Urgences oncologiques
Formation en soins infirmiers oncologiques

Professeur Jean-Paul Sculier

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Support Care Cancer
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REVIEW ARTICLE

Emergency department visits for symptoms experienced by oncology patients: a systematic review

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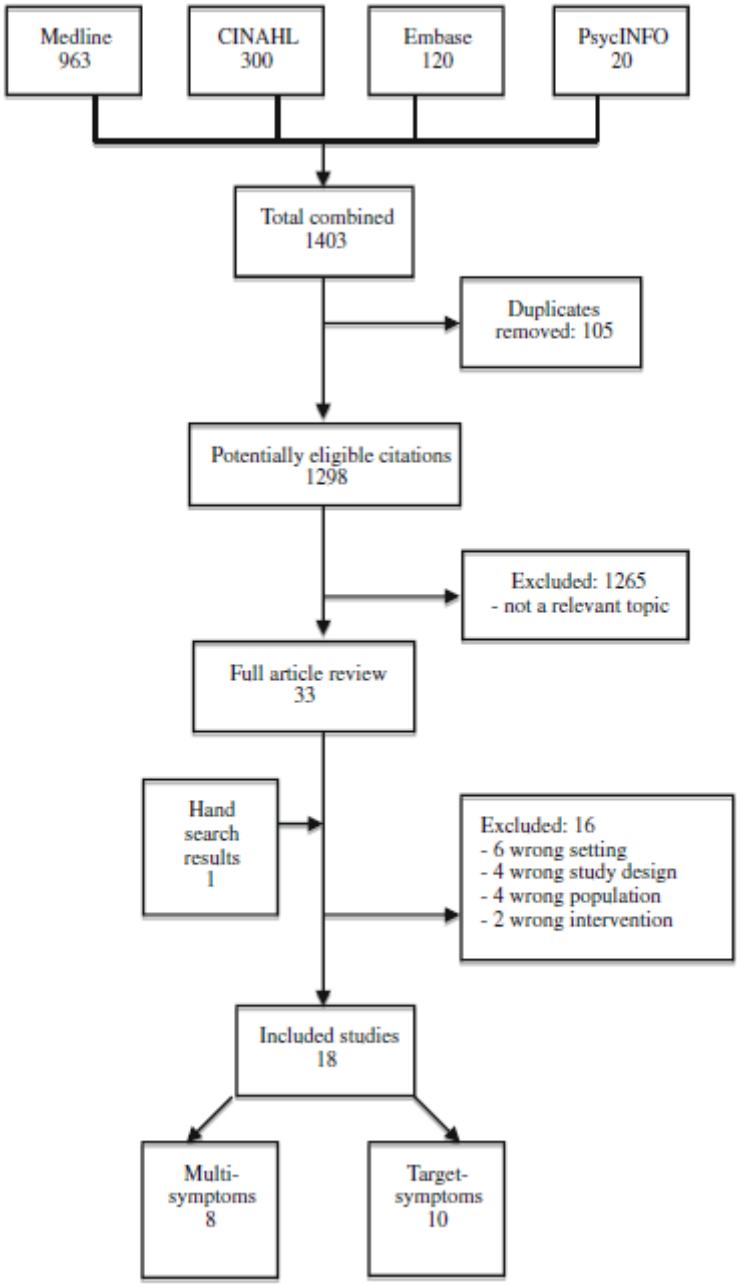

Fig. 1 Search decision tree

Table 4 Characteristics of included studies

Primary author (date)	Country	Study period #mo (yr–yr)	Total visits (*n*)	Sample size (*n*)	Study design	Data collection	Focus (specific/ general)	Type of cancer
Diaz-Couselo (2004) [1]	Argentina	8 (2002–2003)	365	263	Prospective cohort	Medical records	All symptoms	Multiple
Girmenia (1999) [2]	Italy	24 (1996–1998)	127	71	Prospective cohort	Direct measurement	All symptoms	Acute myelogenous leukemia
Geraci (2006) [3]	USA	1 (2000)		396	Retrospective cohort	Medical records	All symptoms	Multiple
Uramoto (2007) [4]	Japan	11 (2005–2006)		14	Retrospective cohort	Medical records & direct measurement	All symptoms	Multiple
Swenson (1995) [5]	USA	12 (1992–1993)		122	Retrospective cohort	Medical records	All symptoms	Multiple
Kerrouault (2007) [6]	France	<1 (2004)		123	Prospective cohort	Medical records & direct measurement	All symptoms	Multiple
Mayer (2011) [7]	USA	12 (2008)	37,760	27,644	Retrospective cohort	Administrative data set	All symptoms	Multiple
Livingston (2011) [8]	Australia	12 (2007)		443	Retrospective cohort	Administrative and clinical records	All symptoms	Multiple
King (2008) [9]	USA	12 (2005–2006)		201	Prospective cohort	Medical records	Pulmonary embolism	n.r.
Kung (2008) [10]	Taiwan	60 (1999–2006)		167	Retrospective cohort	Medical records	Hemodynamic instability	Hepatocellular carcinoma
Escalante (2008) [11]	USA	3 (n.r.)		928	Retrospective cohort	Medical records	Fatigue	Breast, lung, other
Escalante (1996) [12]	USA	36 (1988–1990)		122	Retrospective cohort	Medical records	Dyspnea	Solid tumors, hematological malignancies
Nirenberg (2004) [13]	USA	9 (2002)	23	19	Prospective cohort	Medical records	Febrile neutropenia	Multiple
Tsai (2010) [14]	Taiwan	12 (2005–2006)	1179	1026	Retrospective cohort	Medical records	Pain	Multiple
Perrone (2004) [15]	USA	24 (n.r.)	55	52	Retrospective cohort	Medical records	Febrile neutropenia	Multiple
Courtney (2007) [16]	USA	24 (2001–2003)	57	48	Retrospective cohort	Medical records	Febrile neutropenia	Myelogenous leukemia, solid tumors
Andre (2010) [17]	France	6 (2008)		198	Prospective cohort	Medical records & direct measurement	Febrile neutropenia	Multiple
Hsu (2004) [18]	Taiwan	144 (1990–2002)	10	9	Retrospective cohort	Medical records	Neutropenic enterocolitis	Acute leukemia

n.r. not reported in study

Symptom	Definition
Febrile neutropenia	a)Fever (temp >38°C) and profound thrombocytopenia (<20×10^9/l) [2]
	b)Absolute granulocyte count <500/mm^3 [5]
	c)Temperature >38.3°C and suspected neutropenia [12]
	d)Temp >38°C and absolute neutrophil count <1,000/mm^3 [14]
	e)Fever ≥100.4°F (in last 24 h) and ANC ≤500 cells/ml [15]
	f)White blood cell count <1,000/μl (or neutrophils <500/μl) with a core temperature above 38.3°C (or >38°C on 2 consecutive occasions) [16]
Sepsis	a) Blood: detection of microbial CO_2 by automated method of continuous blood culturing monitoring or urine: >50,000 colony-forming units of pathologic organisms/ml [15]
	b) Blood lactate >4 mmol/l or low BP (SBP <90 mmHg or 40 mmHg below usual) before fluid challenge or 1+ organ dysfunction (SpO_2 <95 % with fraction of inspired air O_2 >0.5, Cr >176 μmol/l or oliguria, international normalized ratio >2, Bili >78 μmol/l, Glasgow coma scale <15) [16]
Bleeding	a) Specific to gastrointestinal bleeding [5]
	b) Arterial bleeding [9]
	c) Tarry or bloody stool [17]
Diarrhea	a) Loose or watery diarrhea [17]
Abdominal distension	a) Referring to ascites (accumulation of fluid in the abdominal cavity with abdominal wall distension) [11]
Gastrointestinal symptoms	a) Vomiting, nausea, diarrhea, constipation, bowel obstruction, anorexia, cannot eat, would not eat, unable to eat [7]

Pain	a) Numerical scale 0–10 [3, 10]
	b) Specific to chest pain [8]
	c) Specific to abdominal pain [9]
	d) Generalized abdominal pain/tenderness, rebounding pain, tenderness localized in the R lower quadrant [17]
	e) All types of pain [7]
Fatigue	a) Weakness [5]
	b) Self-reported on 0-10 scale (severe=7-10, non-severe=0-6) [10]
Fever	a) Body temperature >38°C [2]
	b) Temp ≥38.5°C or ≥35.5°C [3]
	c) Criteria set by the Infectious Disease Society Guidelines. Temp >38.0°C for 1+ h or any temp >38.3°C [14]
	d) Body temperature ≥38°C [7]
Neurologic	a) Seizures, delirium, sensory loss, paresis [1]
	b) Confusion/decreased responsiveness [5]
	c) Glasgow coma scale score ≤12 [9]
Dyspnea	a) Shortness of breath [5, 13]
	b) Subjective awareness of difficulty in breathing [11]

Skin reactions	a) All types of rash, blisters, vesicles, purpura [1]
Anemia	a) Hb 5.5 g/dl [2]
	b) Hemoglobin <8 g/dl [11]
Infection	a) Microbial documentation [2]
	b) No definition provided, but states 'confirmed' [14]
Respiratory failure	a) PaO_2 <60 mmHg & RR >30 breaths/min (necessitating mech. vent.) [9]
Anxiety	a) Having nervousness, crying, apprehension, uncertainty, or fear without cause (noted in RN/MD notes) [11]

Table 6 Symptoms for which patients visit the emergency department

Symptom	All included studies (n=18 studies)			Multi-symptom focus (n=8 studies)		
	Median % (min–max)	Quartiles 25th, 75th	No. studies reporting	Median % (min–max)	Quartiles 25th, 75th	No. studies reporting
Altered nutrition	8 (1–11)	2, 10	3	8 (1–11)	2, 10	3
Dehydration	10 (10–10)		1	10 (10–10)		1
Electrolyte imbalance	8 (8–8)		1	8 (8–8)		1
Anemia	2 (1–11)		3	2 (1–11)		3
Bleeding	7 (4–40)	4, 20	6	6 (4–7)	–	2
Bleeding	6 (4–40)		5	6 (4–7)		2
Hemodynamic instability	14 (14–14)		1	n.r.		0
Hematemesis	13 (5–20)		2	n.r.		0
Gastrointestinal	8 (2–60)	4, 22	12	6 (2–30)	4, 8	6
Constipation	7 (7–7)		1	7 (7–7)		1
Diarrhea	9 (3–60)		5	4 (3–8)		3
Nausea/vomiting	6 (2–40)		6	6 (2–34)		4
Abdominal distention	5 (4–40)		5	4 (4–4)		2
Ileus	14 (14–14)		1	14 (14–14)		1
Jaundice	9 (7–10)		2	7 (7–7)		1
Mucositis	17 (4–30)		2	4 (4–4)		1
Fever and infection	23 (4–100)	11, 67	14	11 (4–86)	7, 21	7
Febrile neutropenia	58 (4–100)		8	8 (4–15)		4
Fever	18 (11–100)		9	14 (11–23)		5
Infection	42 (6–86)		4	46 (6–86)		2
Sepsis	36 (27–45)		2	27 (27–27)		1
Respiratory	10 (4–100)	6, 20	10	11 (4–28)	6, 17	5
Dyspnea	13 (6–100)		8	12 (6–28)		4
Cough	8 (4–11)		2	8 (4–11)		2
Respiratory failure	5 (5–5)		1	n.r.		0
Anuria/dysuria	6 (3–16)	–	3	6 (3–16)	5, 11	3
Anxiety	3 (3–3)	–	1	3 (3–3)	–	1
Neurological	7 (4–11)	5, 7	5	6 (4–11)	5, 8	4
Edema	5 (3–7)	–	2	5 (3–7)	–	2
Fatigue	6 (4–24)	4, 20	4	7 (4–24)	–	3
Pain	26 (10–93)	22, 55	11	22 (10–41)	10, 24	5

n.r. not reported in subset of studies

Table 7 Hospital admissions and mortality in patients with cancer experiencing disease and treatment-related symptoms

Study		Admission (n=14)			Mortality (n=10)	
Reference	Sample size	Total visits	n	%	n	%
Multi-symptom studies						
1	263	365	114	31	13	11
2	71	127	69	54	15	14
3	396	396	160	40	120	30
4	14	14	14	100	n.r.	–
5	122	122	n.r.	–	12	10
6	123	123	71	58	69	56
7	27,644	37,760	23,789	63	283	1
8	443	443	260	59	n.r.	–
Subtotal	29,076	39,350	24,477	M=58 %	512	M=13 %
Target-symptom studies						
9	201	201	n.r.	–	n.r.	–
10	167	167	167	100	52	31
11	928	928	436	47	n.r.	–
12	122	122	73	60	25	20
13	19	23	23	100	n.r.	–
14	1,026	1,179	128	39	n.r.	–
15	52	55	55	100	2	4
16	48	57	57	100	6	13
17	198	198	187	94	n.r.	–
18	9	10	10	100	6	67
Subtotal	2,770	2,940	1,136	M=100 %	91	M=20 %
Total	29,354	41,116	25,613	M=62 %	603	M=14 %

n.r. not reported in study, *M* median

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The lung cancer patient at the emergency department: A three-year retrospective study

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269 patients en 3 ans

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.

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

244 admissions pour 548 consultations

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

31 décès pour 269 patients

Table 6
Multivariate analysis: factors associated with death during hospitalization.

	Odds ratio	95% Confidence interval	*p*-Value
Type of arrival: ambulance or transfer from another hospital	9.511	3.814–23.721	<0.001
Presence of signs associated with the chief complaint	5.823	1.585–21.396	0.008
Time of arrival: 9 pm–7 am	2.203	1.276–3.803	0.005

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ORIGINAL REPORT

Why Do Patients With Cancer Visit Emergency Departments? Results of a 2008 Population Study in North Carolina

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ABSTRACT

Purpose

Emergency departments (EDs) in the United States are used by patients with cancer for disease or treatment-related problems and unrelated issues. The North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT) collects information about ED visits through a statewide database.

Patients and Methods

After approval by the institutional review board, 2008 NC DETECT ED visit data were acquired and cancer-related visits were identified. Descriptive statistics and logistic regressions were performed. Of 4,190,911 ED visits in 2008, there were 37,760 ED visits by 27,644 patients with cancer.

Table 1. Chief Complaints by Category

Chief Complaint Category	Raw Chief Complaints Included in Category
GI	Vomiting, nausea, diarrhea, constipation, bowel obstruction, anorexia, can't eat, won't eat, unable to eat
Pain	Chest pain, back pain, abdominal pain, pain, side pain, leg pain, hip pain, flank pain, groin pain, lower abdominal pain, shoulder pain, arm pain, foot pain
Neurologic	Altered mental status, seizure, altered level of consciousness, unresponsive, stroke, cerebrovascular accident, consciousness decreased, transient ischemic attack, hemiparesis, slurred speech, disoriented, brain tumor, change in mental status, loss of consciousness, change mental status, facial droop, confused
Malaise	Malaise, weak, weakness, general weakness, malaise and fatigue, fatigue, generalized weakness
Injury	Fall, fell, motor vehicle accident, motor vehicle crash, trauma, ankle injury, injury, fracture, dog bite, insect bite, bee sting, animal bite
Fever	Fever, febrile seizure, chills
Allergic reaction	Medication reaction, allergic reaction, hives
Bleeding	Bleeding, bleed, blood, nosebleed
Syncope	Syncope, dizzy, dizziness, fainting, faint
Blood clots	Deep vein thrombosis, blood clot, pulmonary embolus
Respiratory	Shortness of breath, trouble breathing, coughing, coughing up blood, pneumonia
Psychiatric	Depression, anxiety, suicidal
Cancer	Brain tumor, cancer patient, cancer, cancer complication, cancer + symptom (eg, "cancer, weakness" and "cancer, vomiting"), chemo, chemo + symptom (eg, "chemo, fever" and "chemo, dehydration")

Table 2. 2008 NC DETECT Categorized Chief Complaints for Visits (N = 37,760)

Chief Complaint	No.	Overall Rank
Pain	9,000	1
Chest pain	2,429	
Abdominal pain	3,044	
Back pain	900	
Extremity	888	
Other	1,971	
Respiratory	5,856	2
Respiratory distress/SOB	4,711	
Cough	591	
Hemoptysis	120	
Fever/possible pneumonia	282	
COPD	137	
Other	229	
GI	3,280	3
Nausea/vomiting	2,543	
Diarrhea	568	
Constipation	187	
Bowel obstruction	55	
Other	243	
Malaise	2,577	4
Neurologic	2,218	5
Bleeding	2,164	6
Fever	2,000	7
Injury	1,930	8
Falls	1,262	
Lacerations	81	
Bites	38	
MVA	133	
Other	447	
Cancer	1,724	9
Syncope	1,071	10
Blood clots	115	11
Allergic reaction	111	12
Psychiatric	99	13

Abbreviations: COPD, chronic obstructive pulmonary disease; MVA, motor vehicle accident; NC DETECT, North Carolina Disease Event Tracking and Epidemiologic Collection Tool; SOB, shortness of breath.

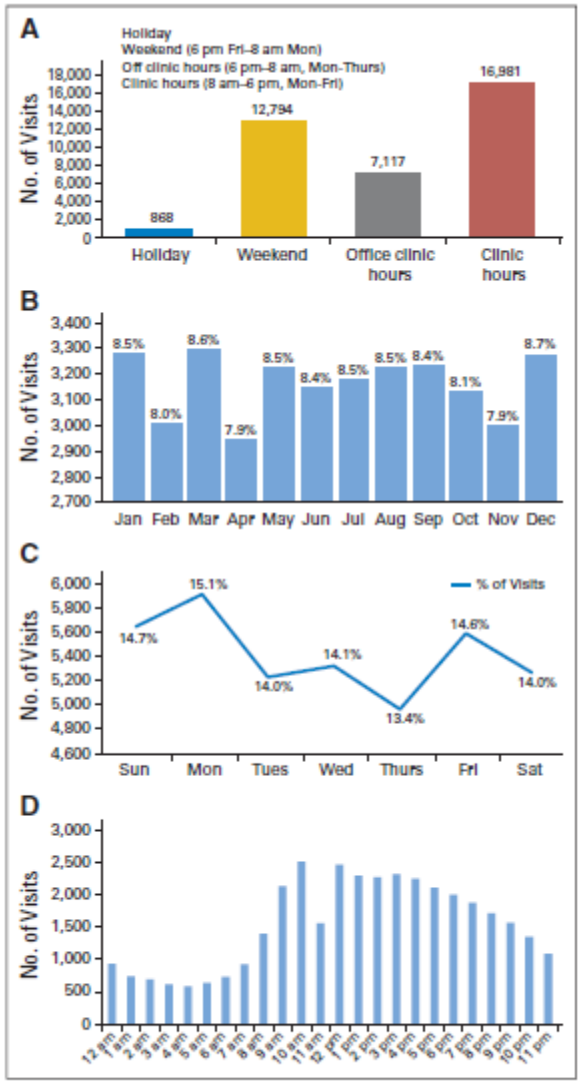

Fig 1. 2008 North Carolina (NC) emergency department (ED) visits by oncology patients, by (A) No. per type of clinic hours, (B) percentage per month, (C) percentage per day of the week, (D) No. per hour of day.

Table 3. Chief Complaint by Cancer Type*

Chief Complaint Category	Lung (n = 9,297)		Breast (n = 2,103)		Colon (n = 2,597)		Prostate (n = 1,654)		All Other Cancers (n = 16,973)	
	No.	%	No.	%	No.	%	No.	%	No.	%
Pain	2,114	22.7	673	32	873	33.6	576	34.8	4,892	28.8
Respiratory	2,967	32	268	12.7	218	8.4	198	12	2,309	13.6
GI	727	7.8	263	12.5	386	14.9	118	7.1	1,832	10.8
Malaise	787	8.5	144	6.9	210	8.1	121	7.3	1,367	8.1
Neurologic	635	6.8	78	3.7	107	4.1	110	6.7	1,310	7.7
Bleeding	466	5	104	4.9	299	11.5	152	9.2	1,171	6.9
Fever	379	4.1	156	7.4	134	5.2	62	3.8	1,292	7.6
Injury	435	4.7	179	8.5	123	4.7	158	9.6	1,061	6.3
Syncope	265	2.9	69	3.3	77	3	74	4.5	596	3.5
Blood clots	36	0.4	10	0.5	8	0.3	4	0.2	57	0.3
Allergic reaction	16	0.2	19	0.9	6	0.2	6	0.4	64	0.4
Psychiatric	21	0.2	13	0.6	6	0.2	5	0.3	55	0.3
Cancer	449	4.8	127	6	150	5.8	70	4.2	967	5.7
Missing chief complaint	1,011		840		—		640		3,325	

*Not all individuals had a chief complaint recorded, and the chief complaint categories are approximate and not exhaustive because they are based on the text searches. Therefore, the chief complaints by cancer type are approximate.

Le pronostic

Scoring systems in cancer patients admitted for an acute complication in a medical intensive care unit

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Objective: To validate and compare two severity scoring systems, the Acute Physiology and Chronic Health Evaluation (APACHE) II and Simplified Acute Physiology Score (SAPS) II and to determine their prognostic value for mortality during the hospital stay and after discharge in a specific group of cancer patients admitted to intensive care unit (ICU) for an acute medical complication.

Design: Prospective cohort study.

Setting: The medical ICU of a European cancer hospital.

Subjects: A total of 261 consecutive cancer patients admitted to ICU for an acute medical complication.

Measurements: Variables included into the APACHE II and SAPS II scores, as well as characteristics of the cancer, were collected during the first 24 hrs of the ICU stay. Hospital and in-ICU mortalities, overall survival, and survival after day 30 were measured.

Results: Observed hospital and ICU mortalities were 33% and 23%. Median survival time was 94 days and 1-yr survival rate was 23%. The mean predicted risk of death was 26.5% with APACHE II and 26.1% with SAPS II. Correlation between both systems was excellent. Calibration for mortality prediction ability of both scoring systems was similar. Discrimination between survivors and nonsurvivors was superior with SAPS II according to the area under the receiver operating characteristic curve but was better with APACHE II for survivors using thresholds minimizing the overall misclassification rates. Multivariate prognostic analysis showed that the scoring systems were the only significant factors for hospital and in-ICU mortalities, whereas characteristics related to the cancer (extent, phase) were the factors predicting survival after discharge.

Conclusion: The prognosis of cancer patients admitted to ICU for a medical problem is first determined by the acute physiologic changes induced by the complication, as evaluated by the severity scores. There is no major difference between the two assessed scoring systems. They are, however, not accurate enough to be used in the routine management of these patients. After recovery from complications, characteristics related to the neoplastic disease, however, retrieve their independent influence on the further survival. (Crit Care Med 2000; 28:2786–2792)

KEY WORDS: scoring; cancer; critical care; neoplasm; Acute Physiology and Chronic Health Evaluation II; Simplified Acute Physiology Score II

Table 1. Principal patient characteristics

	No. of Patients	%
Total number of patients	261	100
Median age (yrs)	63	—
Range	15–86	—
Type of cancer		
Hematologic	61	23
Lymphoma	17	7
Acute leukemia	12	5
Chronic leukemia	8	3
Myeloma	8	3
Myelodysplastic syndromes	14	5
Other	2	1
Solid tumors	200	77
Organ		
Lung cancer	67	23
Breast cancer	41	20
Head and neck cancer	18	9
Brain tumor	16	8
Digestive cancer	14	7
Gynecologic cancer	10	5
Other	34	17
Extent		
Locoregional	65	33
Metastatic	124	62
Unknown	11	6
Neoplastic disease phase		
Diagnostic	17	7
Curative	63	24
Controllable	143	55
Pivotal	35	13
Palliative	3	1
Cancer status		
Induction treatment	110	42
Complete remission		
Off therapy	29	11
Under therapy	6	2
Partial remission	23	9
No change	8	3
Progression	69	26
Unknown	22	8
Causes of admission		
Cardiac complications	73	28
Respiratory complications	64	25
Hematologic and infections complications	54	21
Metabolic complications	34	13
Neurologic complications	31	12
Digestive complications	15	6

Table 4. Univariate prognostic factors for intensive care unit (ICU) and hospital mortality

Variables	ICU Mortality RR	*p* Value	Hospital Mortality RR	*p* Value
APACHE II score (continuously assessed)	1.1	<.001	1.07	.0003
SAPS II score (continuously assessed)	1.05	<.001	1.05	<.001
Mean blood pressure (continuously assessed)	1.03	.02	1.02	.02
Pulse	1.02	.001	1.01	.02
Arterial pH	37.1	.005	51.3	.04
Hematocrit	0.96	.06	0.96	.02
Glasgow Coma Scale score	0.22	.006	0.32	.009
Platelet count	0.99	.005	0.98	.02
Leukocytosis	0.82	.003	0.86	.06
Acute renal failure	2.84	.002	1.9	.04

RR, relative risk; APACHE, Acute Physiology and Chronic Health Evaluation; SAPS, Simplified Acute Physiology Score.

En résumé

Variable	***Mortalité hospitalière***	***Survie après la sortie d'hospitalisation***
APACHE II	< 0,001	NS
IGS II	< 0,001	NS
Extension du cancer	NS	0,008
Phase du cancer	NS	0,0002

Sélection initiale des patients

ETAPES DE LA MALADIE CANCEREUSE	*INDICATIONS POUR LA REANIMATION*
• diagnostic	• +
• traitement à visée curative	• +
• traitement à visée de rémission	• + (ou réanimation d'attente ?) - **sauf traitements expérimentaux (phase I)**
• stade pivot	
• soins palliatifs	

Intensive Care Med (2006) 32:1560–1568
DOI 10.1007/s00134-006-0286-3

ORIGINAL

B. Lamia
M.-F. Hellot
C. Girault
F. Tamion
F. Dachraoui
P. Lenain
G. Bonmarchand

Changes in severity and organ failure scores as prognostic factors in onco-hematological malignancy patients admitted to the ICU

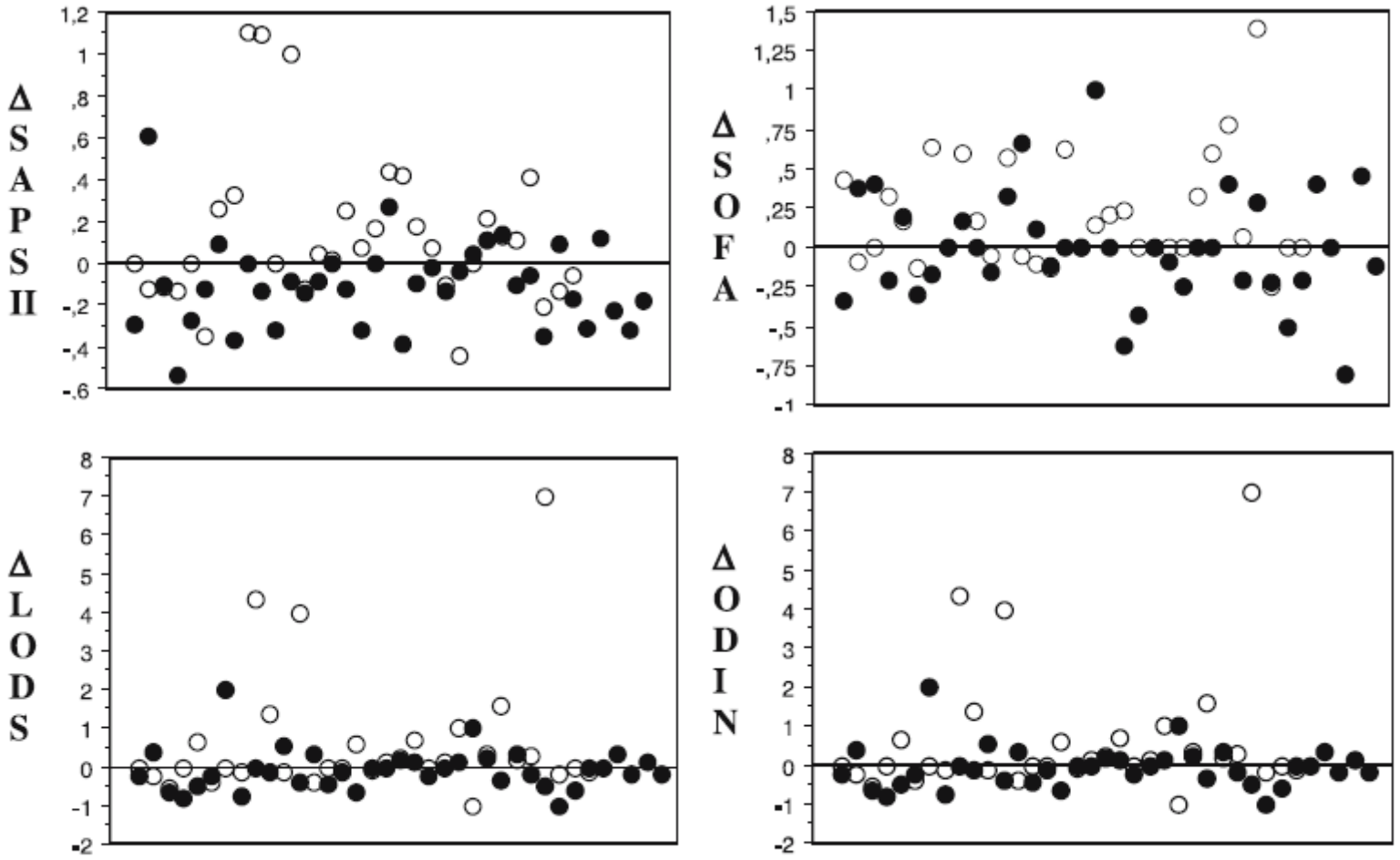


Fig. 1 Individual distribution of Δ scores (score on day 3 minus score on day 1/score on day 1) values for survivors (*black dots*) and nonsurvivors (*white dots*). *Each dot* represents one patient

Table 3 Different ICU admission policies

Type of ICU admission	Code status	Clinical situation
1. Full code ICU management	Full code	Newly diagnosed malignancies Malignancies in complete remission
2. ICU trial	Unlimited for a limited time period—at least 3 to 5 days	Clinical response to therapy not available or undetermined
3. Exceptional ICU admission	Same as ICU trial	Newly available effective therapy that should be tested in a patient who becomes critically ill
4. Heroic ICU admission	ICU management until conflict resolution	Both hematologists/oncologists and intensivists agree that ICU admission is not appropriate, but patients or relatives disagree with the appropriate level of care
5. Other admission modalities that are performed but not yet formally evaluated		
a) Prophylactic ICU admission	Full code; intensive clinical and biological monitoring; invasive procedures under safer conditions	Earliest phase of high-risk malignancies. Admission to the ICU is warranted to avoid development of organ dysfunction (acute respiratory failure, tumor lysis syndrome, etc.)
b) Early ICU admission	Full code; intensive clinical and biological monitoring; invasive procedures under safe conditions; no life-sustaining therapies	Admission to the ICU in patients with no organ dysfunction but physiological disturbances. ICU is warranted to avoid late ICU admission (condition associated with higher mortality)
c) Palliative ICU admission	Noninvasive strategies only	Admission to the ICU for the purpose of undergoing noninvasive mechanical ventilation as the ceiling of therapy
d) In-ICU non-ICU care	No life-sustaining therapies	Short ICU admission to help for optimal and prompt management (catheter withdrawal, early antibiotics etc.)
e) Terminal ICU admission	No life-sustaining therapies	ICU admission is required to best provide palliative care and symptom control. Controversial issue

Le statut des patients

- **DNR**
- **NTBR (DNI …)**
- **NT**

Institut Jules Bordet – Octobre 2017

Définition du code NTBR :

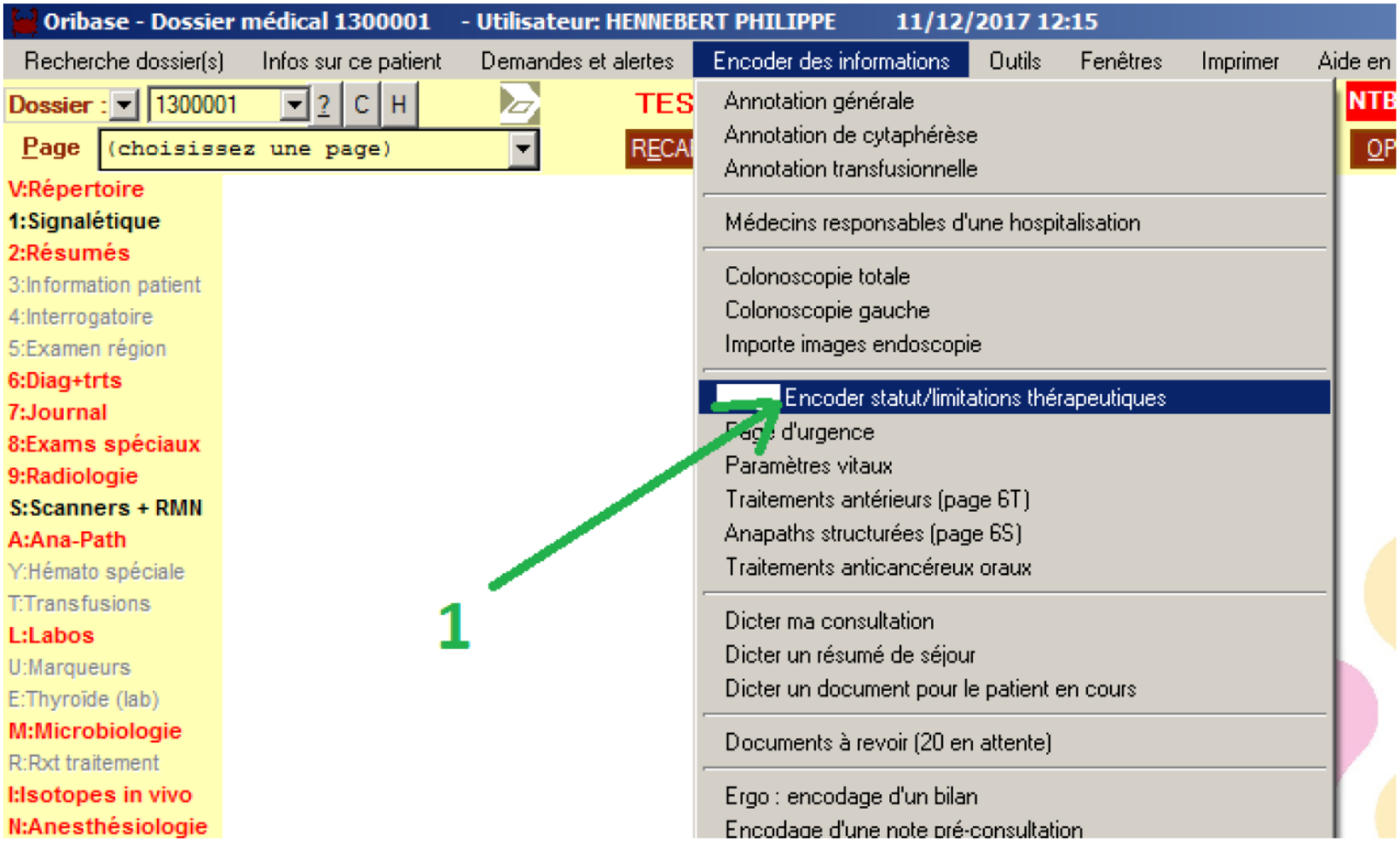
Le code **NTBR** signifie **« Not To Be Resuscitated »**. Il correspond au code DNR, signifiant « Do Not Resuscitate » plus largement utilisé dans la littérature anglo-saxonne.

Il signifie qu'aucune manœuvre ne sera tentée **en cas d'arrêt cardio-respiratoire** : **pas de massage cardiaque ni d'intubation endo-trachéale**. Il est la traduction d'une décision partagée entre le médecin et le patient, visant à éviter qu'il ne traverse des traitements inutilement lourds et n'ayant aucun impact significatif en termes de durée ou de qualité de vie.

L'application de ce code doit être décidée par un médecin senior , et dans tous les cas où c'est possible, en concertation avec le médecin traitant et les médecins cliniciens de l'Institut Bordet principalement impliqués dans la prise en charge. Elle sera notifiée dans le dossier médical électronique par un médecin.

Le code NTBR n'exclut pas les techniques de support vital y compris la ventilation invasive, en cas de choc septique ou hémodynamique, d'hypotension, d'arythmie cardiaque, d'embolie pulmonaire, d'épanchement pleural ou péricardique, etc.

Un patient « NTBR » peut être admis dans une unité de soins intensifs selon les circonstances.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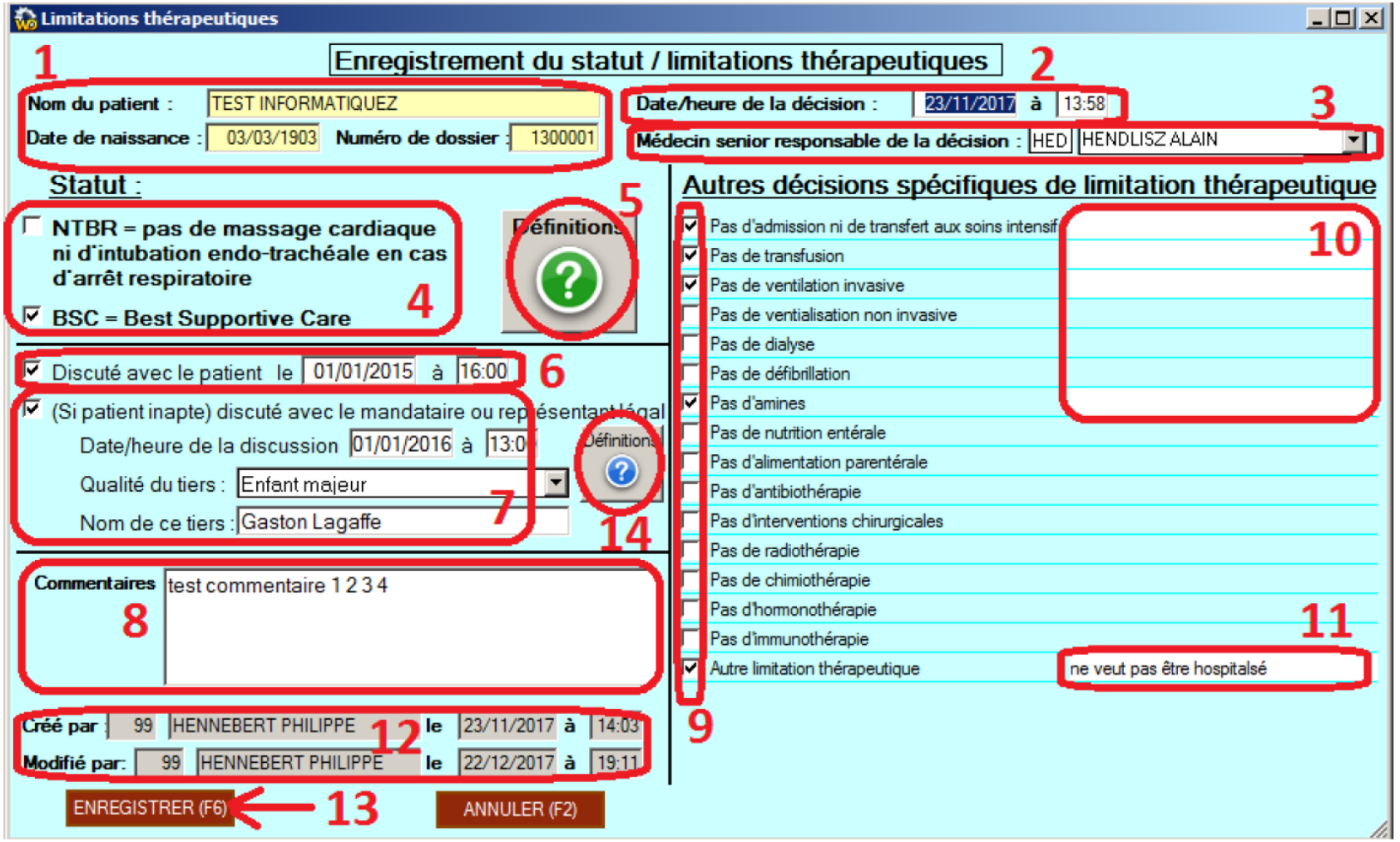
Infos sur ce patient
Demandes et alertes
Encoder des informations
Outils
Fenêtres
Imprimer
Aide en
Dossier :
1300001
Page
(choisissez une page)
V:Répertoire
1:Signalétique
2:Résumés
3:Information patient
4:Interrogatoire
5:Examen région
6:Diag+trts
7:Journal
8:Exams spéciaux
9:Radiologie
S:Scanners + RMN
A:Ana-Path
Y:Hémato spéciale
T:Transfusions
L:Labos
U:Marqueurs
E:Thyroïde (lab)
M:Microbiologie
R:Rxt traitement
I:Isotopes in vivo
N:Anesthésiologie
Annotation générale
Annotation de cytaphérèse
Annotation transfusionnelle
Médecins responsables d'une hospitalisation
Colonoscopie totale
Colonoscopie gauche
Importe images endoscopie
Encoder statut/limitations thérapeutiques
Page d'urgence
Paramètres vitaux
Traitements antérieurs (page 6T)
Anapaths structurées (page 6S)
Traitements anticancéreux oraux
Dicter ma consultation
Dicter un résumé de séjour
Dicter un document pour le patient en cours
Documents à revoir (20 en attente)
Ergo : encodage d'un bilan
Encodage d'une note pré-consultation
1


Limitations thérapeutiques
1
Enregistrement du statut / limitations thérapeutiques
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Nom du patient : TEST INFORMATIQUEZ
Date de naissance : 03/03/1903 Numéro de dossier : 1300001
Date/heure de la décision : 23/11/2017 à 13:58
3
Médecin senior responsable de la décision : HED HENDLISZ ALAIN
Statut :
NTBR = pas de massage cardiaque ni d'intubation endo-trachéale en cas d'arrêt respiratoire
BSC = Best Supportive Care
4
Définitions
5
Discuté avec le patient le 01/01/2015 à 16:00
6
(Si patient inapte) discuté avec le mandataire ou représentant légal
Date/heure de la discussion 01/01/2016 à 13:0
Qualité du tiers : Enfant majeur
Nom de ce tiers : Gaston Lagaffe
7
Définitions
14
Commentaires
8
test commentaire 1 2 3 4
Créé par : 99 HENNEBERT PHILIPPE le 23/11/2017 à 14:03
Modifié par: 99 HENNEBERT PHILIPPE le 22/12/2017 à 19:11
12
ENREGISTRER (F6)
13
ANNULER (F2)
Autres décisions spécifiques de limitation thérapeutique
Pas d'admission ni de transfert aux soins intensif
Pas de transfusion
Pas de ventilation invasive
Pas de ventialisation non invasive
Pas de dialyse
Pas de défibrillation
Pas d'amines
Pas de nutrition entérale
Pas d'alimentation parentérale
Pas d'antibiothérapie
Pas d'interventions chirurgicales
Pas de radiothérapie
Pas de chimiothérapie
Pas d'hormonothérapie
Pas d'immunothérapie
Autre limitation thérapeutique
9
10
11
ne veut pas être hospitalsé

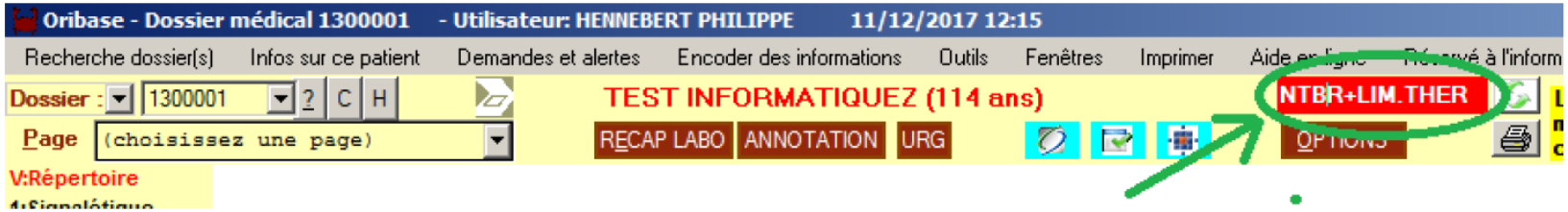
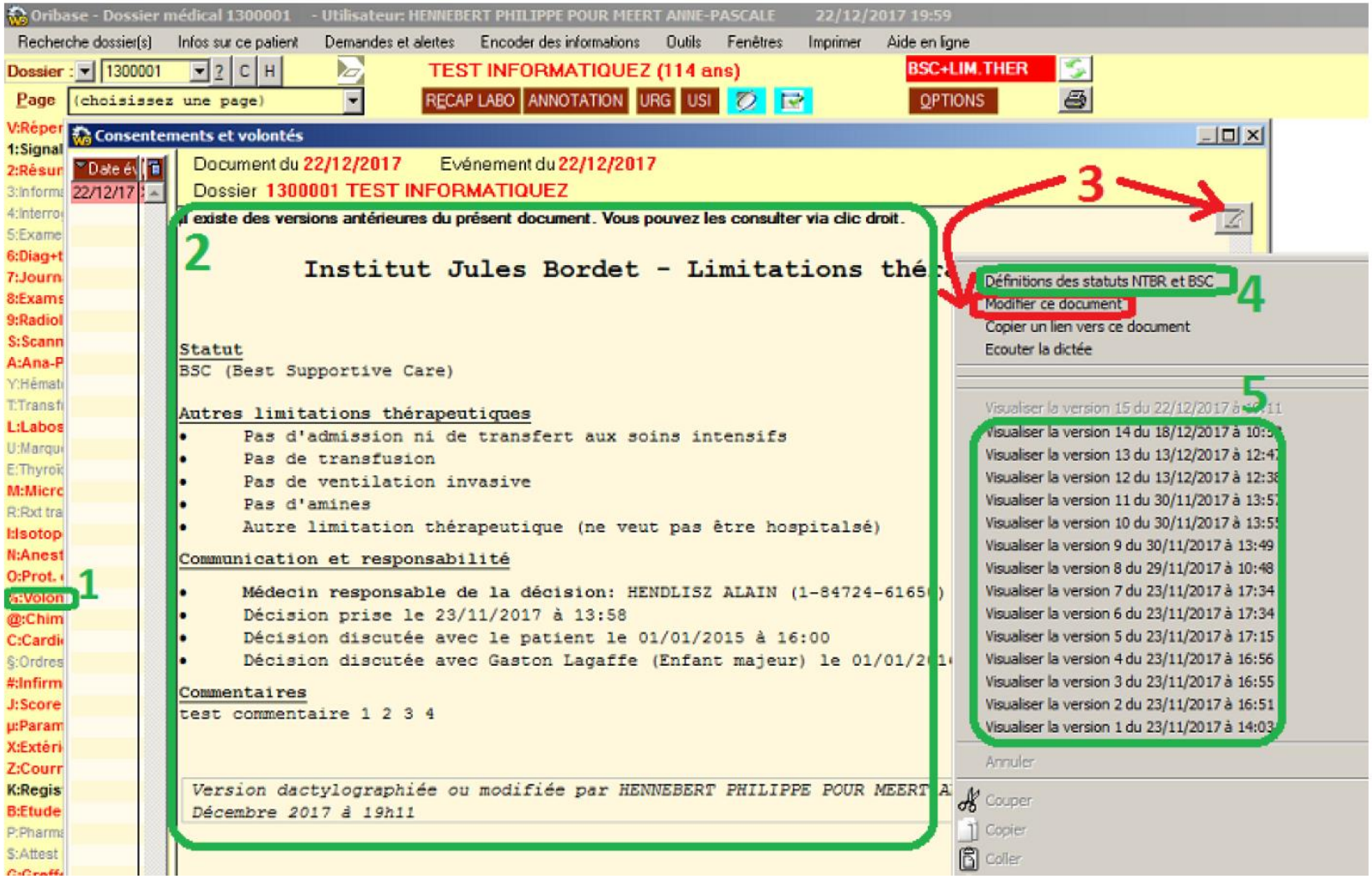


Fig 3 – visualisation à l'ouverture du dossier Oribase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Recherche dossier(s)
Infos sur ce patient
Demandes et alertes
Encoder des informations
Outils
Fenêtres
Imprimer
Aide en ligne
Dossier : 1300001
TEST INFORMATIQUEZ (114 ans)
BSC+LIM.THER
Page (choisissez une page)
RECAP LABO
ANNOTATION
URG
USI
OPTIONS
Consentements et volontés
Document du 22/12/2017 Evénement du 22/12/2017
Dossier 1300001 TEST INFORMATIQUEZ
Il existe des versions antérieures du présent document. Vous pouvez les consulter via clic droit.
2
Institut Jules Bordet - Limitations thé
Statut
BSC (Best Supportive Care)
Autres limitations thérapeutiques
Pas d'admission ni de transfert aux soins intensifs
Pas de transfusion
Pas de ventilation invasive
Pas d'amines
Autre limitation thérapeutique (ne veut pas être hospitalsé)
Communication et responsabilité
Médecin responsable de la décision: HENDLISZ ALAIN (1-84724-6165
Décision prise le 23/11/2017 à 13:58
Décision discutée avec le patient le 01/01/2015 à 16:00
Décision discutée avec Gaston Lagaffe (Enfant majeur) le 01/01/2
Commentaires
test commentaire 1 2 3 4
Version dactylographiée ou modifiée par HENNEBERT PHILIPPE POUR MEERT A
Décembre 2017 à 19h11
1
3
4
Définitions des statuts NTBR et BSC
Modifier ce document
Copier un lien vers ce document
Ecouter la dictée
5
Visualiser la version 14 du 18/12/2017 à 10:
Visualiser la version 13 du 13/12/2017 à 12:4
Visualiser la version 12 du 13/12/2017 à 12:3
Visualiser la version 11 du 30/11/2017 à 13:5
Visualiser la version 10 du 30/11/2017 à 13:5
Visualiser la version 9 du 30/11/2017 à 13:49
Visualiser la version 8 du 29/11/2017 à 10:48
Visualiser la version 7 du 23/11/2017 à 17:34
Visualiser la version 6 du 23/11/2017 à 17:34
Visualiser la version 5 du 23/11/2017 à 17:15
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Visualiser la version 3 du 23/11/2017 à 16:55
Visualiser la version 2 du 23/11/2017 à 16:51
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Original Contribution | CARE DELIVERY

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DOI: 10.1200/JOP.2015.009019

Presenting Symptoms in the Emergency Department as Predictors of Intensive Care Unit Admissions and Hospital Mortality in a Comprehensive Cancer Center

Ahmed F. Elsayem, MD, MPH, Kelly W. Merriman, PhD, Carmen E. Gonzalez, MD, Sai-Ching J. Yeung, MD, PhD, Patrick S. Chaftari, MD, Cielito Reyes-Gibby, DrPH, and Knox H. Todd, MD, MPH

Department of Emergency Medicine, The University of Texas MD Anderson Cancer Center, Houston, TX

QUESTION ASKED: Is there an association between the Emergency Department (ED) presenting symptoms in cancer patients and outcome of Intensive Care Unit (ICU) admission and in-hospital mortality?

Table 1. Patient Characteristics (n = 9,246)

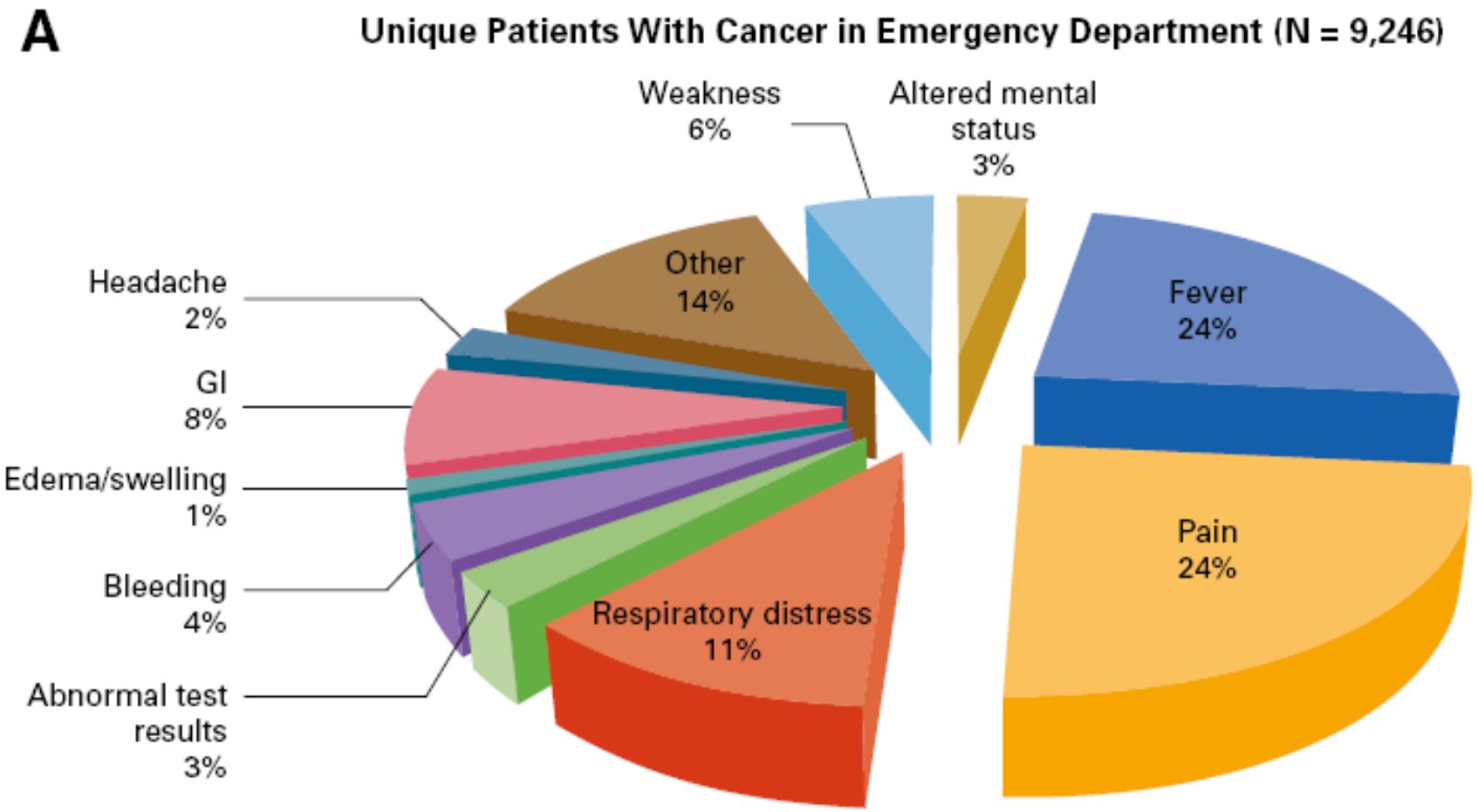
Characteristic	No. of Patients (%)
Sex	
Female	4,695 (50.8)
Male	4,551 (49.2)
Age, years	
Mean (standard deviation)	56.5 (15.85)
Range	1-97
Race/ethnicity	
White	6,001 (64.9)
Black	1,157 (12.5)
Hispanic	1,403 (15.2)
Other	685 (7.4)
Residence	
Houston metropolitan area	4,382 (47.4)
Texas, outside of Houston	2,209 (23.9)
United States, outside Texas	2,337 (25.3)
International	318 (3.4)
Payer status	
Private	5,067 (54.8)
Government	3,323 (35.9)
Uninsured	569 (6.2)
International	287 (3.1)
Primary cancer	
GI	1,727 (18.7)
Leukemia	1,171 (12.7)
Breast	1,087 (11.8)
Lung	963 (10.4)
Lymphoma	781 (8.4)
Genitourinary	776 (8.4)
Head and neck	586 (6.3)
Gynecologic	565 (6.1)
Multiple myeloma	356 (3.9)
Sarcoma	326 (3.5)
Brain	261 (2.8)
Melanoma	220 (2.4)
Unknown primary	197 (2.1)
Thyroid/other endocrine	162 (1.8)
Other	68 (0.7)

Table 2. Hospital and ICU Admissions, Hospital Deaths, and LOS for Unique Emergency Department Patients During Last Hospitalization

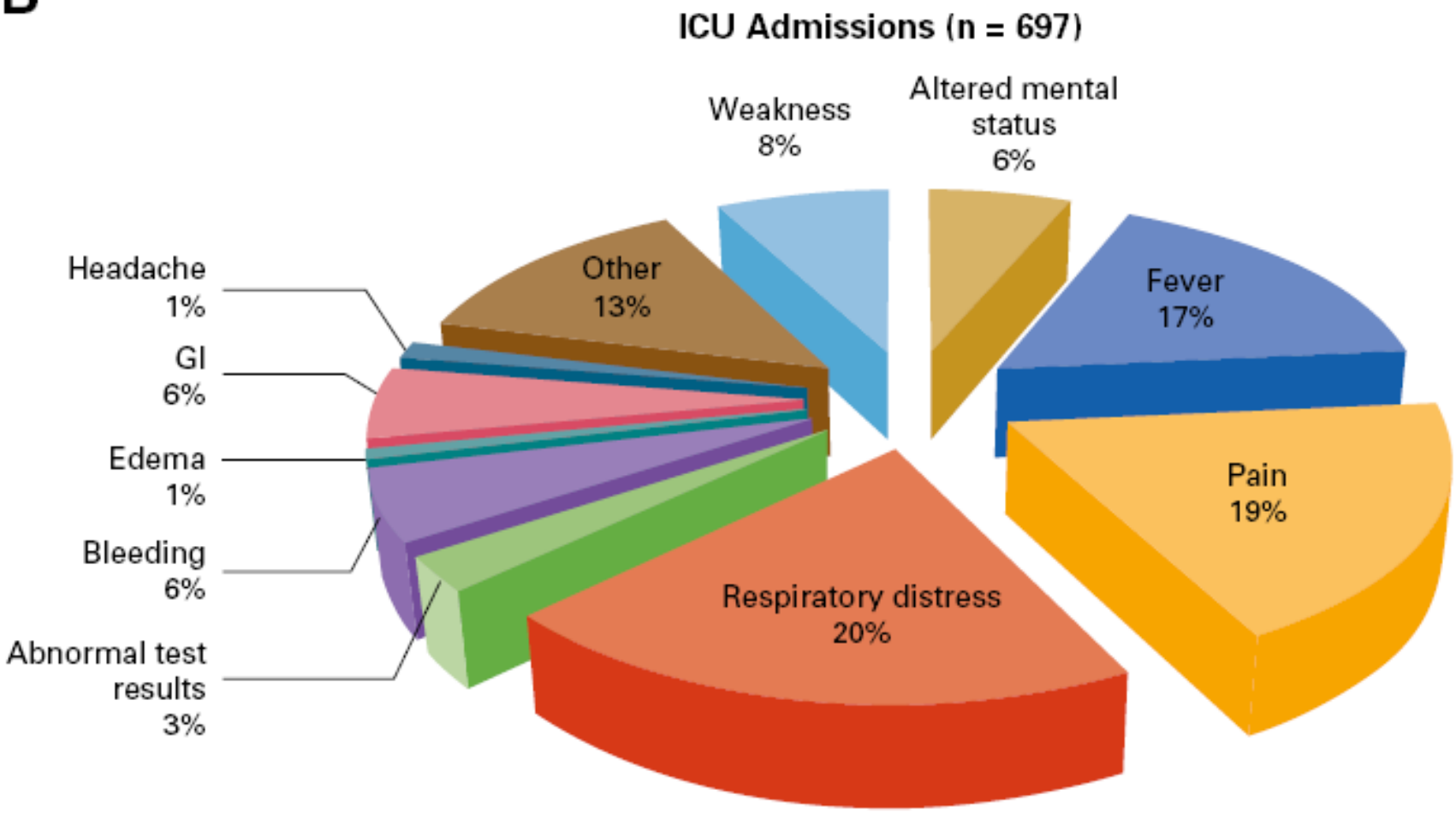
Cancer Type	No. of Unique Patients (n = 9,246)	No. of Patients (%)			LOS, Mean (Median)		
		Admitted to the Hospital at Least Once (n = 5,362)*	Admitted to ICU at Least Once (n = 697)*	Died During Hospitalization (n = 587)*	For Patients Who Died During Hospitalization	For Patients Who Were Discharged Alive	*P**
Hematologic malignancy							
Leukemia	1,171	973 (85)	137 (14)	153 (16)	19 (13)	10 (6)	< .001
Lymphoma	781	507 (65)	66 (13)	62 (12)	18 (11)	9 (6)	< .001
Multiple myeloma	356	254 (71)	20 (8)	18 (7)	21 (11)	8 (6)	.012
Total	2,308	1,734 (75)	223 (13)	233 (13)	19 (14)	10 (6)	< .001
Solid tumor							
GI	1,727	1,009 (58)	128 (13)	101 (10)	11 (9)	6 (5)	< .001
Breast	1,087	452 (42)	56 (12)	42 (9)	12 (6)	5 (4)	.973
Lung	963	576 (60)	96 (17)	97 (17)	11 (8)	6 (5)	.067
Genitourinary	776	358 (46)	45 (13)	18 (5)	12 (9)	6 (5)	.044
Head and neck	586	265 (45)	28 (11)	17 (6)	9 (6)	6 (4)	.802
Gynecologic	565	315 (56)	31 (10)	18 (6)	10 (8)	6 (5)	.320
Sarcoma	326	190 (58)	20 (11)	22 (12)	14 (8)	6 (4)	.929
Brain	261	138 (53)	28 (20)	7 (5)	11 (8)	7 (4)	.167
Melanoma	220	115 (52)	16 (14)	11 (10)	9 (6)	6 (4)	.587
Unknown primary	197	115 (58)	13 (11)	16 (14)	18 (15)	8 (6)	.011
Thyroid/endocrine	162	67 (41)	11 (16)	4 (6)	11 (6)	6 (4)	.858
Other	68	28 (41)	2 (7)	1 (4)	9 (9)	5 (4)	.321
Total	6,938	3,628 (52)	474 (13)	354 (10)	9 (7)	6 (5)	< .001

Abbreviations: ICU, intensive care unit; LOS, length of hospital stay.

*Percentage of unique patients with a specific cancer (eg, leukemia).


A
Unique Patients With Cancer in Emergency Department (N = 9,246)
Weakness 6%
Altered mental status 3%
Other 14%
Fever 24%
Headache 2%
GI 8%
Edema/swelling 1%
Bleeding 4%
Abnormal test results 3%
Respiratory distress 11%
Pain 24%

B


ICU Admissions (n = 697)
Weakness 8%
Altered mental status 6%
Fever 17%
Pain 19%
Respiratory distress 20%
Abnormal test results 3%
Bleeding 6%
Edema 1%
GI 6%
Headache 1%
Other 13%

C

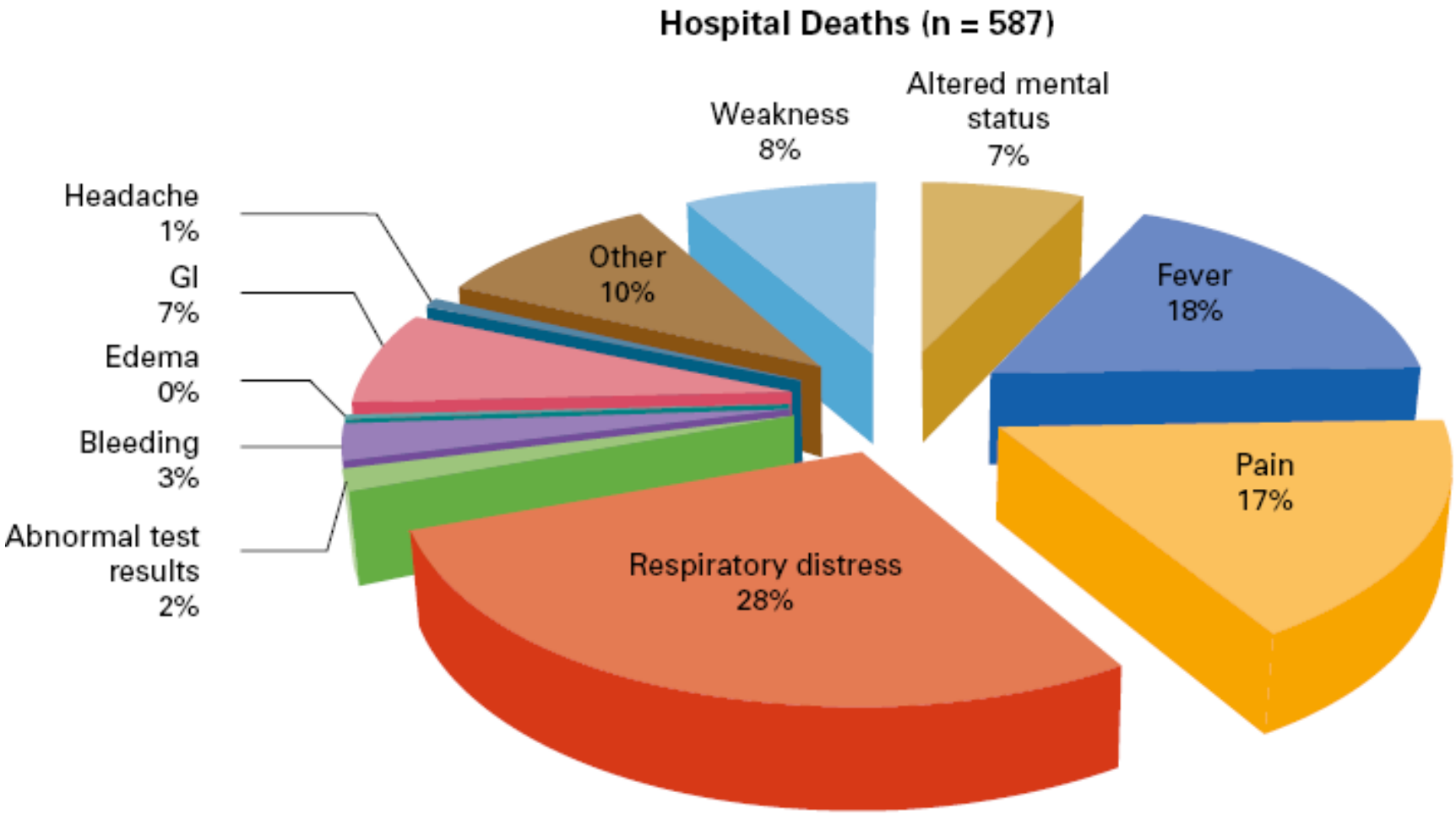

Hospital Deaths (n = 587)
Weakness 8%
Altered mental status 7%
Fever 18%
Pain 17%
Respiratory distress 28%
Abnormal test results 2%
Bleeding 3%
Edema 0%
GI 7%
Headache 1%
Other 10%

Table 3. Univariable and Multivariable Logistic Regression for Predicting In-Hospital Mortality Among Hospital-Admitted Emergency Department Patients

	Univariable			Multivariable		
Variable	OR	95% CI	*P*	OR	95% CI	*P*
Age (continuous)	1.00	0.99 to 1.01	.075	1.00	0.99 to 1.01	.253
Sex						
Male	1.00	Reference	.010	1.00	Reference	.128
Female	0.796	0.67 to 0.94		1.15	0.96 to 1.38	
Race						
White	1.00	Reference		1.00	Reference	
Other	1.15	0.96 to 1.38	.106	1.23	1.02 to 1.48	.031
Residence						
Houston metropolitan area	1.00	Reference		1.00	Reference	
Other	0.85	0.71 to 1.00	.06	0.85	0.71 to 1.02	.074
Cancer Type						
Other	1.00	Reference		1.00	Reference	
Leukemia	2.54	1.99 to 3.25	< .001	3.00	2.32 to 3.87	< .001
Lymphoma	1.90	1.38 to 2.61	< .001	2.08	1.50 to 2.88	< .001
Lung	2.76	2.09 to 3.65	< .001	2.20	1.65 to 2.94	< .001
Sarcoma	1.78	1.10 to 2.88	.017	1.93	1.18 to 3.17	.009
Unknown primary	2.21	1.26 to 3.84	.005	2.01	1.14 to 3.54	.016
GI	1.58	1.16 to 1.98	.002	1.56	1.18 to 2.06	.002
Chief complaint						
Other	1.00	Reference		1.00	Reference	
Altered mental status	1.87	1.3 to 2.7	< .001	2.05	1.41 to 2.99	< .001
Respiratory	2.58	2.0 to 3.2	< .001	2.55	2.01 to 3.24	< .001
Fever	0.87	0.68 to 1.1.3	.31	0.76	0.59 to 0.99	.044
Pain	0.84	0.65 to 1.1	.20	0.89	0.69 to 1.15	.376

Revue des Maladies Respiratoires (2016) 33, 759—765

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ARTICLE ORIGINAL

Score inflammatoire de Glasgow et cancer bronchique : une aide pour hospitaliser aux urgences

The Glasgow inflammatory score and lung cancer: A predictor of admissions to emergency units

J. Gorham[a], L. Ameye[b], M. Paesmans[b], T. Berghmans[a], J.P. Sculier[a], A.-P. Meert[a,*]

Tableau 1 Score de Glasgow modifié [9].

	Points
CRP $\leq$ 10 mg/L	0
CRP > 10 mg/L et albuminémie $\geq$ 35 g/L	1
CRP > 10 mg/L et albuminémie < 35 g/L	2

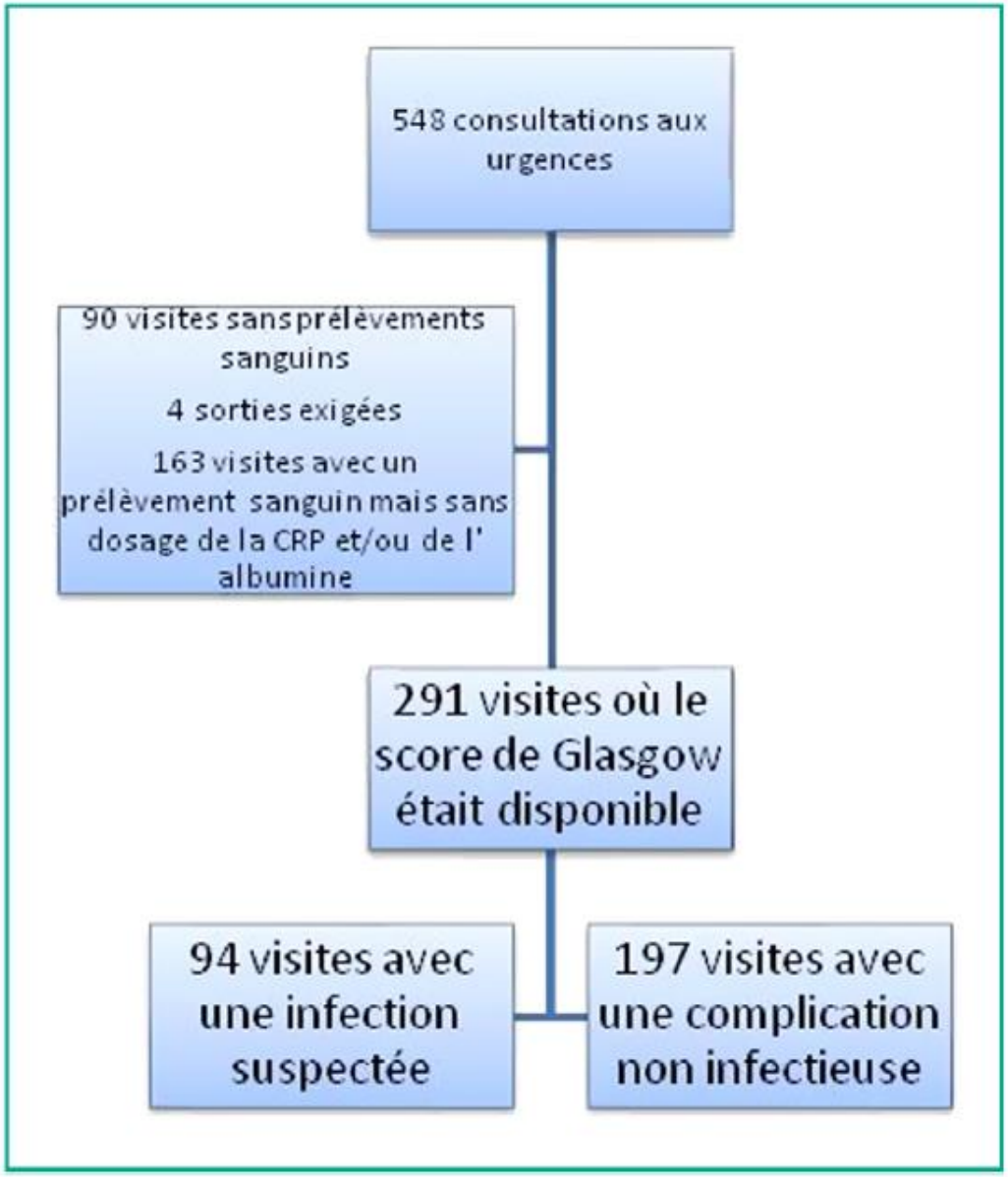
548 consultations aux urgences
90 visites sans prélèvements sanguins
4 sorties exigées
163 visites avec un prélèvement sanguin mais sans dosage de la CRP et/ou de l' albumine
291 visites où le score de Glasgow était disponible
94 visites avec une infection suspectée
197 visites avec une complication non infectieuse

Tableau 4 Résultats de l'analyse multivariée des facteurs prédictifs d'hospitalisation chez les patients atteints d'un cancer bronchique consultant aux urgences ($n = 291$ consultations).

Variables	*Odds ratio*	Intervalle de confiance à 95 %	*p*
Mode d'arrivée : ambulance ou transfert d'un autre hôpital (vs ambulatoire)	25,93	5,54—infini	< 0,0001
Présence de signes associés à la plainte	2,83	1,48—5,47	0,001
Score de Glasgow (par augmentation d'un point)	2,72	1,66—4,60	< 0,0001

Tableau 5 Résultats de l'analyse multivariée des facteurs prédictifs de décès en hospitalisation chez les patients atteints d'un cancer bronchique consultant aux urgences ($n = 181$ patients).

Variables	*Odds ratio*	Intervalle de confiance à 95 %	*p*
Mode d'arrivée : ambulance ou transfert d'un autre hôpital (vs ambulatoire)	19,03	3,99—infini	0,0002
Score de Glasgow (par augmentation d'un point)	2,95	1,57—5,82	0,0004

Tableau 6 Analyse multivariée des facteurs prédictifs d'hospitalisation chez les patients atteints d'un cancer bronchique consultant aux urgences selon qu'ils aient ou non un diagnostic d'infection lors de la visite.

Variables	*Odds ratio*	Intervalle de confiance à 95 %	*p*
Patients avec une infection			
Âge (par augmentation d'un an)	1,08	1,01—1,14	0,01
Signes physiques associés à la plainte	8,08	2,47—26,51	< 0,001
Score de Glasgow (par augmentation d'un point)	6,22	1,84—21,00	0,003
Patients avec une complication non infectieuse			
Mode d'arrivée : ambulance ou transfert d'un autre hôpital (vs ambulatoire)	16,04	3,23—infini	0,001
Plainte principale : neurologique	4,01	1,02—23,67	< 0,05
Heure d'arrivée : 21—7 h	7,86	1,03—364,18	< 0,05
Score de Glasgow (par augmentation d'un point)	2,80	1,45—5,74	0,001

Un exemple d'urgence oncologique : le syndrome de lyse tumorale

Définition des syndromes de lyse tumorale biologique et clinique (adapté de [8,9]).

Syndrome de lyse tumorale biologique	
Deux, ou plus, des modifications suivantes chez un patient cancéreux, dans les 3 jours avant ou les 7 jours après le traitement anti-tumoral	
Uricémie	≥ 476 µmol/L ou augmentation de plus de 25 % par rapport à la valeur de base
Calcémie	≤ 1,75 mmol/L ou diminution de plus de 25 % par rapport à la valeur de base
Phosphatémie	≥ 2,1 µmol/L chez l'enfant, ≥1,45 mmol/L chez l'adulte ou augmentation de plus de 25 % par rapport à la valeur de base
Kaliémie	≥ 6 mol/L ou augmentation de plus de 25 % par rapport à la valeur de base
Syndrome de lyse tumorale clinique	
Une ou plusieurs des manifestations cliniques suivantes	
Atteinte rénale	Créatininémie ≥ 1,5 fois la limite supérieure de la normale (en fonction de l'âge et du sexe)[a,b]
Atteinte cardiovasculaire	Arythmie ou mort subite
Atteinte neurologique	Convulsions

[a] En l'absence d'une élévation imputable à une autre cause (par exemple amphotéricine B).

[b] Si la limite supérieure du laboratoire n'est pas précisée, prendre en compte les valeurs suivantes : entre 1 et 11 ans, sexe féminin ou masculin : 61, 6 µmol/L ; entre 12 et 15 ans, sexe féminin ou masculin : 88 µmol/L ; 16 ans et plus, sexe féminin : 105 µmol/L ; 16 ans et plus, sexe masculin : 114 µmol/L.

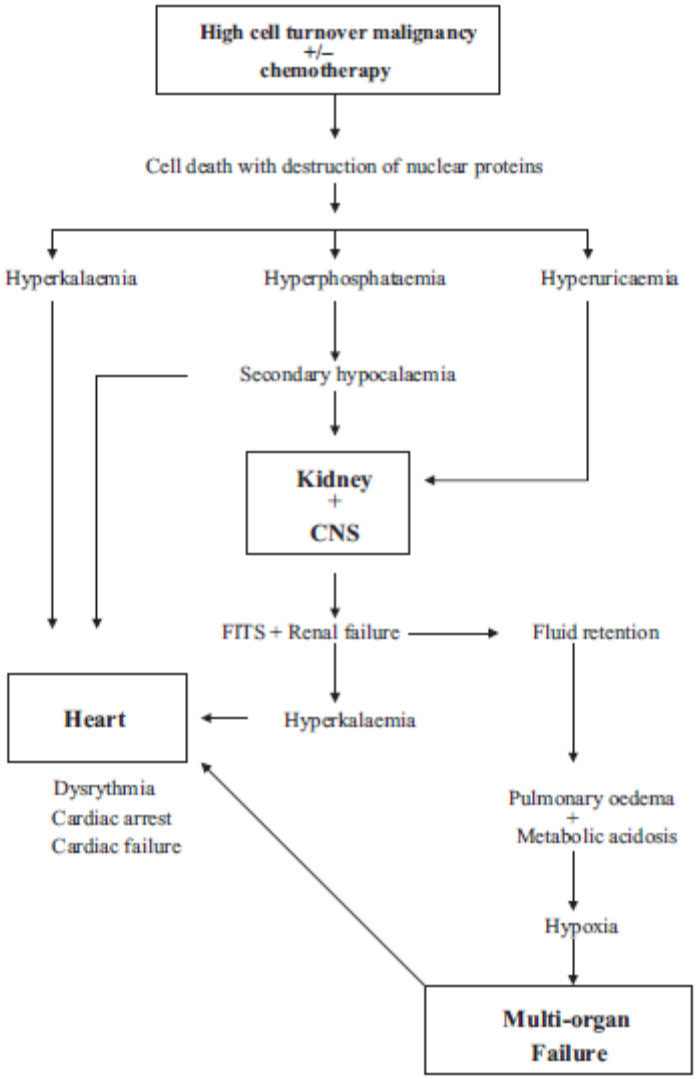

Fig 1. The pathogenesis of tumour lysis syndrome.

Tableau 3
Incidences rapportées du syndrome de lyse tumorale en fonction des hémopathies et cancers (adapté de [6]).

Tumeurs	Incidence rapportée (%)
Haut risque	
Leucémie aiguë lymphoblastique	5,2–23
Leucémie aiguë myéloblastique hyperleucocytaire[a]	18
Lymphome de type Burkitt	14,9
Risque intermédiaire	
Leucémie aiguë myéloblastique hyperleucocytaire[b]	6
Lymphome B à grandes cellules	6
Faible risque	
Leucémie aiguë myéloblastique hyperleucocytaire[c]	1
Leucémie lymphoïde chronique	0,33
Leucémie myéloïde chronique	Cas rapportés
Tumeurs solides	Cas rapportés

[a] Leucocytose > 75 G/L.
[b] Leucocytose : 25–50 G/L
[c] Leucocytose < 25 G/L.

Tableau 4
Facteurs de risque de survenue d'un syndrome de lyse tumorale (adapté de [5]).

Forte masse tumorale
Tumeur de haut grade à renouvellement cellulaire rapide
Altération de la fonction rénale pré-existante ou liée à la maladie tumorale
Sujet âgé (définition ?)
Traitement par chimiothérapie active, principalement molécules cycle-dépendantes
Acide ascorbique, adrénaline, alcool, aspirine, caféine, cisplatine, éthambutol, lévodopa, nicotine, méthyldopa, phénothiazines, pyrazinamide, théophylline, thiazidiques

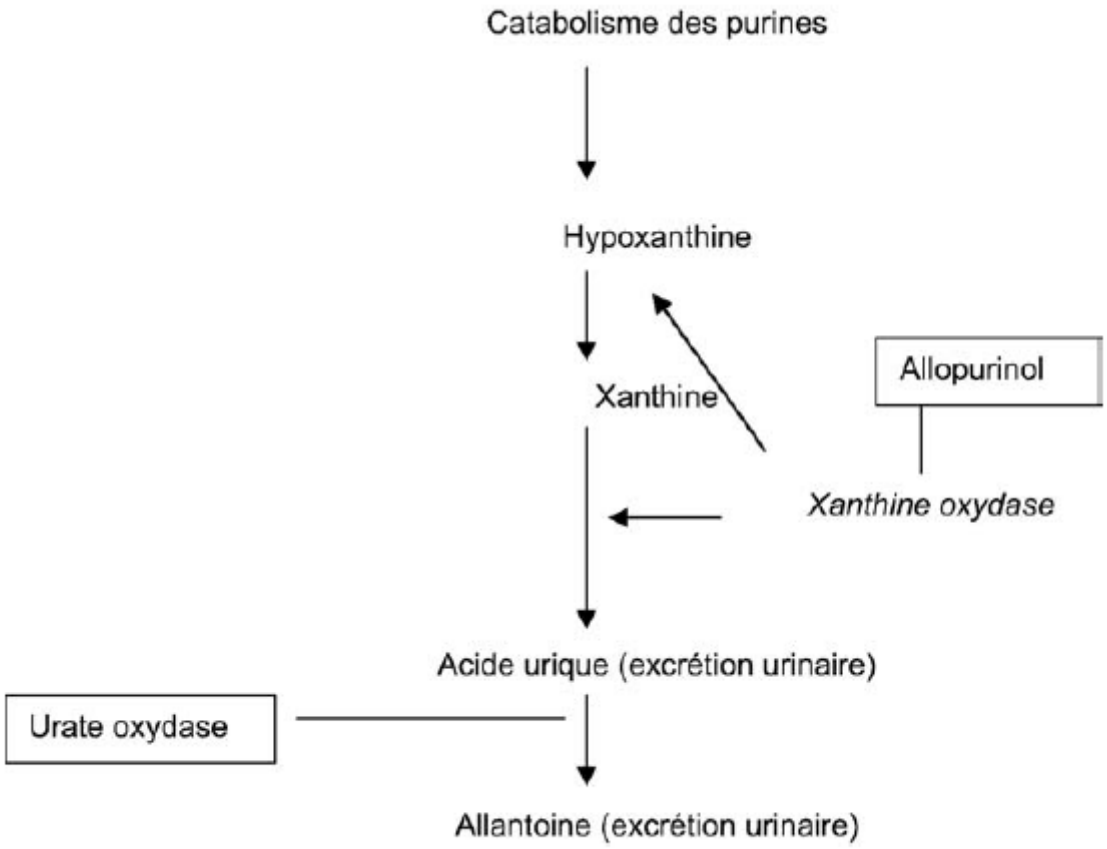

Fig. 1. Mécanisme d'action de l'urate oxydase et de l'allopurinol.

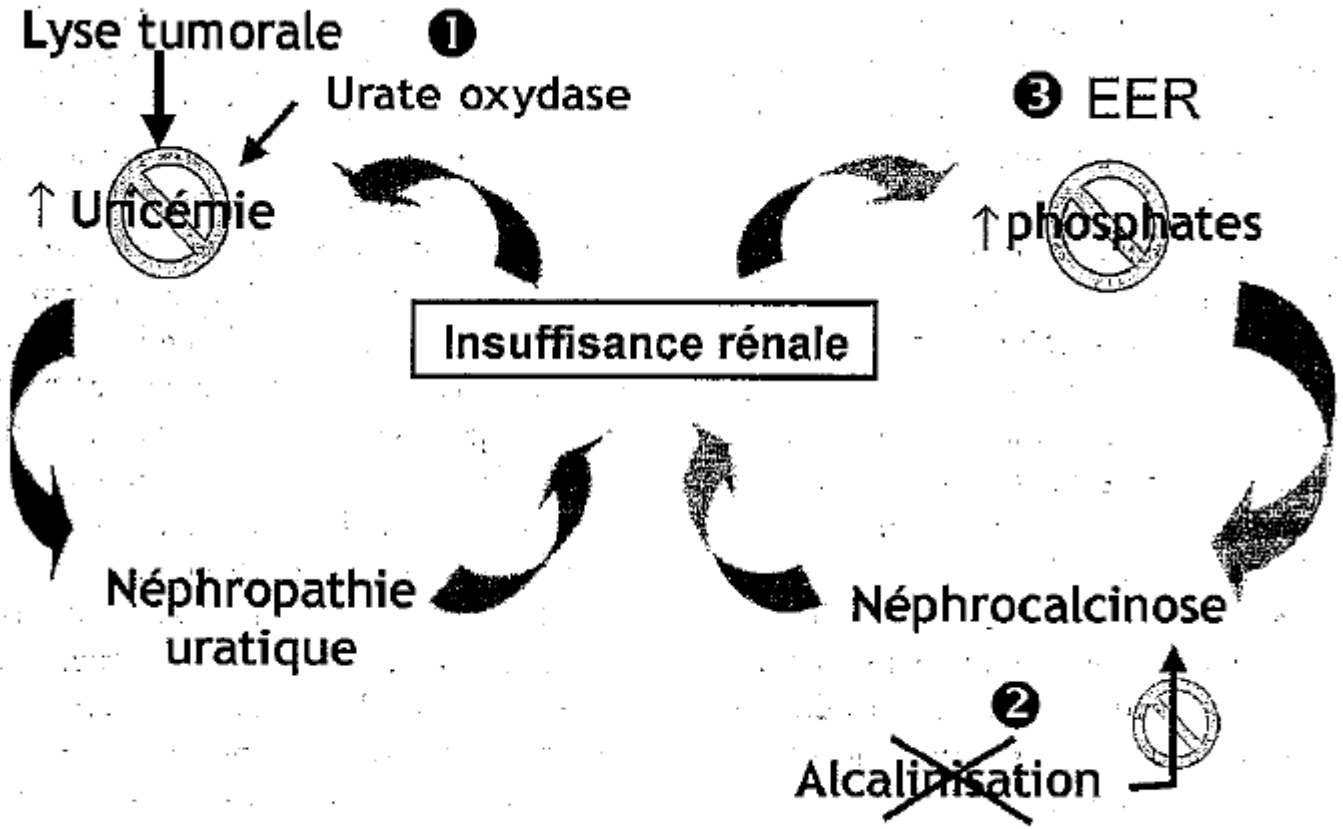

Fig. 1. Physiopathologie de l'insuffisance rénale dans le syndrome de lyse tumorale et cibles thérapeutiques.