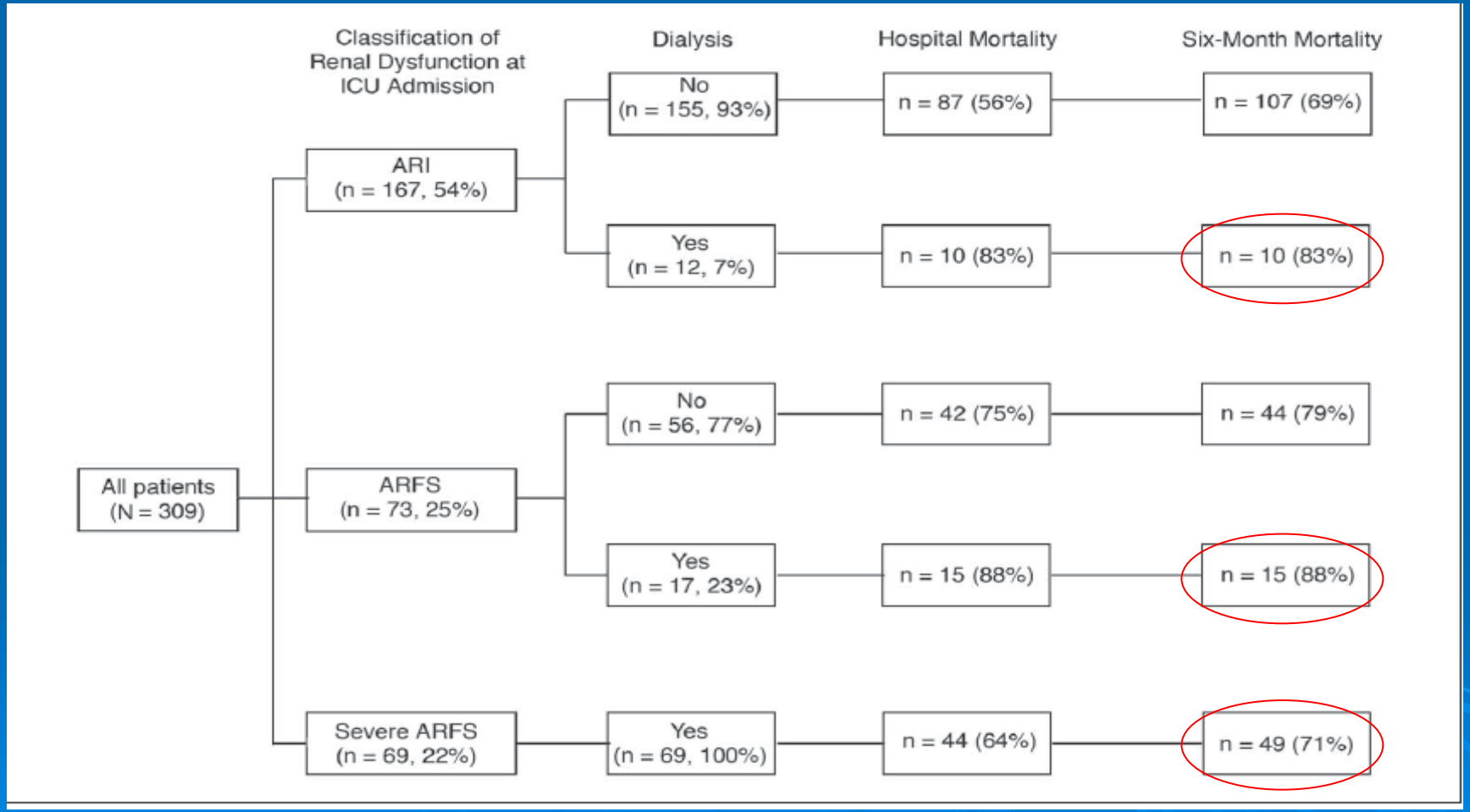
Table 4. Univariable and Multivariable Analyses of Factors Associated With 6-Month Mortality (N = 309)

73%

Variables	6-Month Mortality (%)	Hazard Ratio	95% CI	*P*	Hazard Ratio	95% CI	*P*
Age, years							
<60	70	1.00		.463	1.00		
>60	75	1.11	0.85 to 1.44		1.36	1.00 to 1.84	.049
Sex							
Female	73	1.00		.643	—		
Male	73	0.94	0.72 to 1.23		—		
Type of cancer							
Locoregional solid tumor	66	1.00		.009	—		
Metastatic solid tumor	75	1.57	1.10 to 2.22		—		
Low-grade hematologic malignancy	84	1.40	0.88 to 2.24		—		
High-grade hematologic malignancy	88	1.65	1.17 to 2.34		—		
Performance status							
0-1	61	1.00		< .001	1.00		
2-4	85	2.05	1.57 to 2.67		1.66	1.22 to 2.26	.001
Cancer status							
Controlled	60	1.00		< .001	1.00		
Uncontrolled newly diagnosed	81	1.81	1.33 to 2.47		1.45	1.00 to 2.11	.049
Uncontrolled recurrence/progression	92	2.43	1.76 to 3.37		1.61	1.10 to 2.11	.015
Neutropenia							
No	71	1.00		< .001	—		
Yes	89	1.96	1.35 to 2.84		—		
Weight loss							
No	71	1.00		.001	—		
Yes	93	2.05	1.37 to 3.07		—		
Severe comorbidity (ACE-27)							
No	72	1.00		.234	—		
Yes	81	1.31	0.84 to 2.03		—		
Mechanical ventilation							
No	38	1.00		< .001	—		
Yes	83	3.82	2.53 to 5.76		—		
Number of associated organ failures							
0	33	1.00		< .001	1.00		
1	65	2.74	1.58 to 4.75		1.75	0.88 to 3.50	.110
2	80	4.41	2.66 to 7.32		3.24	1.62 to 6.51	< .001
≥ 3	93	6.07	3.74 to 9.87		4.07	1.94 to 8.54	< .001
Sepsis							
No	53	1.00		< .001	—		
Yes	85	2.26	1.68 to 3.04		—		
Acute on chronic renal dysfunction							
No	74	1.00		.062	—		
Yes	54	0.49	0.23 to 1.04		—		
Worsening of renal function during ICU stay							
No	70	1.00		.042	—		
Yes	85	1.39	1.01 to 1.91		—		
Oliguria							
No	72	1.00		.247	—		
Yes	74	1.17	0.90 to 1.53		—		
Classification of acute renal dysfunction							
Acute renal injury	66	1.00		.004	1.00		
Acute renal failure syndrome	80	1.73	1.25 to 2.38		1.77	1.26 to 2.49	.001
Severe acute renal failure syndrome	76	1.30	0.95 to 1.78		1.16	0.81 to 1.67	.420

Abbreviations: ACE, Adult Comorbidity Evaluation; ICU, intensive care unit.


Classification of Renal Dysfunction at ICU Admission
Dialysis
Hospital Mortality
Six-Month Mortality
All patients (N = 309)
ARI (n = 167, 54%)
No (n = 155, 93%)
n = 87 (56%)
n = 107 (69%)
Yes (n = 12, 7%)
n = 10 (83%)
n = 10 (83%)
ARFS (n = 73, 25%)
No (n = 56, 77%)
n = 42 (75%)
n = 44 (79%)
Yes (n = 17, 23%)
n = 15 (88%)
n = 15 (88%)
Severe ARFS (n = 69, 22%)
Yes (n = 69, 100%)
n = 44 (64%)
n = 49 (71%)

E. Chemotherapy

Outcome of patients admitted to the intensive care unit with newly diagnosed small cell lung cancer

Ross R. Jennens [a,*], Mark A. Rosenthal [a], Paul Mitchell [b], Jeffrey J. Presneill [c]

Patient demographics

Parameter	$n = 20$
Age, median (range), *y*	67 (38–82)
Male/female ratio	10/10
Disease status limited/extensive	8/12
Intubated, *n* (%)	9 (45)
Duration in ICU, median (range), *d*	2 (1–11)
Treatment with chemotherapy, *n* (%)	16 (80%)
Timing of SCLC diagnosis, n (%)	
Pre ICU	3 (15)
During ICU	7 (35)
Post ICU	10 (50)
Timing of chemotherapy [a]	
Pre ICU	1 (5)
During ICU	5 (25)
Post ICU	11 (55)
Adjusted Manchester score	
0	1 (5)
1	10 (50)
2	4 (20)
3	3 (15)
4	2 (10)

[a] One patient received chemotherapy both pre and post ICU admission, and therefore, appears twice.

Lung Cancer 38 (2002) 291–296

Data for five patients treated with chemotherapy in ICU

Patient number	Age (years)	Sex	Stage	ICU duration (days)	Intubation duration (days)	Reason for ICU admission	Treatment	Timing of diagnosis[a]	Response	Manchester score (adjusted)	Survival (days)[b]
1	68	F	ED	11	11	Respiratory failure	1 × CE	During	No	2	11
2	55	F	ED	9	6	Respiratory failure	2 × CAV	During	No	2	16
3	64	M	ED	2	0	Respiratory monitoring	1 × Cyclo	Pre	No	3	37
4	38	M	LD	5	5	Respiratory failure	4 × CAV	During	Yes	1	210[c]
5	68	F	LD	9	9	Respiratory failure	4 × CE	During	Yes	1	214[c]

LD, limited disease; ED, extensive disease; CE, carboplatin + etoposide; CAV, cyclophosphamide, doxorubicin, vincristine; Cyclo, cyclophosphamide (intravenous); M, male; F, female.

[a] Timing of diagnosis of SCLC in relation to ICU admission.

[b] Survival from date of ICU admission.

[c] Censored as alive at end of data collection period.

Author	N pts	ICU mortality	Hospital mortality	Long term mortality	Prognostic factors
Ewer 1986	46	85%	91%	98%	MV duration > 6 days
Boussat 2000	57	66%	75%		PS<70, acute pulmonary complications *Stage*
Jennens 2002	20 SCLC			85%	Extensive disease, high MANCHESTER score
Thyrault 2002	67	46%			Age, IGSII, ODIN, acute respiratory failure, IMV
Lin 2004	81	73%	85%		APACHE, FiO2, n organ failure
Reichner 2006	47	43%	60%		SOFA, IMV, stage IV NSCLC
Soares 2007	143	42%	59%	67%	Progressive cancer, airway neoplastic obstruction, (comorbidities), n organ failure, age
Adam 2008	139	22%	40%	48%	Vasopressors, n organ failure
Roques 2009	105	43%	54%	73%	PS, acute pulmonary complications *Progressive disease, IMV*

Conclusion

- In the presence of an appropriate HDU, no thoracotomy should be admitted to ICU on an elective basis. On an emergency basis, those patients requiring support for organ failure should be admitted to ICU.
- NIV reduces mortality in case of respiratory failure after lung resection

- In-ICU prognosis is mainly determined by the acute physiological perturbations induced by the complication (and not by the characteristics of the neoplastic disease)
- After recovery from the acute complication, further prognosis is determined by the characteristics of the underlying cancer disease

- Two-third of the ICU survivors are able to receive anti-cancer treatment after hospital discharge and are still alive at 6 months

Conclusion

- It appears justify to propose preferentially the application of life-supporting techniques to the patient with an adequate therapeutic oncological project, after a multidisciplinary staff and a good information of the patient and his/her familly

To know more to manage complications of cancer patients in ICU

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