Immunodéprimés: nouveautés 2019

Antoine Roux

29/11/2019

Conflict of interest (eurofordocs.fr)

72
Déclarations

17,356
Euros au total

- CSL BEHRING SA
- Novartis
- Astrazeneca
- OXYVIE S.A.S
- MSD
- Medtronic
- BIOTEST AG
- BIOTEST FRANCE SAS
- LivaNova France SAS
- LFB BIOMEDICAMENTS
- SANOFI SA
- GlaxoSmithKline
- Air Liquide
- Roche

- Pneumocystose
- Diagnostic IRA/Réanimation
- Transplantation pulmonaire

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Clinical Performance of (1,3) Beta-D Glucan for the Diagnosis of *Pneumocystis* Pneumonia (PCP) in Cancer Patients Tested With PCP Polymerase Chain Reaction

Sejal Morjaria,[1,2] John Frame,[3] Alexandra Franco-Garcia,[1] Alexander Geyer,[2,4] Mini Kamboj,[1,2] and N. Esther Babady[1,5]

- Performance de BDG pour le Dg de PCP
- Non VIH, cancer
- Retrospective, monocentrique
- 2012-2015:
  - Suspicion de pcp: infiltrat+terrain
  - LBA/bronchial washing/biopsie
  - BDG dans les 7jrs de fibro

- Analyse: Se/SP, VPP/VPN
  - BDG vs. PCP PCR
  - BDG vs. PCP PCR+clinique

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Table 1. Definitions

Infection	Definite	Probable	Possible	Not PCP
Pneumocystis jirovecii pneumonia	1. Suggestive respiratory symptoms[a]; and 2. PCP PCR, detected in BAL and/or BW; and 3. Documented PCP in histopathology, GMS cytology, and/or DFA	1. Compatible risk factors with clinical presentation[a]; and 2. PCP PCR, detected in BAL and/or BW	1. Nonspecific clinical presentation without predisposing risk factors; and 2. PCP PCR, detected in BAL and/or BW	1. Negative histopathology/cytology/PCP PCR with or without an established alternate diagnosis

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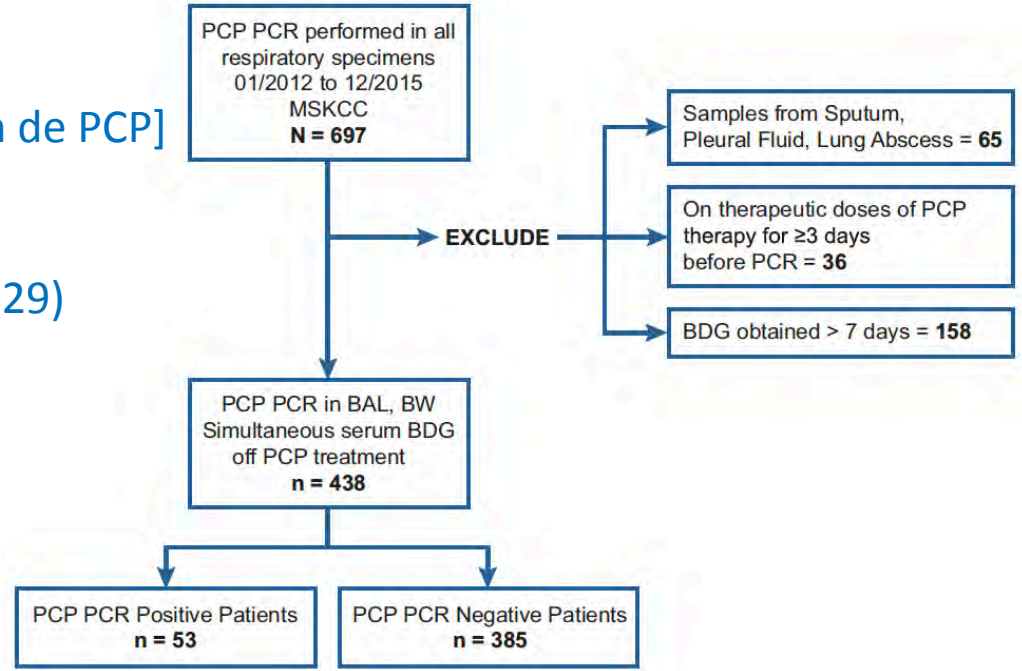
- N=697 patients [fibro pour suspicion de PCP]
- N=438 inclus
- PCP PCR+: n=53
- PCP certaine (n=11) ou probable (n=29)
- PCP possible (n=13)
- No PCP (PCRneg): n=385



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	PCP PCR Positive	PCP PCR Negative	Total
Underlying disease:			
Transplant type			
Autologous	1 (2%)	26 (7%)	27
Allogeneic	11 (20%)	71 (18%)	82
DUCT	0	15 (4%)	15
Underlying hematologic malignancy (non transplant)			
Lymphoma	12 (23%)	49 (13%)	61
Lymphoid leukemia	5 (9%)	33 (9%)	38
Myeloid leukemia	5 (9%)	79 (21%)	84
Multiple myeloma/aamyloidosis	1 (2%)	14 (4%)	15
Solid tumor	18 (34%)	92 (24%)	110
No cancer	0	6 (2%)	6

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80pg/mL threshold

Table 3. Beta-D Glucan Performance at 80 pg/mL Threshold in All *Pneumocystis* Pneumonia Polymerase Chain Reaction Patients

	PCP PCR +	PCP PCR –
BDG + (>80 pg/mL)	37	70
BDG – (<80 pg/mL)	16	315
Total	53	385
Sensitivity	69.8%	95% CI (56.5–80.5%)
Specificity	81.2%	95% CI (77.7–85.4%)
PPV	34.6%	95% CI (26.2–44.0%)
NPV	95.2%	95% CI (92.3–97.0%)

Table 5. Beta-D Glucan Performance at 80 pg/mL Threshold in *Pneumocystis* Pneumonia Polymerase Chain Reaction–Positive Patients

	Definite/Probable PCP	Possible PCP
BDG + (>80 pg/mL)	35	2
BDG – (<80 pg/mL)	5	11
Total	40	13
Sensitivity	87.5%	95% CI (73.2–95.8%)
Specificity	84.6%	95% CI (54.6–98.1%)
PPV	94.6%	95% CI (81.8–99.3%)
NPV	68.8%	95% CI (41.3–89.0%)

200pg/mL threshold

Table 4. Beta-D Glucan Performance at 200 pg/mL Threshold in All *Pneumocystis* Pneumonia Polymerase Chain Reaction Patients

	PCP PCR +	PCP PCR -
BDG + (>200 pg/mL)	28	37
BDG – (<200 pg/mL)	25	348
Total	53	385
Sensitivity	52.8%	95% CI (38.6–66.7%)
Specificity	90.4%	95% CI (87.0–93.1%)
PPV	43.9%	95% CI (31.7–56.7%)
NPV	93.3%	95% CI (90.3–95.6%)

Table 6. Beta-D Glucan Performance at 200 pg/mL Threshold in *Pneumocystis* Pneumonia Polymerase Chain Reaction–Positive Patients

	Definite/Probable PCP	Possible PCP
BDG + (>200 pg/mL)	28	0
BDG – (<200 pg/mL)	12	13
Total	40	13
Sensitivity	70.0%	95% CI (53.5–83.4%)
Specificity	100.0%	95% CI (75.3–100.0%)
PPV	100.0%	95% CI (87.7–100.0%)
NPV	52.0%	95% CI (31.3–72.2%)

<80: VPN=95%
80-200: zone grise
>200: VPP=100%.

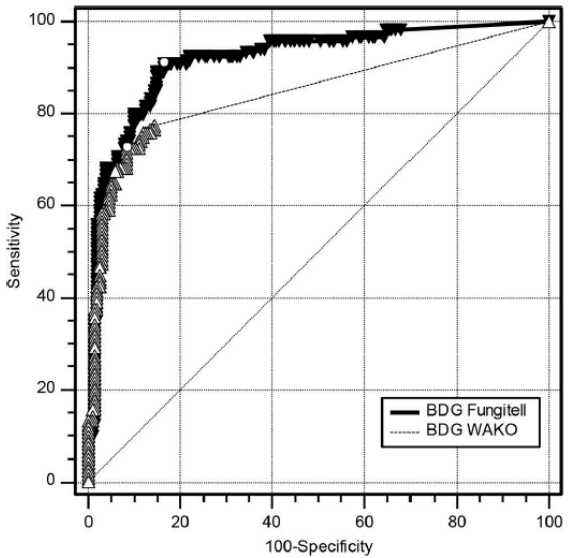
Manque Proba pre test

Comparative Analysis of the Wako β-Glucan Test and the Fungitell Assay for Diagnosis of Candidemia and *Pneumocystis jirovecii* Pneumonia

Friedrich, J C Microbiology, 2019

- Mono, Freiburg
- Fungitell® (colorimétrie) vs. Wako® (turbidumétrie)
- Dg candidémie/pcp
- 100 Candidémie/100 Bactériémie/100 control
- 63 PCP (52 IF+)

- »Performance similaires ET test unique Wako® »



	AUC (95%-CI)	Optimal cut-off	p
FA	0.917 (0.881-0.945)	≥ 70 pg/ml	< 0.001
GT	0.847 (0.803-0.885)	≥ 3.8 pg/ml	< 0.001

TABLE 6 Performance of the Fungitell assay and the Wako β-glucan test in PCP patients at manufacturer and optimized cutoffs

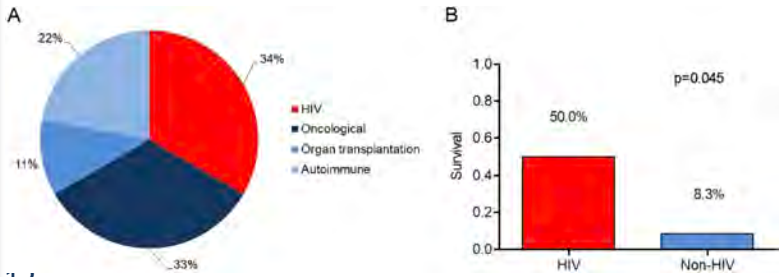
Parameter	Fungitell assay result at:		Wako β-glucan test result at:	
	Manufacturer cutoff of ≥80 pg/ml	Optimized cutoff of ≥70 pg/ml	Manufacturer cutoff of ≥11 pg/ml	Optimized cutoff of ≥3.8 pg/ml
True positives	63	63	56	60
False negatives	0	0	7	3
Sensitivity, % (95% CI)	100.0 (94.3–100.0)	100.0 (94.3–100.0)	88.9 (78.4–95.4)	95.2 (86.7–99.0)

- Pneumocystose
- IRA/Réanimation
- Transplantation pulmonaire

Extracorporeal membrane oxygenation in *Pneumocystis jirovecii* pneumonia: outcome in HIV and non-HIV patients

Rilinger, Critical Care, 2019

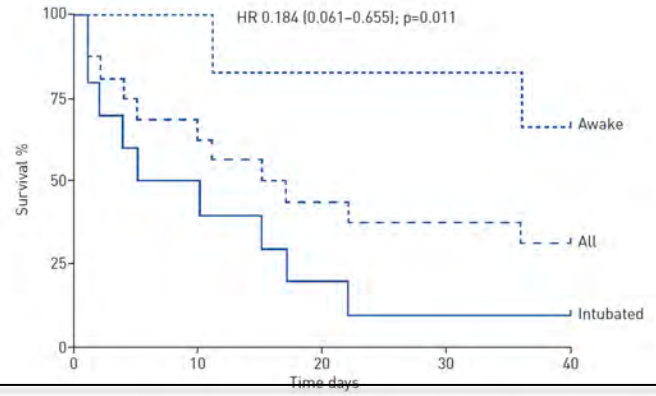
- Retrospective, mono, Freiburg
- N=18 (13 IF+/4 PCR+ [5200-250000]
- 6 VIH+/12non VIH
- IOT/VM>>ECMO
- Sevrage ECMO: 39%
- Mortalité hospit: 78%
  - HIV:50% non HIV: 98%
  - dont 9 /limitation thérapeutique



Extracorporeal membrane oxygenation for acute respiratory distress syndrome due to *Pneumocystis* pneumonia

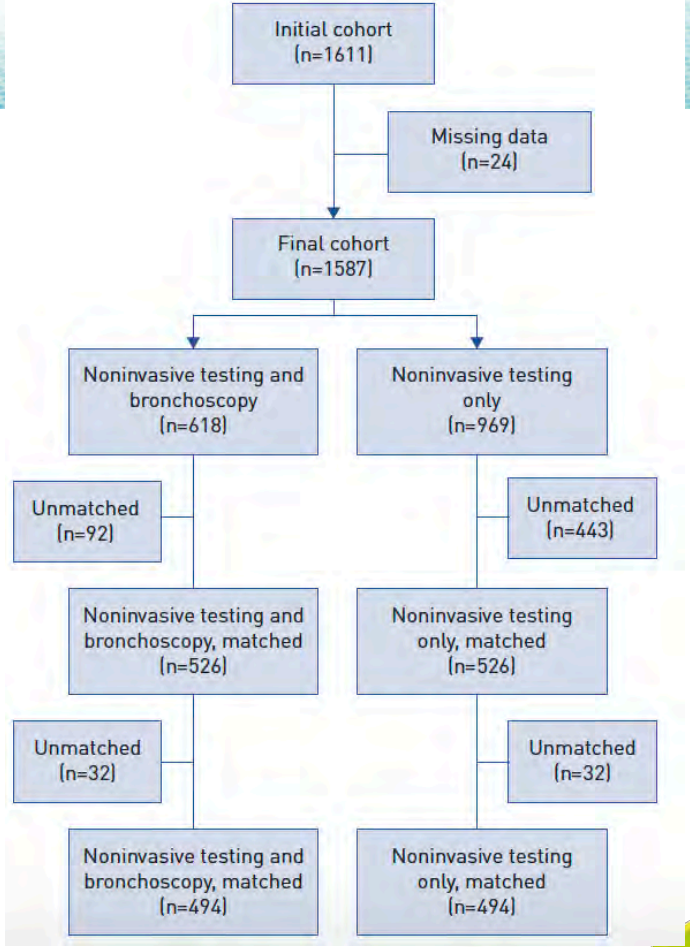
Stahl, ERJ, 2019

- Retrospective, mono, Hannover
- N=16 ARDS [P/F<100, ECMO VV]
- 6 ECMO « awake » (4 auront VM)
- vs. 10 VM puis ECMO
- VIH+, n=6
- Bactrim IV+ 1mg/kg CS



Diagnosis and outcome of acute respiratory failure in immunocompromised patients after bronchoscopy Bauer, ERJ, 2019

- Multi national, prospective EFRAIM study
- Pronostic [NIT+Fibro] vs. [NIT]
- Propensity score
- [NIT+Fibro] plus graves
- Plus de diagnostic dans [NIT+Fibro]
- Plus d'intubation dans [NIT+Fibro] (86 vs.43)
- Plus de mortalité dans [NIT+Fibro] 49%vs.41% (OR 1,3-1,5)



Diagnosis and outcome of acute respiratory failure in immunocompromised patients after bronchoscopy Bauer, ERJ, 2019

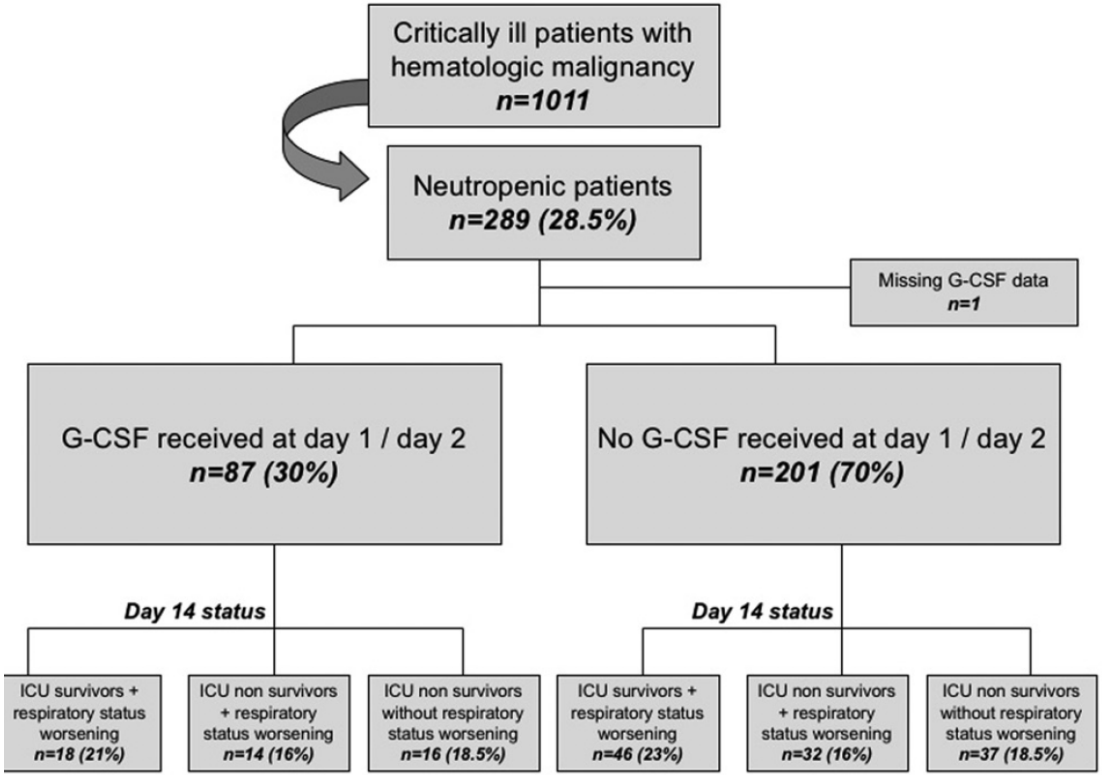
- MiniMAX (2010)

» FO-BAL performed in the intensive care unit did not significantly increase intubation requirements in critically ill cancer patients with ARF. Noninvasive testing alone was not inferior to noninvasive testing plus FO-BAL for identifying the cause of ARF. »

Granulocyte colony-stimulating factor and respiratory status of critically ill neutropenic patients with hematologic malignancies

Mignard,Leukemia&Lymphoma, 2019

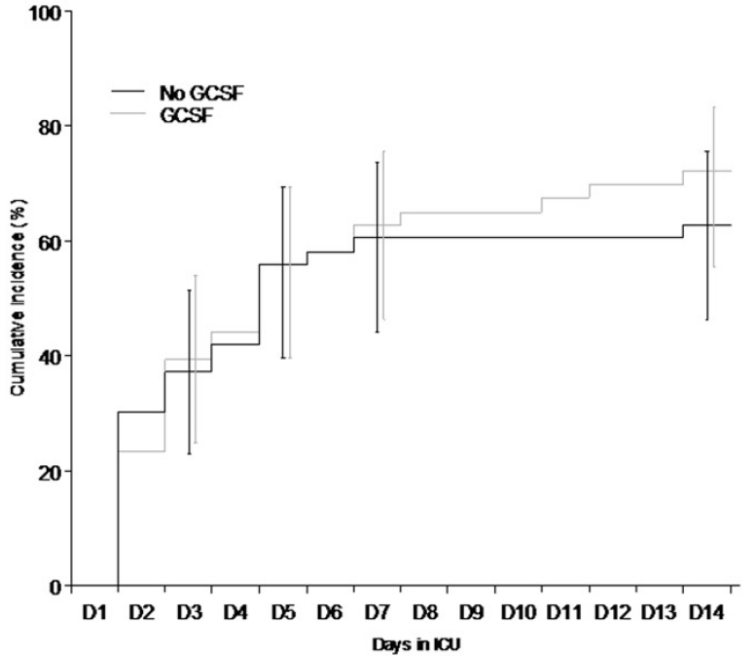
- TRIAL-OH, 17centres, rétro
- 2010-2011
- Neutropénie <500
- GCSF vs. No GCSF (1:1)
- Propensity score
- LA/Lymphome/Myelome

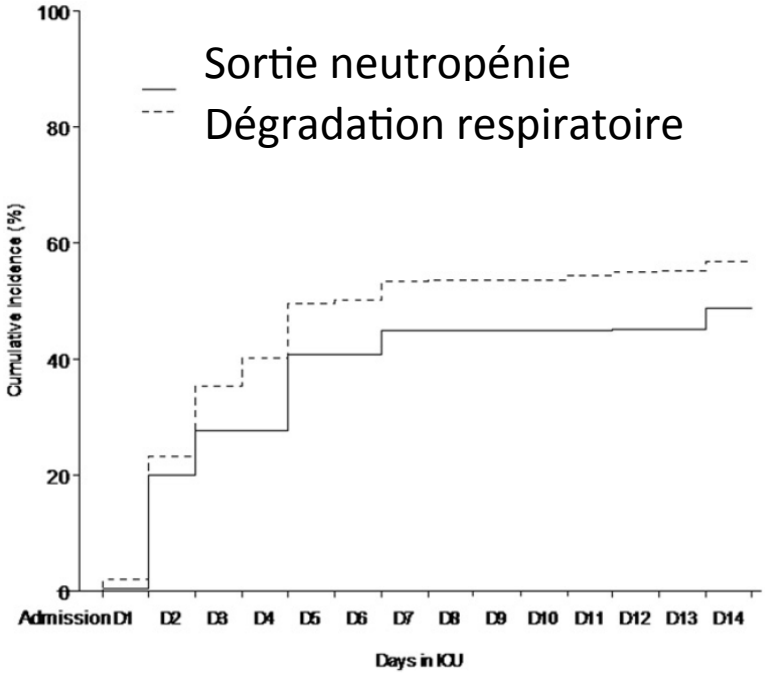


Granulocyte colony-stimulating factor and respiratory status of critically ill neutropenic patients with hematologic malignancies

Mignard,Leukemia&Lymphoma, 2019

Dégradation respiratoire





- Infection: pas plus (pas moins)
- Pas plus de dégradation respiratoire
- Parallélisme sortie neutropénie/dégradation respiratoire

Invasive pulmonary aspergillosis in critically ill patients with hematological malignancies

Pardo, ICM, 2019

- Rétro, 17 centres
- 1998-2018
- Hémopathies et Asp Pulm Invasive
- Fdr mortalité J90 (Cox Model)
- N=219
- LAM (30%) et LNH (23%) Allogreffe (24%)
- 10% prophylaxie

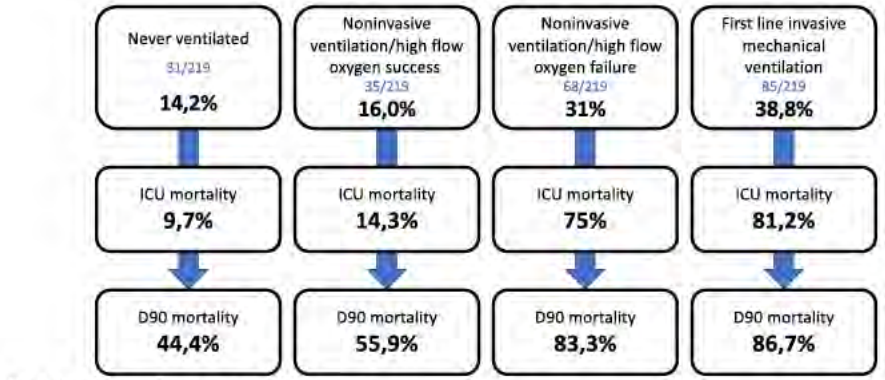


Fig. 2 Mortality according to initial ventilation strategy

Invasive pulmonary aspergillosis in critically ill patients with hematological malignancies

Pardo, ICM, 2019

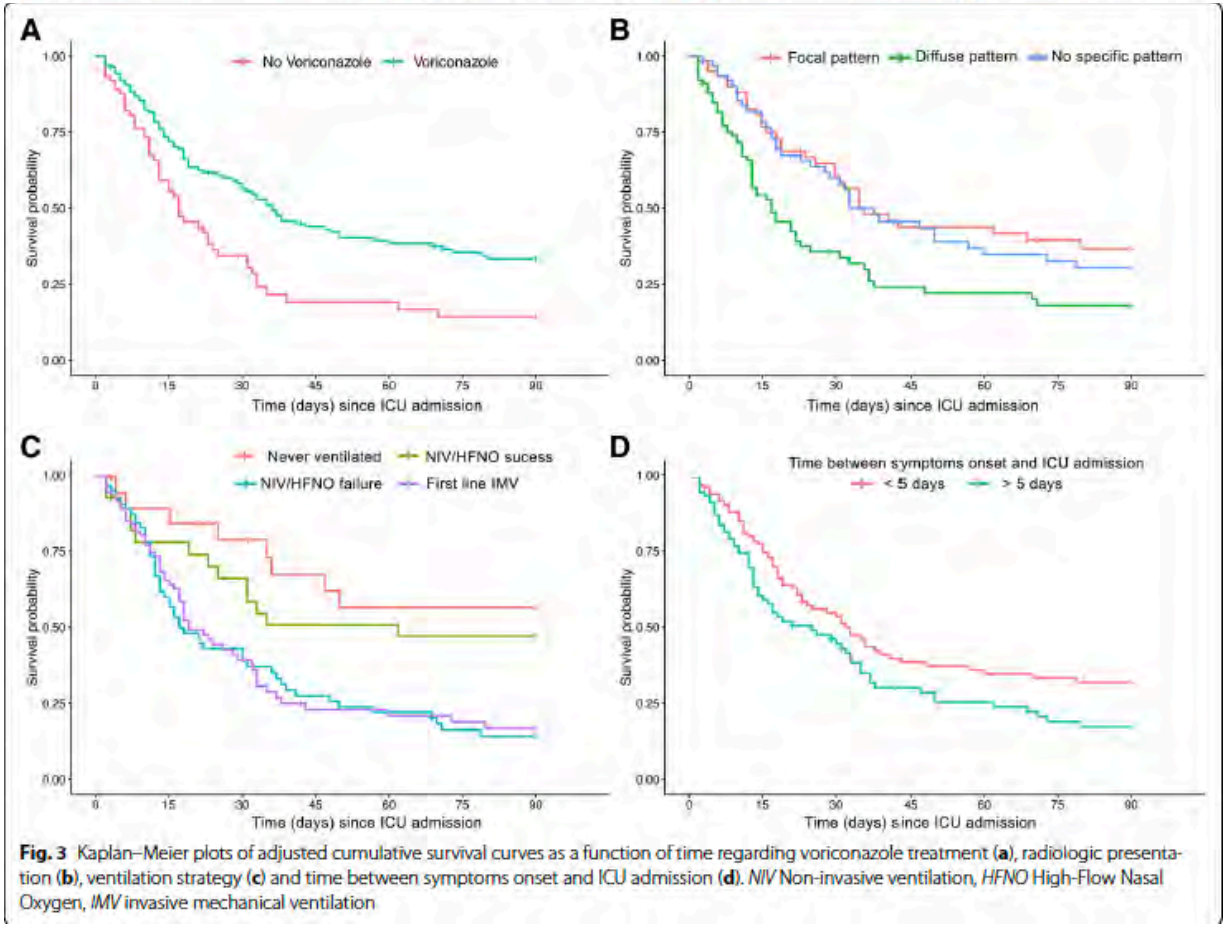


Fig. 3 Kaplan–Meier plots of adjusted cumulative survival curves as a function of time regarding voriconazole treatment (**a**), radiologic presentation (**b**), ventilation strategy (**c**) and time between symptoms onset and ICU admission (**d**). *NIV* Non-invasive ventilation, *HFNO* High-Flow Nasal Oxygen, *IMV* invasive mechanical ventilation

- Vorico HR=0,49
- Atteinte Diffuse HR=2
- VI, HR=3,16-3,32
- Délai SC/ICU >5jrs HR=1,51

- Pneumocystose
- Diagnostic IRA/Réanimation
- Transplantation pulmonaire

Pneumonia *versus* graft dysfunction as the cause of acute respiratory failure after lung transplant: a 4-year multicentre prospective study in 153 adults requiring intensive care admission

Mazo, ERJ, 2019

- Prospective, 5 centres, Espagne
- 2012-2016
- Réadmission (>7jrs après TP)
- 153 patients (174 réadmissions)
- 1°cause: ARF (72%)
  - 1° cause pneumonie (45%) (PYO multiR)
  - Rejet (5%)
- FDR DC en réa:
  - VM/choc/pnp/CLAD

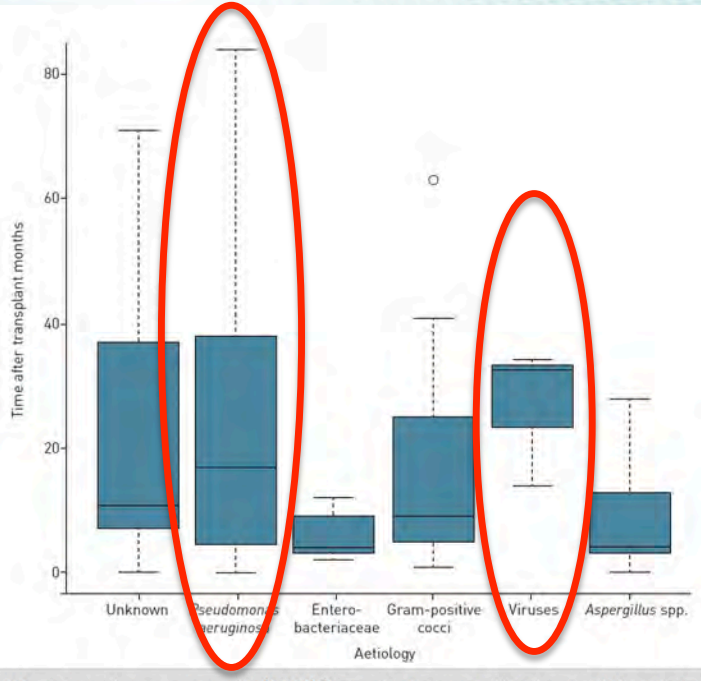


TABLE 4 Variables associated with intensive care unit (ICU)/hospital mortality in multivariate regression model, clustered by investigator site

Mortality predictors in multivariate analysis#	ICU mortality aOR (95% CI)	Hospital mortality aOR (95% CI)	p-value
IMV requirement at ICU readmission	8.2 (2.6–34.7)	12.1 (3.6–60.3)	<0.001
Vasopressor requirement	3.6 (1.2–11.1)	3.2 (1.1–10.1)	<0.05
Pneumonia at ICU readmission	2.5 (1.0–7.1)	1.9 (0.7–5.5)	<0.05
Pre-admission obstructive CLAD: BOS stage 1¶	0.5+ (0.1–3.5)	0.4+ (0.1–3.0)	NS
Pre-admission obstructive CLAD: BOS stage 2¶	7.2 (1.0–65.7)	20.1 (2.4–257.0)	<0.01
Pre-admission obstructive CLAD: BOS stage 3¶	13.7 (2.5–95.3)	12.3 (2.2–95.0)	<0.01

Community-acquired Respiratory Viruses Are a Risk Factor for Chronic Lung Allograft Dysfunction

Maddalena Peghin,[1,2,3] Ibai Los-Arcos,[1,4] Hans H. Hirsch,[5] Gemma Codina,[2,6] Víctor Monforte,[7] Carles Bravo,[7] Cristina Berastegui,[7] Alberto Jauregui,[8] Laura Romero,[8] Evelyn Cabral,[1] Ricard Ferrer,[9,10] Judith Sacanell,[9,10] Antonio Román,[7,11] Oscar Len,[1,2,a] and Joan Gavaldà[1,2,a]

- Prospective, Barcelone,
- [2009-2011] consécutifs, n=98
- Durée de suivi: fin 2014
- Documentation systématique:
  - PCR/ nasopharyngé
  - Asymptomatique
  - Symptomatique (VAS/VAI)
  - Rejet aigu

Table 2. Positivity Rates of Systematically Collected Nasopharyngeal Swabs in Different Clinical Settings

Event	No. (%) of Positive Samples	Patients, N
Asymptomatic	68/591 (11.5)	93
URTID	97/150 (64.7)	69
1 mo after URTID	16/103 (15.5)	60
3 mo after URTID	8/78 (10.2)	50
LRTID, tracheobronchitis	56/108 (51.8)	61
LRTID, pneumonia	9/34 (26.4)	24
Acute rejection	4/30 (13.3)	25
Total	258/1094 (23.6)	98

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Virus	Total (n [%]	Tracheobronchite	Pneumopathie
Picornavirus (rhinovirus)	108/234 [46.2%])	22/56 [39.3%]	-
Coronaviruses	46/234 [19.7%]	8/56 [14.3%]	-
Influenza virus	28/234 [12.0%]	9/56 [16.1%]	2/9 [22.2%]
Parainfluenzae virus	20/234 [8.5%]	-	2/9 [22.2%]
Metapneumovirus	18/234 [7.7%]	8/56 [14.3%]	-
VRS	-	-	3/9 [33.3%]

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Table 3. Risk Factors for Chronic Lung Allograft Dysfunction in Lung Transplant Recipients: Results From Univariate and Multivariate Time-dependent Cox Regression Models

	Univariate Analysis		Multivariate Analysis	
Variable	HR (95% CI)	*P* Value	HR (95% CI)	*P* Value
Acute rejection	3.21 (1.67–6.17)	.001	2.97 (1.51–5.83)	.002
Primary graft dysfunction	2.31 (1.00–5.31)	.049	…	…
Gastroesophageal reflux	1.50 (.78–2.89)	.224	…	…
Aspergillus spp colonization-infection	1.34 (.61–2.96)	.466	…	…
P. aeruginosa colonization-infection	1.74 (.90–3.34)	.098	…	…
P. aeruginosa de novo colonization-infection	1.22 (.63–2.36)	.558	…	…
CMV pneumonitis	7.34 (1.66–32.43)	.008	3.76 (1.23–11.49)	.020
Any respiratory virus (+)	2.37 (.98–5.75)	.056	…	…
Asymptomatic respiratory virus (+)	0.89 (.42–1.89)	.758	…	…
LRTID respiratory virus (+)	2.96 (1.51–5.78)	.001	3.00 (1.52–5.91)	.002

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Extracorporeal membrane oxygenation in *Pneumocystis jirovecii* pneumonia: outcome in HIV and non-HIV patients

Jonathan Rilinger[1,2*], Dawid L. Staudacher[1,2], Siegbert Rieg[3], Daniel Duerschmied[1,2], Christoph Bode[1,2] and Tobias Wengenmayer[1,2]

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Emmanuel Pardo[1], Virginie Lemiale[1], Djamel Mokart[2], Annabelle Stoclin[3], Anne-Sophie Moreau[4], Lionel Kerhuel[1], Laure Calvet[1], Sandrine Valade[1], Audrey De Jong[1], Michael Darmon[1,5,6] and Elie Azoulay[1,5,6*]

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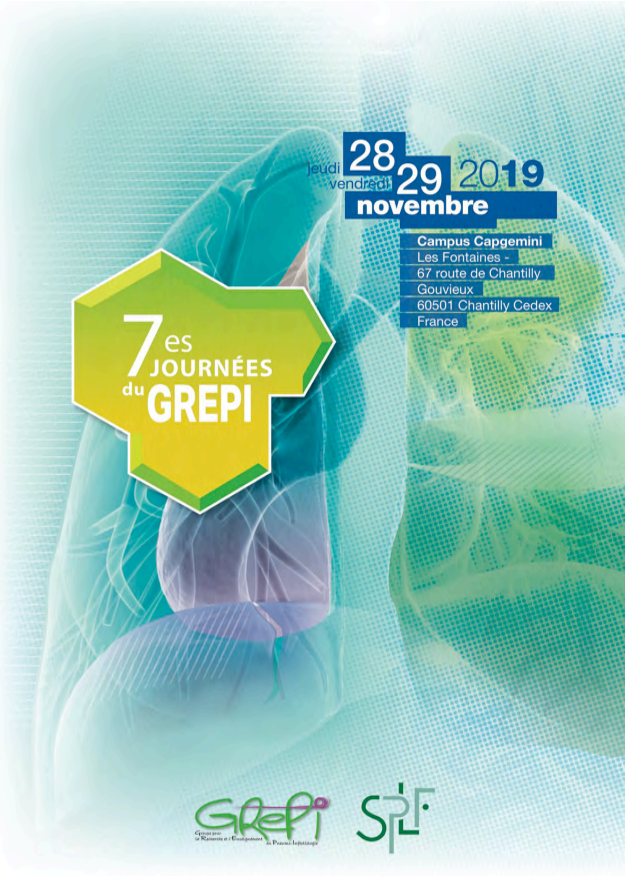
Pneumonia *versus* graft dysfunction as the cause of acute respiratory failure after lung transplant: a 4-year multicentre prospective study in 153 adults requiring intensive care admission

Cristopher Mazo[1,2,3,4], Teresa Pont[1,2,3], Maria A. Ballesteros[5], Eloísa López[6], Luzdivina Rellán[7], Juan C. Robles[8] and Jordi Rello[2,3]



Immunodéprimés: Projets

Antoine Roux

29/11/2019

Les infections tuberculeuses latentes chez les receveurs d'organes solides

-

Etude de pratiques et d'intention

P. Fraisse

Questionnaire

Sachant que

Les recommandations OMS, SPLF, HCSP

Les données du centre

Le diagnostic d'ITL avant,

Le traitement des ITL avant,

Depuis les recommandations ?

Aller plus loin ?