JNI 23es Journées Nationales d'Infectiologie
Bordeaux
et la région Aquitaine
Palais des Congrès
du mercredi 15 juin 2022
au vendredi 17 juin 2022

« best-of »
des infections neuroméningées

O. Epaulard
Grenoble

Déclaration de liens d'intérêt avec les industries de santé en rapport avec le thème de la présentation (loi du 04/03/2002) :

Intervenant : Olivier Epaulard

Titre : « best-of » des infections neuroméningées

Consultant ou membre d'un conseil scientifique	☐ OUI	☑ NON
Conférencier ou auteur/rédacteur rémunéré d'articles ou documents	☐ OUI	☑ NON
Prise en charge de frais de voyage, d'hébergement ou d'inscription à des congrès ou autres manifestations	☐ OUI	☑ NON
Investigateur principal d'une recherche ou d'une étude clinique	☑ OUI	☐ NON

LEMP et immunothérapie

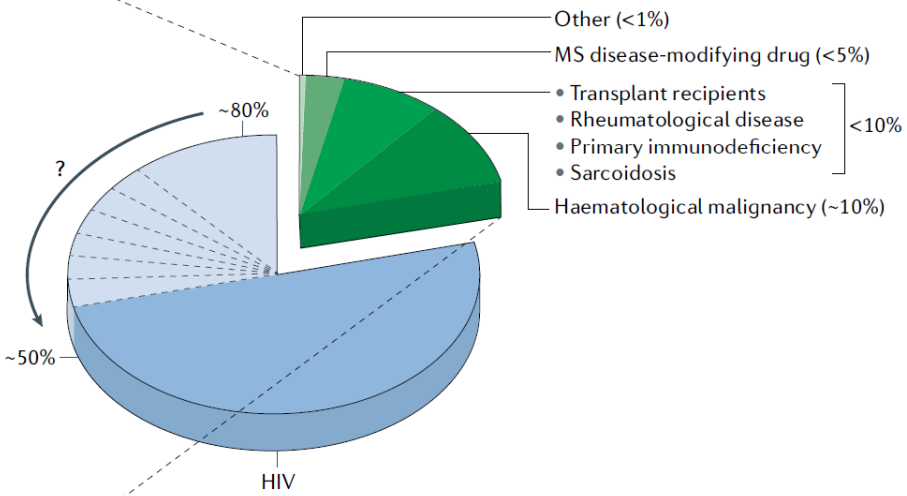
2021

Check for updates

Progressive multifocal leukoencephalopathy and the spectrum of JC virus-related disease

Irene Cortese[1]✉, *Daniel S. Reich*[2] *and Avindra Nath*[3]

Drug	Indications
Belatacept	Kidney transplantation
Belimumab	SLE
Brentuximab vedotin	Hodgkin lymphoma
Cyclosporine	Transplantation
Dimethyl fumarate	RRMS
Efalizumab	Psoriasis
Fingolimod	RRMS
Ibrutinib	CLL, mantle cell lymphoma, marginal zone lymphoma, WM, cGVHD
Mycophenolate mofetil	Transplantation
Natalizumab	RRMS
Obinutuzumab	CLL
Ocrelizumab	RRMS, PPMS
Ofatumumab	CLL
Rituximab	CLL, non-Hodgkin lymphoma, RA, WG, MPA
Ruxolitinib	Myelofibrosis
Sirolimus	Transplantation
Tacrolimus	Transplantation
Vedolizumab	UC, Crohn's disease



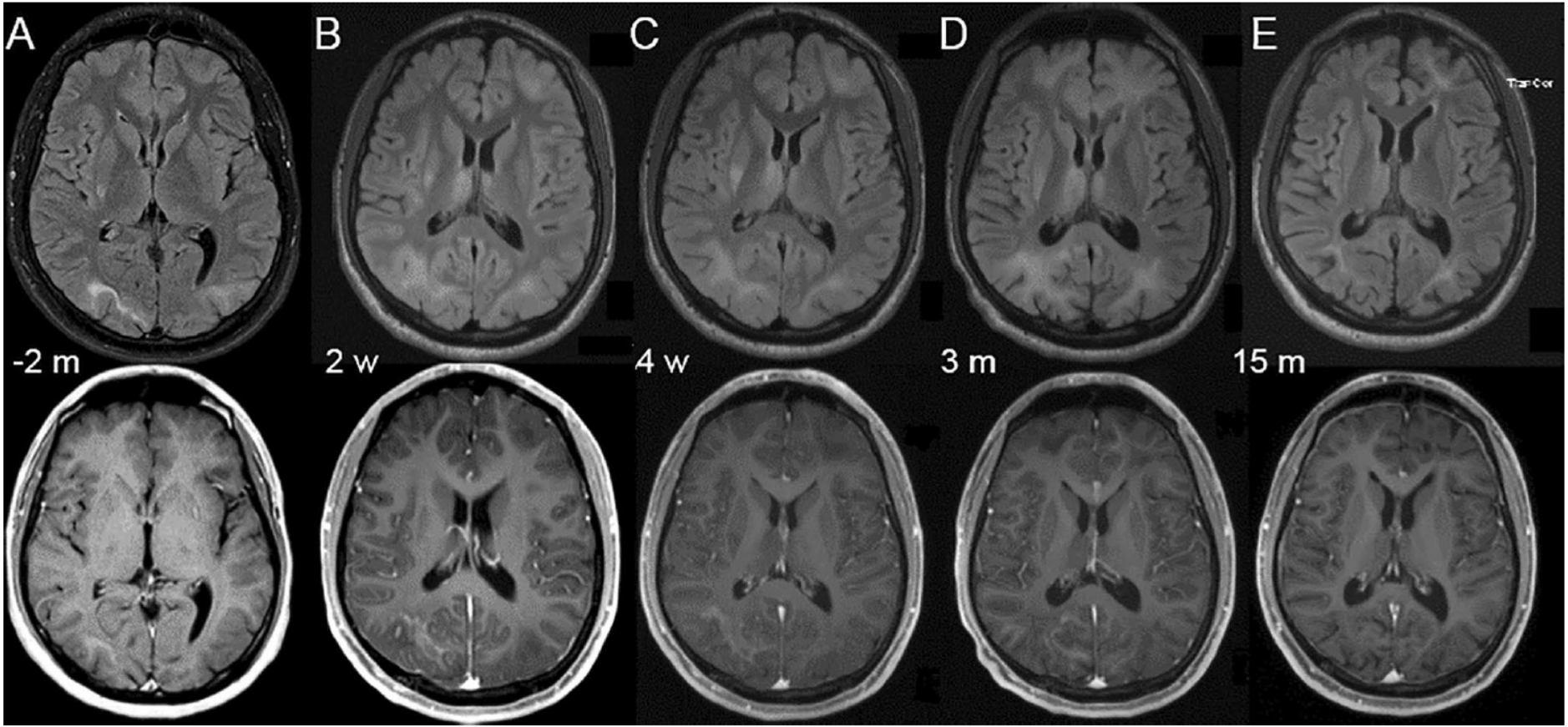
Journal of Neurology (2022) 269:973–981
https://doi.org/10.1007/s00415-021-10682-8

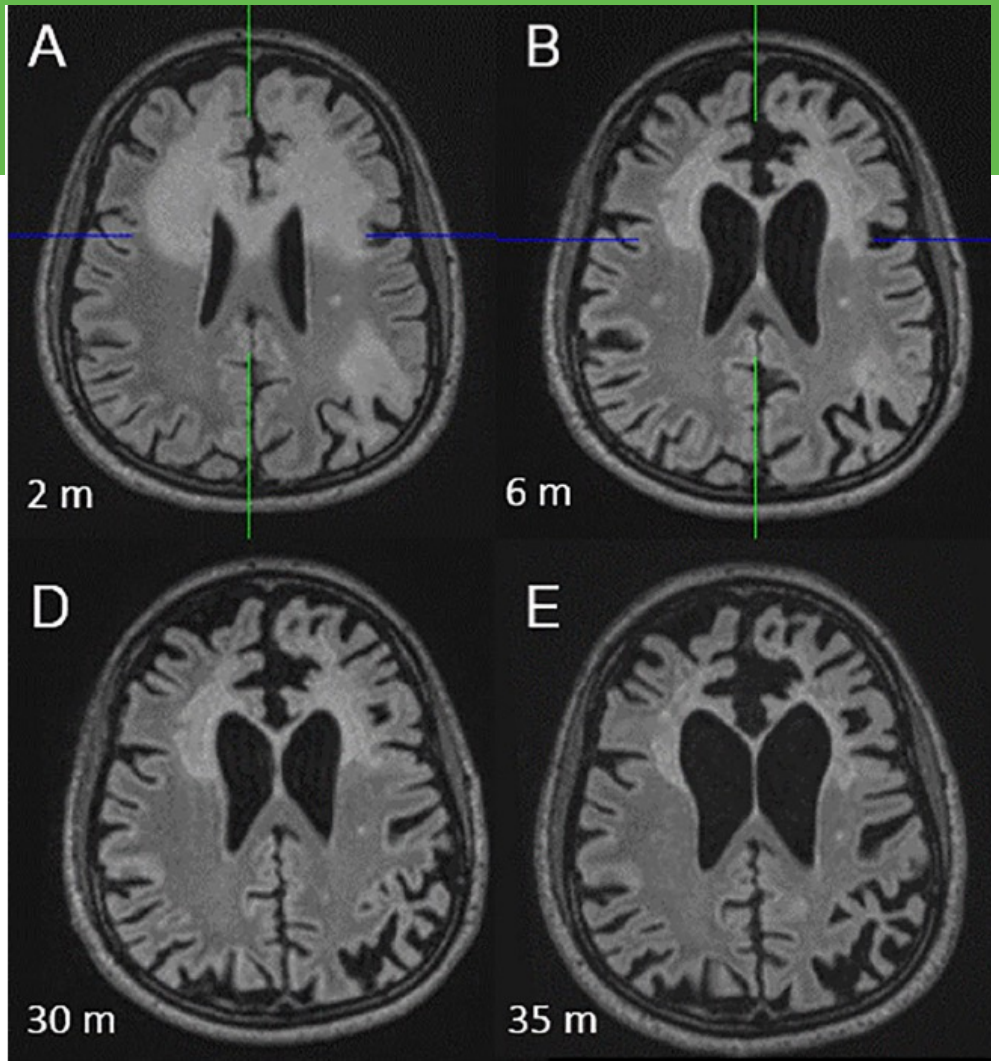
ORIGINAL COMMUNICATION

Pembrolizumab for treatment of progressive multifocal leukoencephalopathy in primary immunodeficiency and/or hematologic malignancy: a case series of five patients

Timo Volk[1] · Klaus Warnatz[2,3] · Reinhard Marks[4] · Horst Urbach[5] · Gisela Schluh[1] · Valentina Strohmeier[2,3,6] · Jessica Rojas-Restrepo[3,6,7,8] · Bodo Grimbacher[3,7,8,9,10] · Sebastian Rauer[1]

- 2 lymphomes BGC
- 1 DICV
- 1 déficit en CD40-ligand
- 1 déficit en DOCK8


A
B
C
D
E
-2 m
2 w
4 w
3 m
15 m

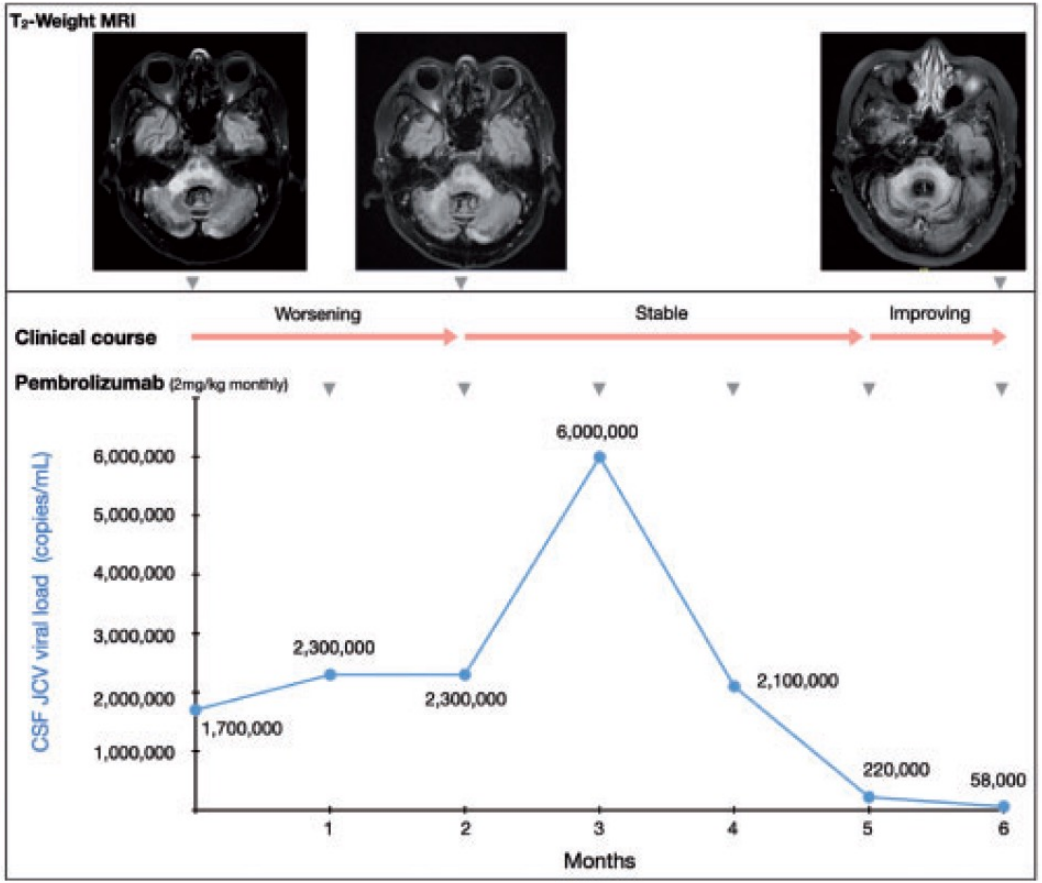

A
2 m
B
6 m
D
30 m
E
35 m

Progressive multifocal leukoencephalopathy in systemic lupus erythematosus managed with pembrolizumab: A case report with literature review

Ting-Yuan Lan[1], Yan-Siou Chen[1], Chiao-Feng Cheng[2], Sin-Tuan Huang[3], Chieh-Yu Shen[1] and Ping-Ning Hsu[1,4]

Lupus
0(0) 1–7

DOI: 10.1177/09612033211035443
journals.sagepub.com/home/lup
SAGE



frontiers | Frontiers in Immunology

CASE REPORT
published: 03 May 2022
doi: 10.3389/fimmu.2022.889148

Killing Two Birds With One Stone: Effective Control of Both Non-Small Cell Lung Cancer and Progressive Multifocal Leukoencephalopathy With Atezolizumab, A Case Report

Nicolas Lambert[1,2*], *Majdouline El Moussaoui*[3], *Caroline Ritacco*[4], *Martin Moïse*[2,5], *Astrid Paulus*[6], *Philippe Delvenne*[7], *Frédéric Baron*[4,8], *Bernard Sadzot*[1] *and Pierre Maquet*[1]

IDCases 28 (2022) e01514

Contents lists available at ScienceDirect

IDCases

journal homepage: www.elsevier.com/locate/idcases

Case report

Pembrolizumab for the treatment of Progressive Multifocal Leukoencephalopathy (PML) in a patient with AIDS: A case report and literature review

Tulika Chatterjee[a,*], Moni Roy[b], Rone-Chun Lin[b], Mohammad O. Almoujahed[b], Sharjeel Ahmad[b]

[a] University of Illinois College of Medicine at Peoria, 530 NE Glen Oak Ave, Peoria, IL 61637, USA
[b] University of Illinois College of Medicine at Peoria, USA

Received: 12 June 2021 | Accepted: 9 July 2021

DOI: 10.1111/ene.15021

european journal of neurology
the official journal of the european academy of neurology

SHORT COMMUNICATION

Immune checkpoint inhibitors for progressive multifocal leukoencephalopathy: Identifying relevant outcome factors

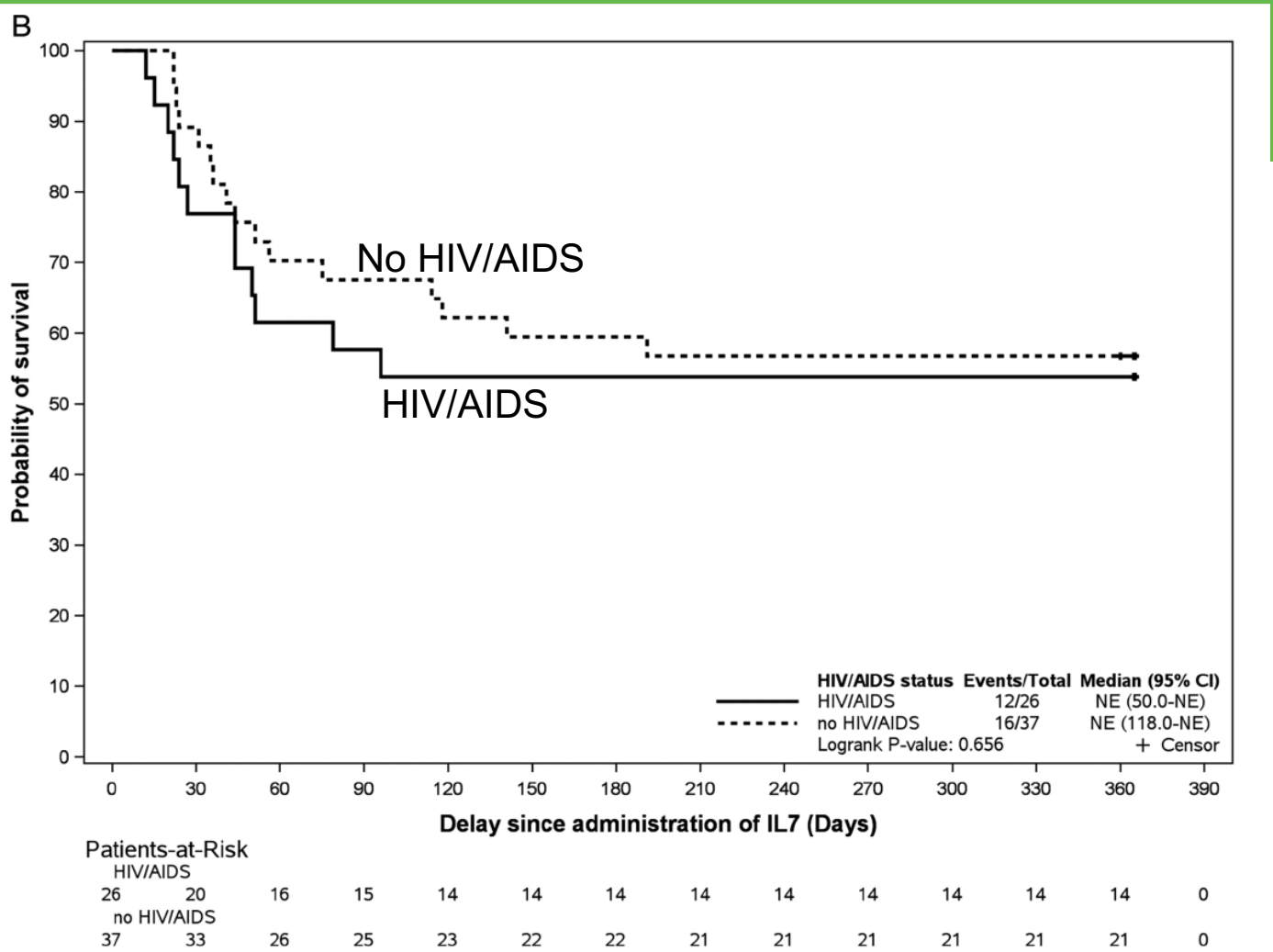
Nicolas Lambert[1,2] | Majdouline El Moussaoui[3] | Pierre Maquet[1,4]

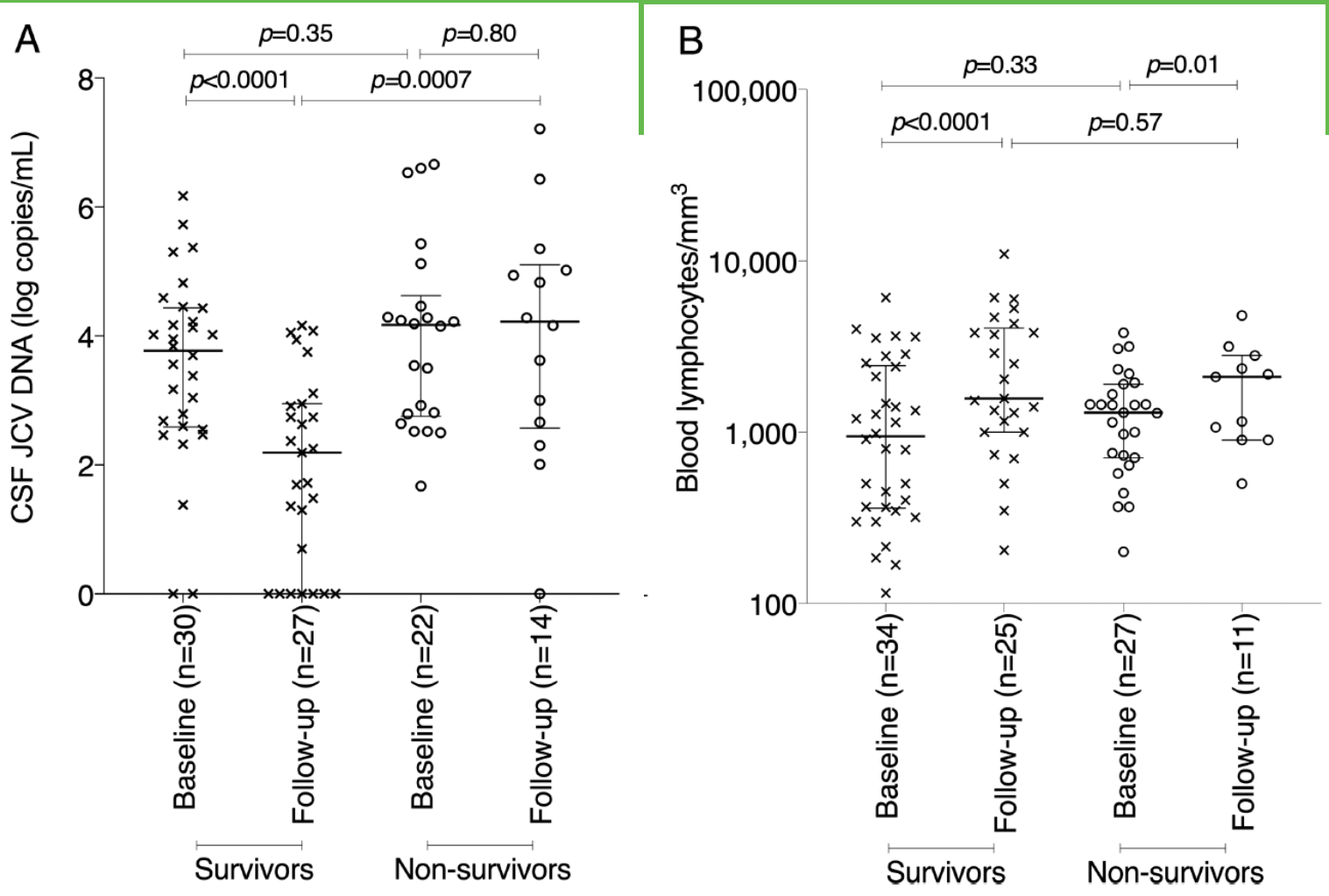
- **Facteurs associés à une mauvaise réponse**
  - LEMP due à un traitement immunosuppresseur
  - Détectabilité persistante de la CV JV dans le LCS
  - Pas d'amélioration des lésions cérébrales en T2 en IRM

Outcome of Progressive Multifocal Leukoencephalopathy Treated by Interleukin-7

Rébecca Lajaunie, MD,[1†] Ilaria Mainardi, MD,[2†] Jacques Gasnault, MD,[3,4] Vanessa Rousseau, PhD,[5] Andrea G. Tarantino, DO,[6] Agnès Sommet, PhD,[5] Paola Cinque, PhD,[2‡] Guillaume Martin-Blondel, PhD,[1,7‡] and PML study group

- **2007-2020**
- **64 patients**
  - PVVIH (n = 27, 42%),
  - Néoplasies hématologiques (n = 16, 25%),
  - Déficit immunitaire inné (n = 13, 20%)
  - Transplantation d'organe solide (n = 4, 6%)


B
Probability of survival
100
90
80
70
60
50
40
30
20
10
0
No HIV/AIDS
HIV/AIDS
HIV/AIDS status Events/Total Median (95% CI)
HIV/AIDS 12/26 NE (50.0-NE)
no HIV/AIDS 16/37 NE (118.0-NE)
Logrank P-value: 0.656
+ Censor
0 30 60 90 120 150 180 210 240 270 300 330 360 390
Delay since administration of IL7 (Days)
Patients-at-Risk
HIV/AIDS
26 20 16 15 14 14 14 14 14 14 14 14 14 0
no HIV/AIDS
37 33 26 25 23 22 22 21 21 21 21 21 21 0


A
p=0.35
p=0.80
p<0.0001
p=0.0007
CSF JCV DNA (log copies/mL)
8
6
4
2
0
Baseline (n=30)
Follow-up (n=27)
Baseline (n=22)
Follow-up (n=14)
Survivors
Non-survivors
B
p=0.33
p=0.01
p<0.0001
p=0.57
Blood lymphocytes/mm3
100,000
10,000
1,000
100
Baseline (n=34)
Follow-up (n=25)
Baseline (n=27)
Follow-up (n=11)
Survivors
Non-survivors

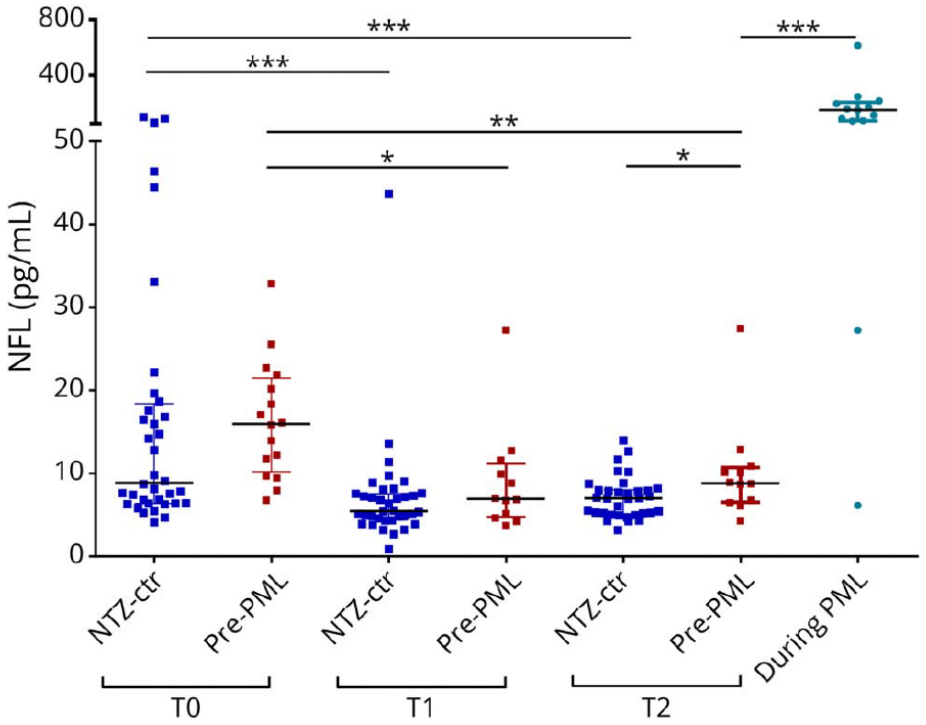
ARTICLE OPEN ACCESS CLASS OF EVIDENCE

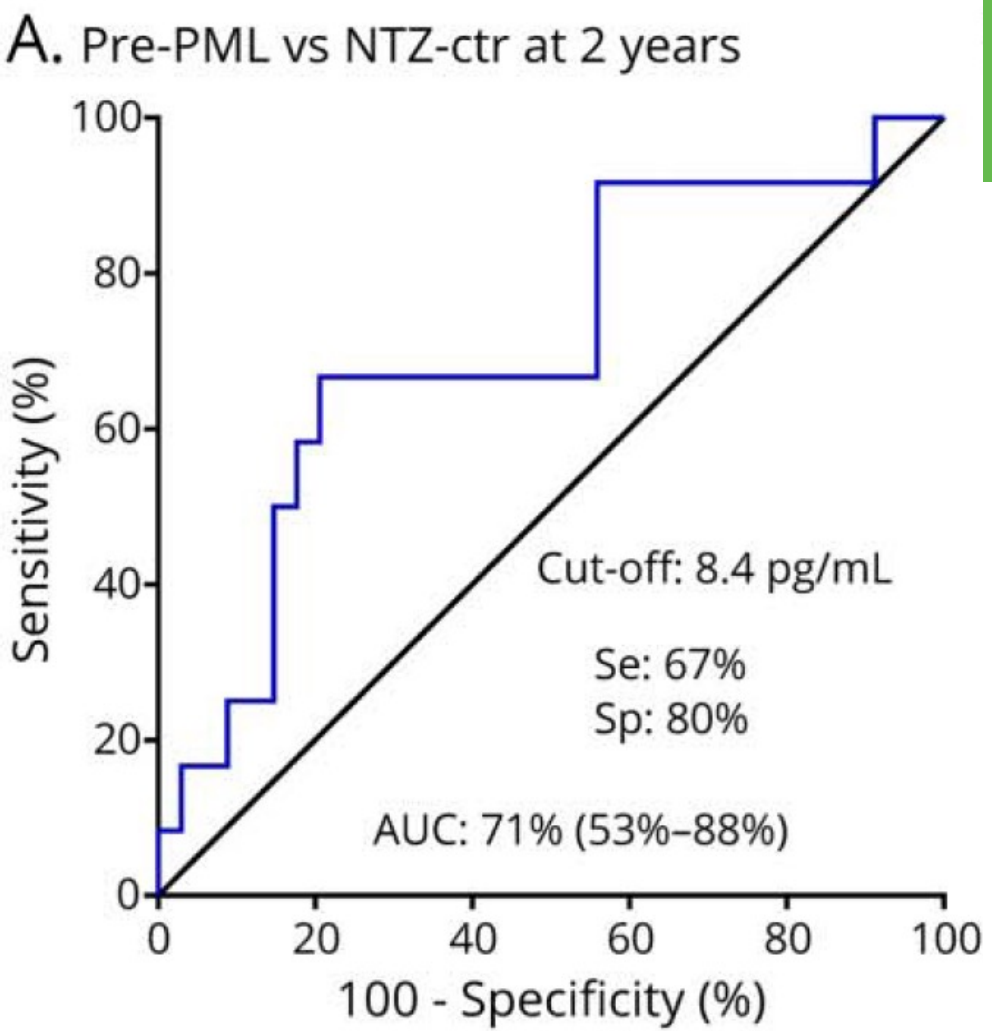
Serum Neurofilament Levels and PML Risk in Patients With Multiple Sclerosis Treated With Natalizumab

Nicolás Fissolo, PhD, Beatrice Pignolet, PhD, Jordi Rio, MD, PhD, Patrick Vermersch, MD, PhD, Aurélie Ruet, MD, PhD, Jerome deSèze, MD, PhD, Pierre Labauge, MD, PhD, Sandra Vukusic, MD, PhD, Caroline Papeix, MD, Laurent Martinez-Almoyna, MD, Ayman Tourbah, MD, PhD, Pierre Clavelou, MD, PhD, Thibault Moreau, MD, PhD, Jean Pelletier, MD, PhD, Christine Lebrun-Frenay, MD, PhD, Bertrand Bourre, MD, Gilles Defer, MD, PhD, Xavier Montalban, MD, David Brassat, MD, PhD, and Manuel Comabella, MD, PhD

Correspondence: Dr. Fissolo
nicolas.fissolo@vhir.org

Neurol Neuroimmunol Neuroinflamm 2021;8:e1003. doi:10.1212/NXI.0000000000001003




A. Pre-PML vs NTZ-ctr at 2 years
Sensitivity (%)
100
80
60
40
20
0
0
20
40
60
80
100
100 - Specificity (%)
Cut-off: 8.4 pg/mL
Se: 67%
Sp: 80%
AUC: 71% (53%–88%)

Covid-19 et cerveau

Et en particulier post-Covid-19

Journal of Neurology (2022) 269:2827–2839
https://doi.org/10.1007/s00415-022-11050-w

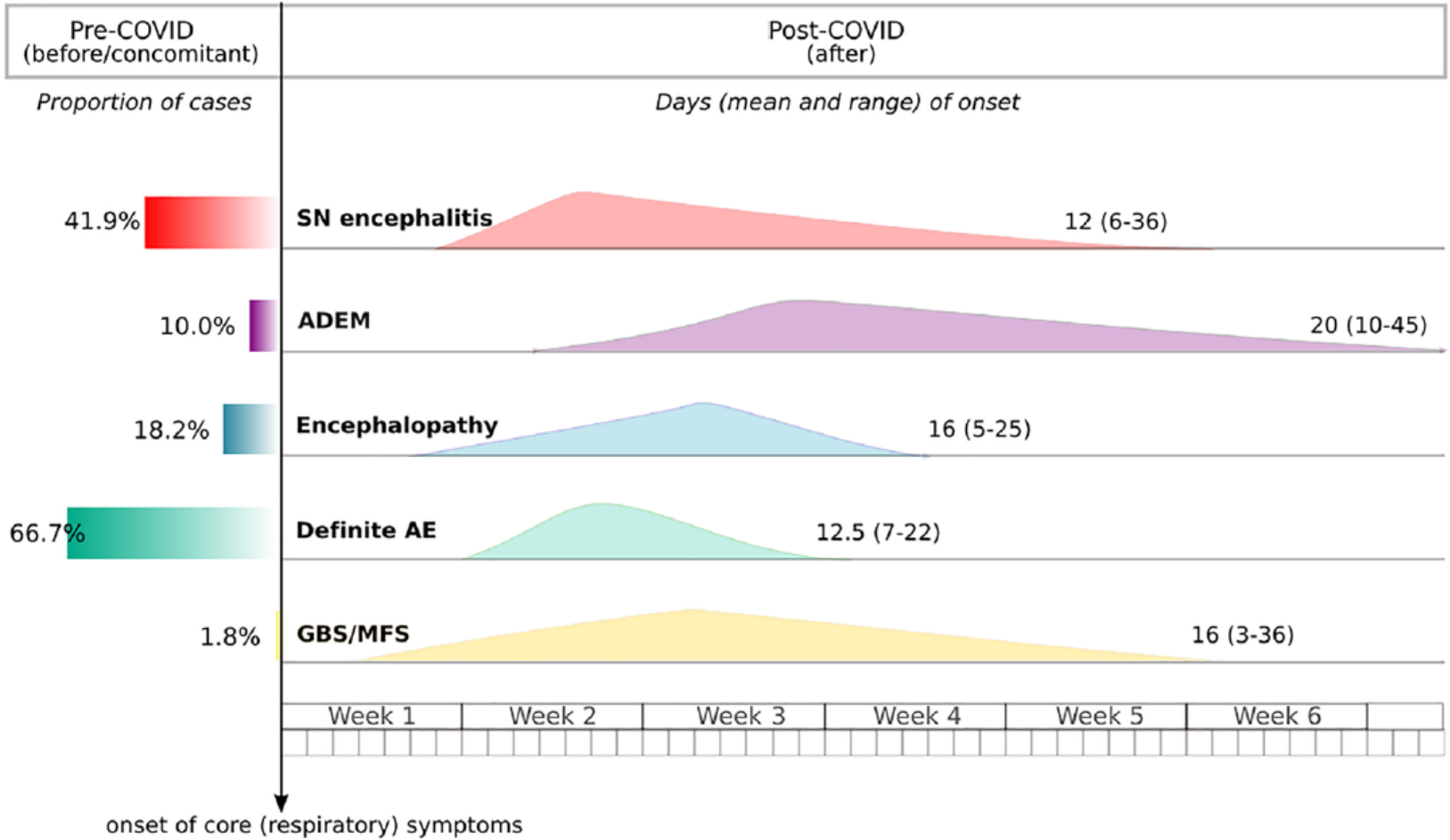
REVIEW

Check for updates

Neuroimmune disorders in COVID-19

Helena Ariño[1,2] · Rosie Heartshorne[3] · Benedict D. Michael[3,4,5] · Timothy R. Nicholson[2] · Angela Vincent[6] · Thomas A. Pollak[2] · Alberto Vogrig[7,8]

Received: 19 January 2022 / Revised: 22 February 2022 / Accepted: 23 February 2022 / Published online: 30 March 2022


Pre-COVID
(before/concomitant)
Post-COVID
(after)
Proportion of cases
Days (mean and range) of onset
41.9%
SN encephalitis
12 (6-36)
10.0%
ADEM
20 (10-45)
18.2%
Encephalopathy
16 (5-25)
66.7%
Definite AE
12.5 (7-22)
1.8%
GBS/MFS
16 (3-36)
Week 1
Week 2
Week 3
Week 4
Week 5
Week 6
onset of core (respiratory) symptoms

RESEARCH ARTICLE

Prognostic indicators and outcomes of hospitalised COVID-19 patients with neurological disease: An individual patient data meta-analysis

Bhagteshwar Singh[1,2,3☯], Suzannah Lant[1☯], Sofia Cividini[4], Jonathan W. S. Cattrall[1], Lynsey C. Goodwin[1,2], Laura Benjamin[5], Benedict D. Michael[1,6], Ayaz Khawaja[7], Aline de Moura Brasil Matos[8], Walid Alkeridy[9], Andrea Pilotto[10], Durjoy Lahiri[11],

...

Ferreira Da Silva[93], Krishna Nalleballe[94], Jonathan Santoro[95], Tyler Scullen[96], Lora Kahn[96], Carla Y. Kim[97], Kiran T. Thakur[97], Rajan Jain[98], Thirugnanam Umapathi[99], Timothy R. Nicholson[100], James J. Sejvar[101], Eva Maria Hodel[1], The Brain Infections Global COVID-Neuro Network Study Group[¶], Catrin Tudur Smith[4‡], Tom Solomon[1,2,6‡*]

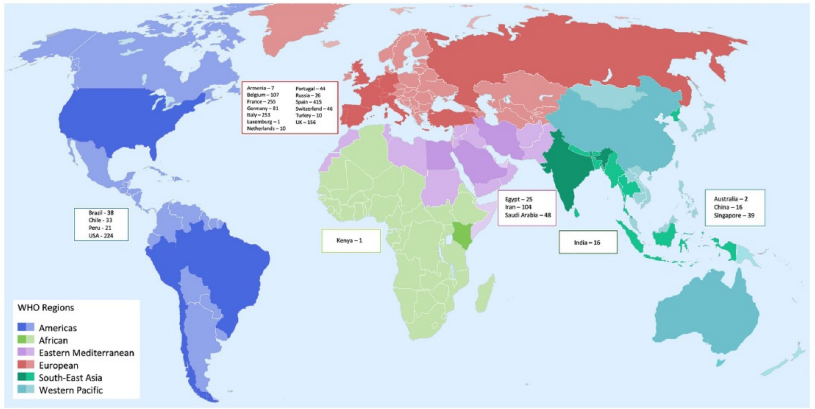
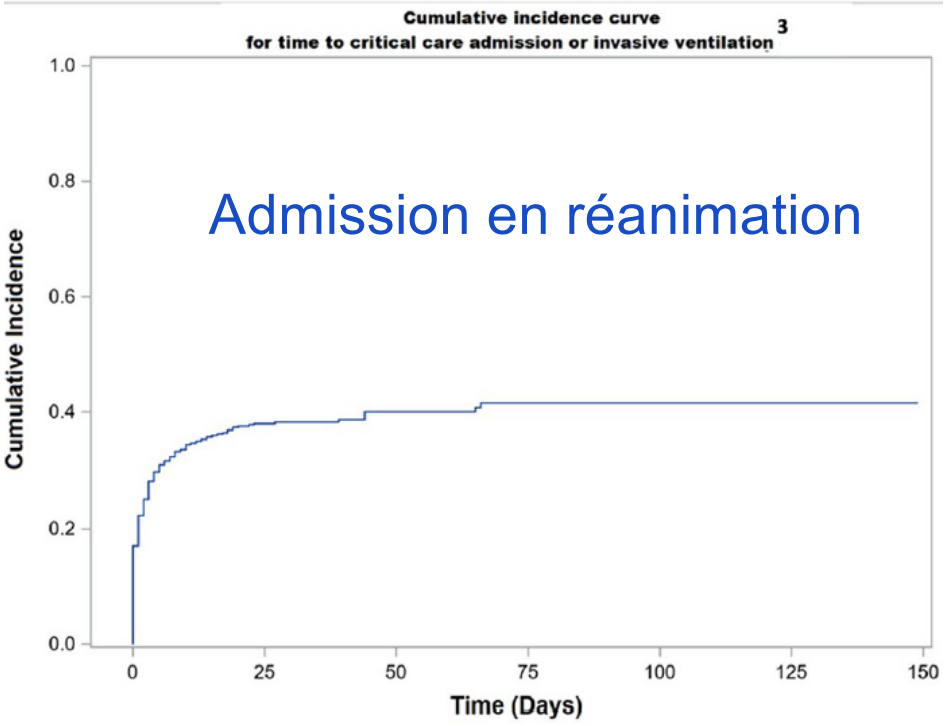
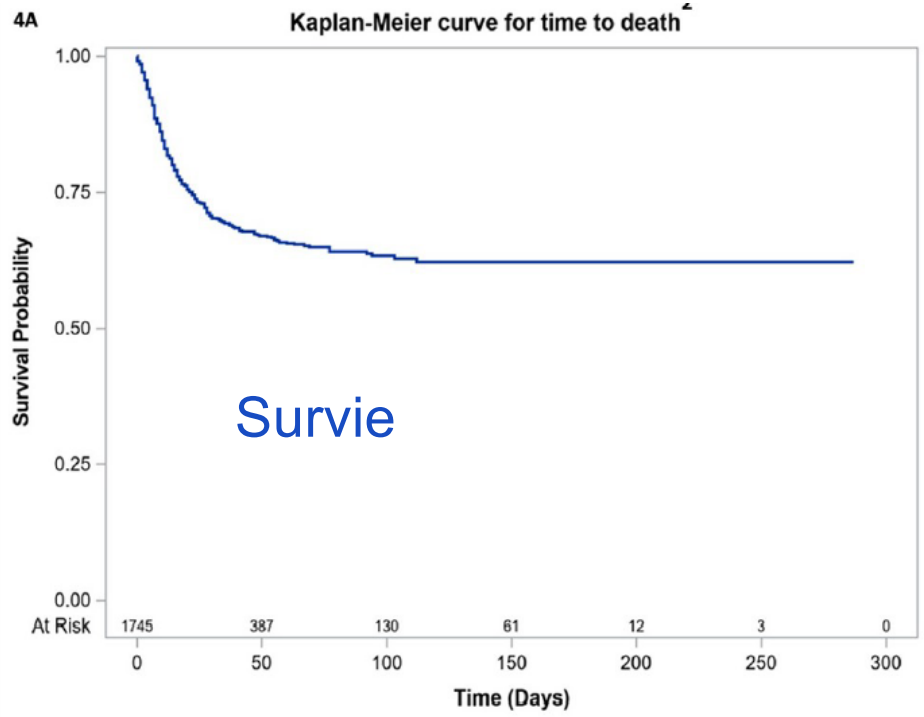


Fig 3. **Locations of 1979 patients from 83 studies providing individual patient data (IPD).** WHO regions are depicted in different colours. Countries from which we received IPD are depicted in a darker shade. Country names and numbers of patients for which we had IPD are displayed in boxes, grouped according to region.

Table 1. Frequency of neurological disease subgroups in the studies contributing IPD.

Neurological disease	Studies (N = 83) *n* (%)	Patients (N = 1979) *n* (%)
Encephalopathy	**61 (73.5)**	**978 (49.4)**
Encephalitis	*37 (44.6)*	*92 (4.6)*
Delirium	*32 (38.6)*	*161 (8.1)*
Coma	*13 (15.7)*	*37 (1.9)*
Encephalopathy–other	*40 (48.2)*	*688 (34.8)*
Insufficient information to define subtype	*0 (0)*	*0 (0)*
Cerebrovascular event	**55 (66.3)**	**506 (25.6)**
Ischaemic	*45 (54.2)*	*308 (15.6)*
Haemorrhagic	*29 (34.9)*	*90 (4.5)*
Vasculitis	*2 (2.4)*	*2 (0.1)*
Cerebrovascular event—other	*27 (32.5)*	*106 (5.4)*
Insufficient information to define subtype	*0 (0)*	*0 (0)*
Meningitis	**9 (10.8)**	**15 (0.8)**
Acute Disseminated Encephalomyelitis (ADEM)	**12 (14.5)**	**14 (0.7)**
Myelitis	**12 (14.5)**	**13 (0.7)**
Guillain-Barré syndrome	**30 (36.1)**	**51 (2.6)**
Radiculitis	**2 (2.4)**	**4 (0.2)**
Peripheral neuropathy	**24 (28.9)**	**115 (5.8)**
Myositis	**2 (2.4)**	**2 (0.1)**
Other neurological presentation	**31 (37.3)**	**382 (19.3)**
Smell or taste disturbance	*13 (15.7)*	*247 (12.5)*
Neuropsychiatric disorder	*2 (2.4)*	*49 (2.5)*
Myopathy	*5 (6)*	*38 (1.9)*
Autonomic dysfunction	*4 (4.8)*	*27 (1.4)*


Cumulative incidence curve
for time to critical care admission or invasive ventilation
Admission en réanimation
Cumulative Incidence
1.0
0.8
0.6
0.4
0.2
0.0
0
25
50
75
100
125
150
Time (Days)


4A
Kaplan-Meier curve for time to death
Survie
Survival Probability
1.00
0.75
0.50
0.25
0.00
At Risk
1745
387
130
61
12
3
0
0
50
100
150
200
250
300
Time (Days)

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Trajectories of Neurologic Recovery 12 Months After Hospitalization for COVID-19: A Prospective Longitudinal Study

Author(s):
Jennifer A. Frontera, MD[1]; Dixon Yang, MD[2]; Chaitanya Medicherla, MD[1]; Samuel Baskharoun, MD[1]; Kristie Bauman, MD[1]; Lena Bell, MD[1]; Dhristie Bhagat, MD[1]; Steven Bondi, MD[1]; Alexander Chervinsky, PhD[1]; Levi Dygert, MD[1]; Benjamin Fuchs, MD[1]; Daniel Gratch, MD[1]; Lisena Hasanaj, BA[1]; Jennifer Horng, MD[1]; Joshua Huang, MSc[3]; Ruben Jauregui, MD[1]; Yuan Ji, MD[1]; D. Ethan Kahn, DO[1]; Ethan Koch, MD[1]; Jessica Lin, MD[1]; Susan Liu, DO[1]; Anlys Olivera, MD, PhD[1]; Jonathan Rosenthal, MD[1]; Thomas Snyder, MD[1]; Rebecca Stainman, MD[4]; Daniel Talmasov, MD[1]; Betsy Thomas, MD[1]; Eduard Valdes, MD[1]; Ting Zhou, MD[1]; Yingrong Zhu, MD[1]; Ariane Lewis[1]; Aaron S. Lord, MD[1]; Kara Melmed, MD[1]; Sharon B. Meropol, MD, PhD[5]; Sujata Thawani, MD[1]; Andrea B Troxel, PhD[5]; Shadi Yaghi, MD[6]; Laura J Balcer, MD[1]; Thomas Wisniewski, MD[1]; Steven Galetta[1]

- **242 patients suivis à 6 et 12 mois**

Modified Rankin Scale

0 - Aucun symptôme

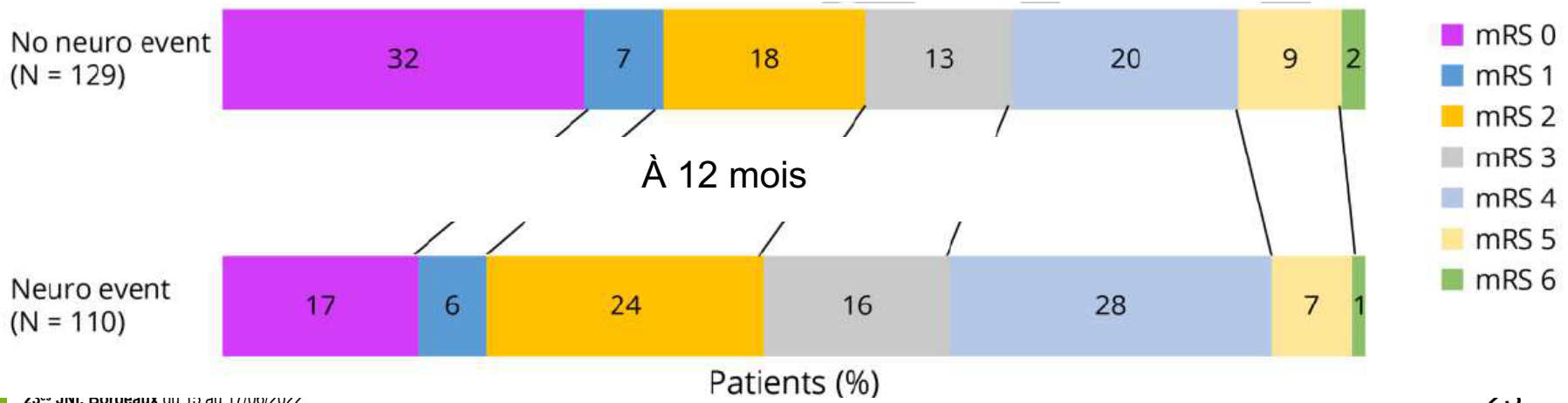
1 - Aucune incapacité significative en dépit des symptômes; capable d'effectuer toutes les tâches et activités habituelles.

2 - Handicap léger : incapable d'effectuer toutes les activités antérieures, mais capable de s'occuper de ses propres affaires sans assistance.

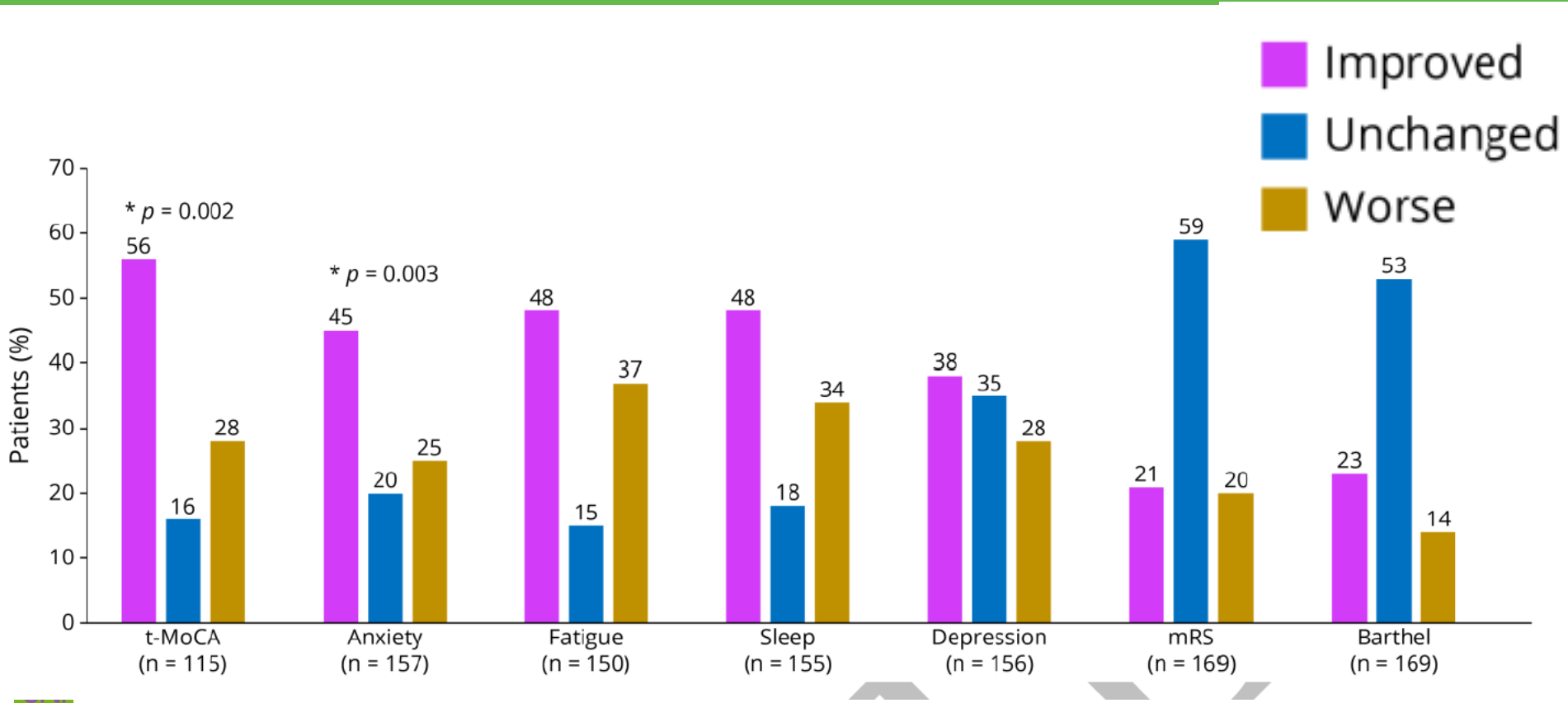
3 - Handicap modéré : nécessitant de l'aide, mais capable de marcher sans assistance.

4 - Handicap modérément sévère : incapable de marcher sans assistance et incapable de s'occuper de ses propres besoins corporels sans assistance.

5 - Handicap sévère : alité, incontinent et nécessitant de l'attention et des soins infirmiers constants.



Évolution entre le 6ème et le 12ème mois



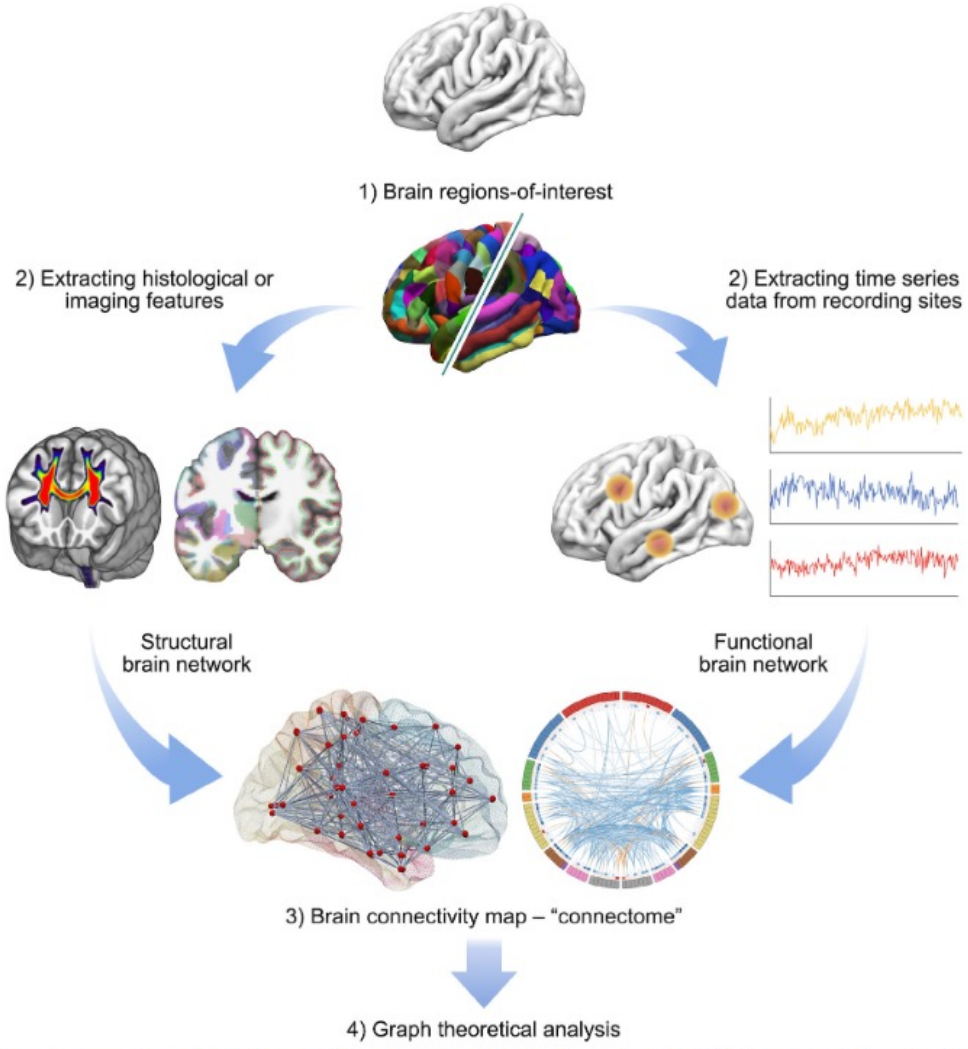
REVIEW ARTICLE

Mapping Structural Connectivity Using Diffusion MRI: Challenges and Opportunities

Chun-Hung Yeh, PhD,[1,2,3,4]* Derek K. Jones, PhD,[5,6] Xiaoyun Liang, PhD,[3,4,6] Maxime Descoteaux, PhD,[7] and Alan Connelly, PhD[3,4]

Diffusion MRI-based tractography is the most commonly-used technique when inferring the structural brain connectome, i.e., the comprehensive map of the connections in the brain. The utility of graph theory—a powerful mathematical approach for modeling complex network systems—for analyzing tractography-based connectomes brings important opportunities to interrogate connectome data, providing novel insights into the connectivity patterns and topological characteristics of brain structural networks. When applying this framework, however, there are challenges, particularly regarding methodological and biological plausibility. This article describes the challenges surrounding quantitative tractography and potential solutions. In addition, challenges related to the calculation of global network metrics based on graph theory are discussed.
Evidence Level: 5
Technical Efficacy: Stage 1

J. MAGN. RESON. IMAGING 2021;53:1666–1682.



RESEARCH ARTICLE OPEN ACCESS

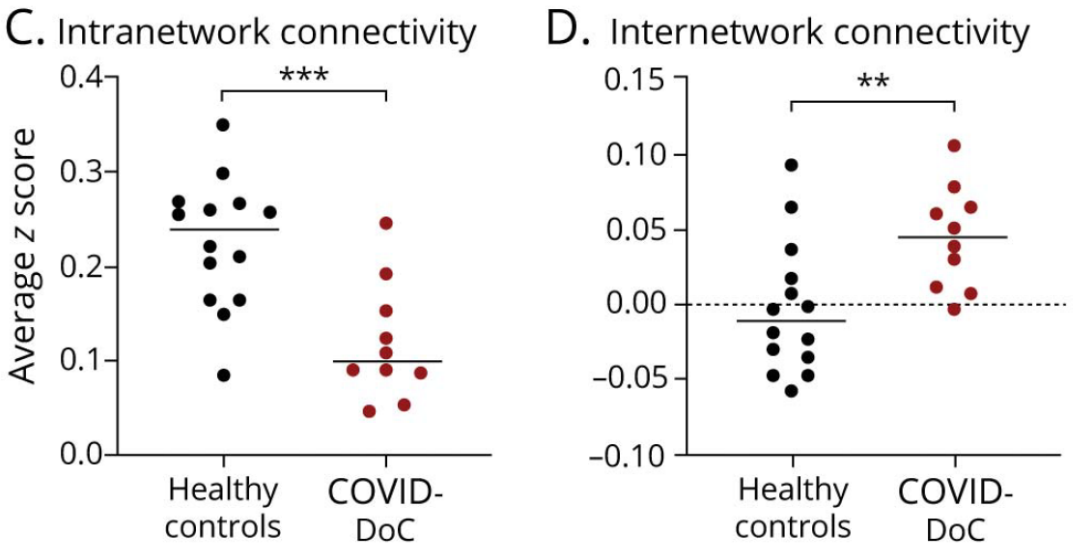
Disorders of Consciousness Associated With COVID-19

A Prospective Multimodal Study of Recovery and Brain Connectivity

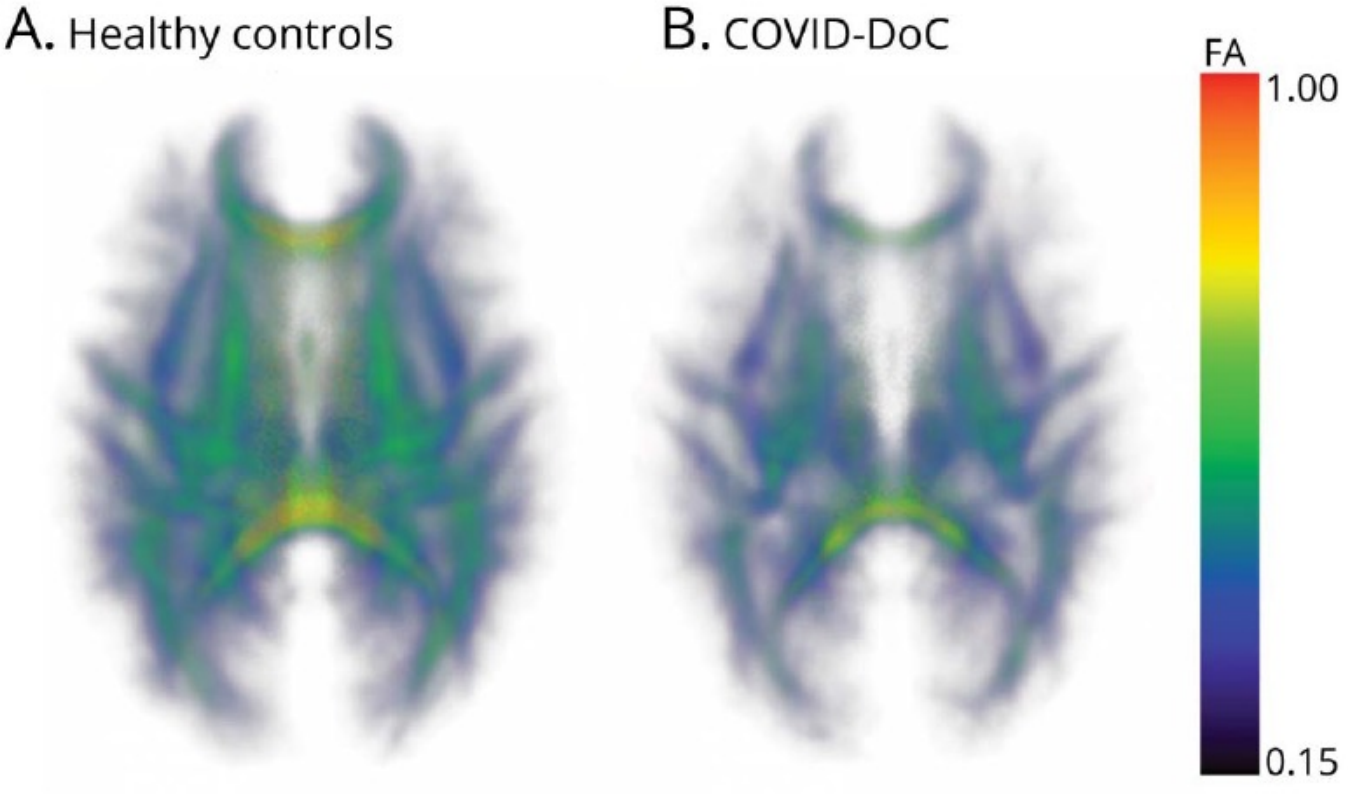
David Fischer, MD, Samuel B. Snider, MD, Megan E. Barra, PharmD, William R. Sanders, BSc, Otto Rapalino, MD, Pamela Schaefer, MD, Andrea S. Foulkes, ScD, Yelena G. Bodien, PhD, and Brian L. Edlow, MD

Correspondence
Dr. Fischer
d.b.fisch@gmail.com

Neurology® 2022;98:e315-e325. doi:10.1212/WNL.0000000000013067



White matter integrity / fractional anisotropy (FA)

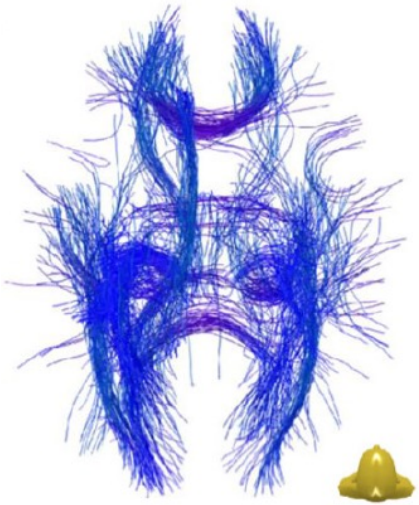


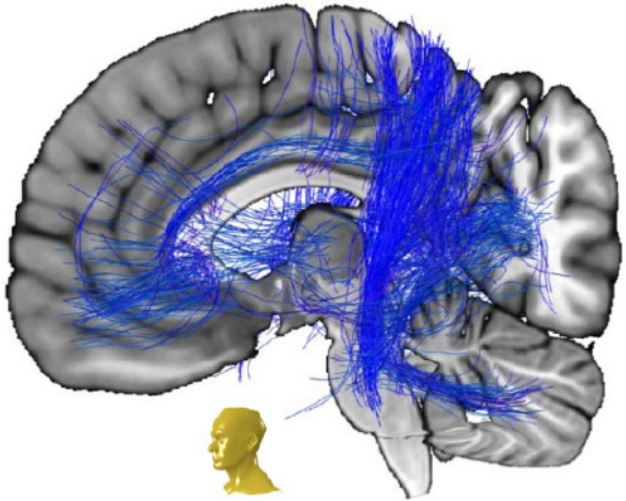
https://doi.org/10.1093/brain/awac045 BRAIN 2022: 00; 1–11 | 1

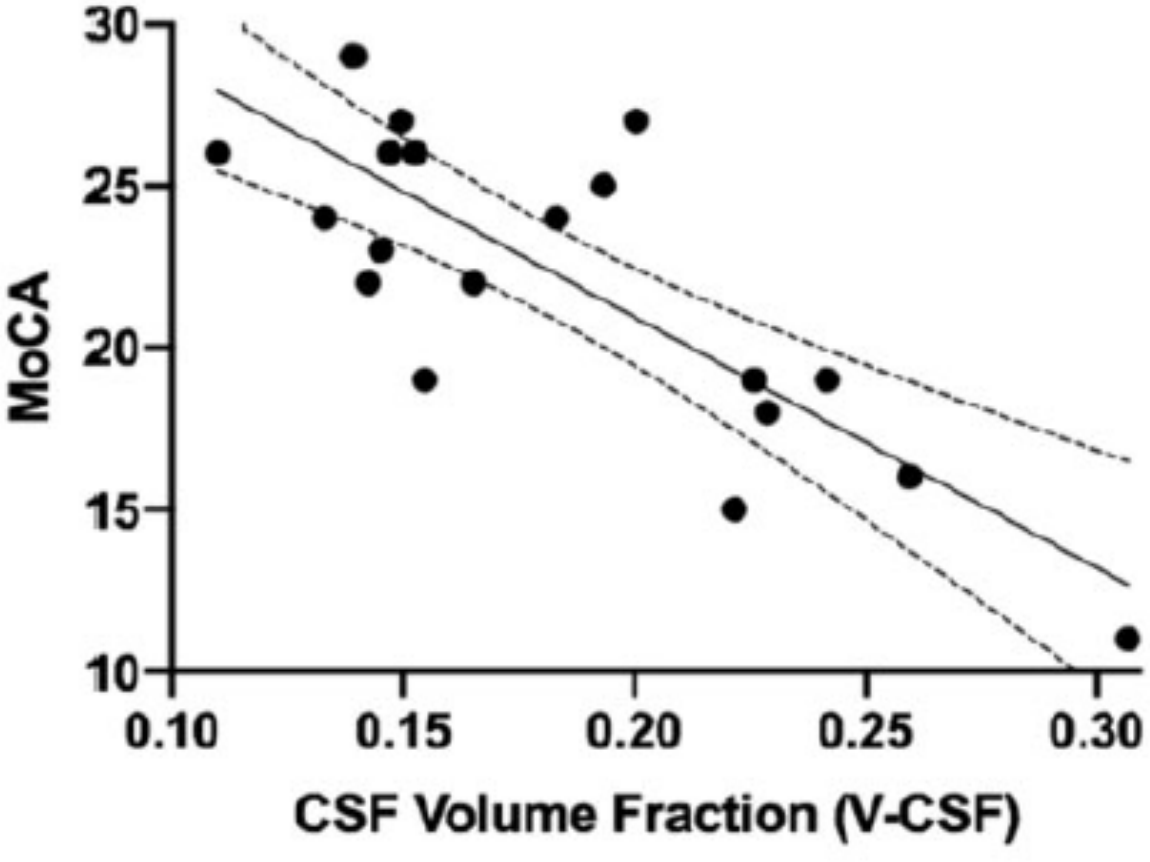
BRAIN
ORIGINAL ARTICLE

Widespread white matter oedema in subacute COVID-19 patients with neurological symptoms

Alexander Rau,[1,†] Nils Schroeter,[2,†] Ganna Blazhenets,[3] Andrea Dressing,[2,4] Lea I. Walter,[2] Elias Kellner,[5] Tobias Bormann,[2,4] Hansjörg Mast,[1] Dirk Wagner,[6] Horst Urbach,[1] Cornelius Weiller,[2,4] Philipp T. Meyer,[3] Marco Reisert[5,7] and Jonas A. Hosp[2]






30
25
20
15
10
MoCA
0.10
0.15
0.20
0.25
0.30
CSF Volume Fraction (V-CSF)

Journal of Nuclear Medicine, published on February 17, 2022 as doi:10.2967/jnumed.121.263085

Molecular imaging findings on acute and long-term effects of COVID-19 on the brain: A systematic review

Philipp T. Meyer[1], Sabine Hellwig[2], Ganna Blazhenets[1] and Jonas A. Hosp[3]

- Quelques cas d'**encéphalite** per- ou post-Covid-19, avec des altérations métaboliques corticales et sous-corticales
- De rares cas de **syndrome parkinsonien** avec des altérations des noyaux gris centraux
- Altérations inconstantes pouvant être en lien avec l'**anosmie** (hypométabolisme orbitofrontal ou mésiotemporal)
- Quelques series d'"**encéphalopathies**" aiguës ou subaiguës : présence constante d'une "*frontoparietal-dominant neocortical dysfunction*" plutôt réversible
- Séries dans le **"syndrome post-Covid-19"** (fatigue, trb mnésiques, dyspnée, anosmie : présence inconstante d'hypométabolisme limbique et sous-cortical

Trends in
Molecular Medicine

CellPress

Review

Insights from myalgic encephalomyelitis/chronic fatigue syndrome may help unravel the pathogenesis of postacute COVID-19 syndrome

Anthony L. Komaroff[1,*] and W. Ian Lipkin[2,*]

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myalgic encephalomyelitis

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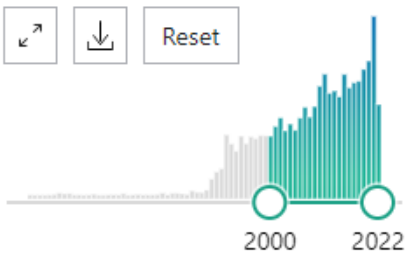
RESULTS BY YEAR



1

Cite

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Pain and **fatigue** in adults with Loeys-Dietz **syndrome** and vascular Ehlers-Danlos **syndrome**, a questionnaire-based study.

Heidi J, Gry V, Lidal IB.

Am J Med Genet A. 2022 Jun 10. doi: 10.1002/ajmg.a.62858. Online ahead of print.

PMID: 35686681

The purpose was to study self-reported **chronic** pain and **fatigue** symptoms among adults with molecularly verified Loeys-Dietz and vascular Ehlers-Danlos **syndrome** using a cross-sectional questionnaire design. ...**Chronic** pain was associated with higher sco ...

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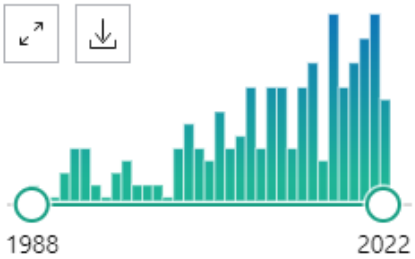
RESULTS BY YEAR



TEXT AVAILABILITY

1

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The Impact of COVID **Vaccination** on Symptoms of Long COVID: An International Survey of People with Lived Experience of Long COVID.

Strain WD, Sherwood O, Banerjee A, Van der Togt V, Hishmeh L, Rossman J.

Vaccines (Basel). 2022 Apr 21;10(5):652. doi: 10.3390/vaccines10050652.

PMID: 35632408 Free PMC article.

Basic demographics, range and severity of long COVID symptoms, before and after their **vaccine**, were surveyed. RESULTS: 900 people participated in the questionnaire, of whom 45 had pre-existing **myalgic encephalomyelitis** or **chronic fatigue synd** ...

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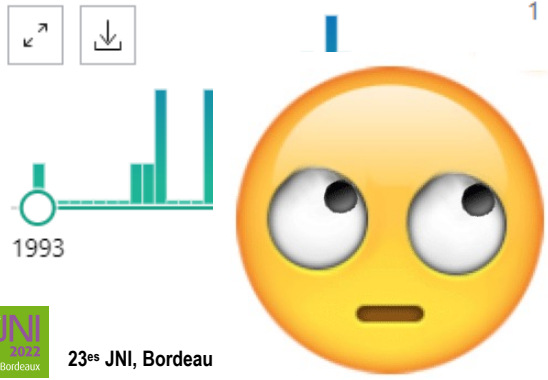

1 Macrophagic myofasciitis-associated dysfunctioning: An update of neuropsychological and neuroimaging features.

Aoun Sebaiti M, Abrivard M, Blanc-Durand P, Van Der Gucht A, Souvannanorath S, Kauv P, Gherardi RK, Itti E, Authier FJ.

Best Pract Res Clin Rheumatol. 2018 Oct;32(5):640-650. doi: 10.1016/j.berh.2019.04.003. Epub 2019 Apr 24.

PMID: 31203922 Review.

Macrophagic myofasciitis (MMF) **syndrome** is a subtype of autoimmune/inflammatory **syndrome**

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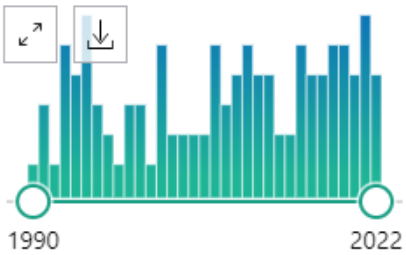
RESULTS BY YEAR



TEXT AVAILABILITY

1

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Incidence of **Lyme** disease in the United Kingdom and association with **fatigue**: A population-based, historical cohort study.

Brellier F, Pujades-Rodriguez M, Powell E, Mudie K, Mattos Lacerda E, Nacul L, Wing K.

PLoS One. 2022 Mar 23;17(3):e0265765. doi: 10.1371/journal.pone.0265765. eCollection 2022.

PMID: 35320297 Free PMC article.

BACKGROUND: Estimations of **Lyme** disease incidence rates in the United Kingdom vary. There is evidence that this disease is associated with **fatigue** in its early stage but reports are contradictory as far as long-term **fatigue** is concerned. ...Main outcome measu ...

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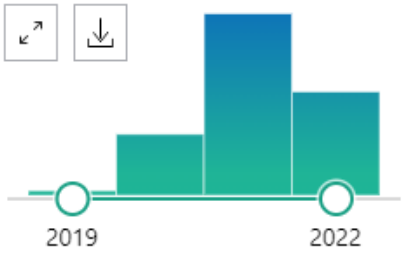
RESULTS BY YEAR



1 Clinical Features of Children with **COVID-19** Infection: Single-Center Experience.

Guler MA, Laloglu F, Orbak Z, Ceviz N, Islek A.

Cite

Eurasian J Med. 2022 Jun;54(2):173-180. doi: 10.5152/eurasianjmed.2022.21083.

PMID: 35703526

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MATERIALS AND METHODS: Patients aged 0-18 years who were hospitalized between March and July 2020 due to **severe acute respiratory syndrome coronavirus 2** infection were evaluated retrospectively. ...The source of infection was household tr ...

Expedited Publication, Original Article

Epidemiology, clinical profile, management, and outcome of COVID-19-associated rhino-orbital-cerebral mucormycosis in 2826 patients in India – Collaborative OPAI-IJO Study on Mucormycosis in COVID-19 (COSMIC), Report 1

Mrittika Sen, Santosh G Honavar, Rolika Bansal, Sabyasachi Sengupta[1], Raksha Rao[2], Usha Kim[3], Mukesh Sharma[4], Mahipal Sachdev[5], Ashok K Grover[6], Abhidnya Surve[7], Abhishek Budharapu[8], Abhishek K Ramadhin[9], Abhishek Kumar Tripathi[10], Adit Gupta[11], Aditya Bhargava[12], Animesh Sahu[13], Anjali Khairnar[14], Anju Kochar[15], Ankita Madhavani[16], Ankur K Shrivastava[17], Anuja K Desai[18], Anujeet Paul[19], Anuradha Ayyar[20], Aparna Bhatnagar[21], Aparna Singhal[22], Archana Sunil Nikose[23], Arun Bhargava[13], Arvind L Tenagi[24], Ashish Kamble[25], Ashiyana Nariani[26], Bhavin Patel[27], Bibbhuti Kashyap[28], Bodhraj Dhawan[29], Busaraben Vohra[30], Charuta Mandke[31], Chinmayee Thrishulamurthy[32], Chitra Sambare[33], Deepayan Sarkar[34], Devashi Shirishbhai Mankad[16], Dhwani Maheshwari[35], Dilip Lalwani[36], Dipti Kanani[16], Diti Patel[30], Fairooz P Manjandavida[37], Frenali Godhani[38], Garima Amol Agarwal[39], Gayatri Ravulaparthi[40],

Au 18 novembre 2021, en Inde :

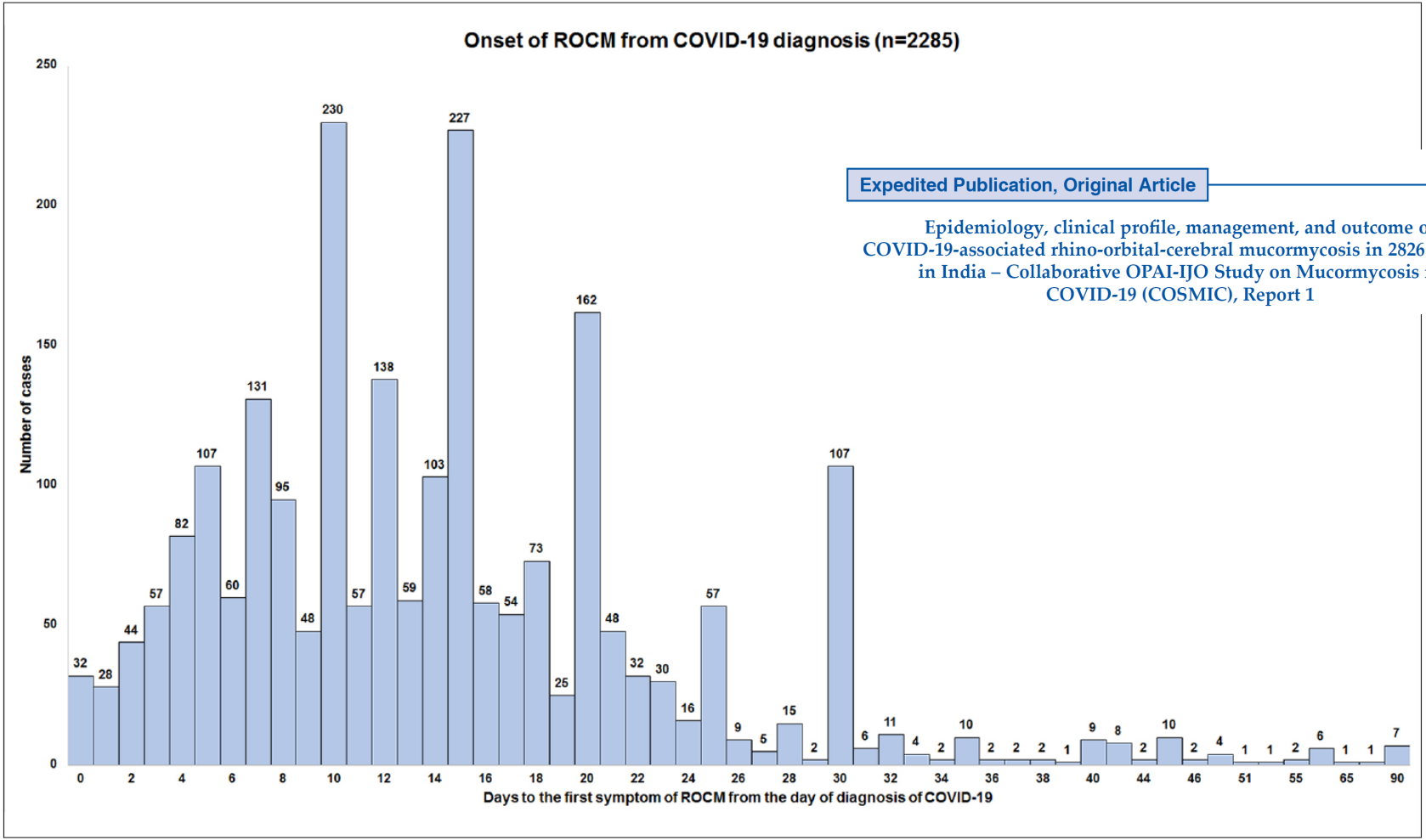
- 34 478 517 cas de COVID-19
  - *464 623 morts*
- 45 374 cas de mucormycose associée à une Covid-19
  - *4300 morts*

Neurological infections in 2021: a spotlight on India

*Ravindra Kumar Garg, Hardeep Singh Malhotra, Shweta Pandey
garg50@yahoo.com
Department of Neurology, King George Medical University, Uttar Pradesh, Lucknow PIN-226003, India

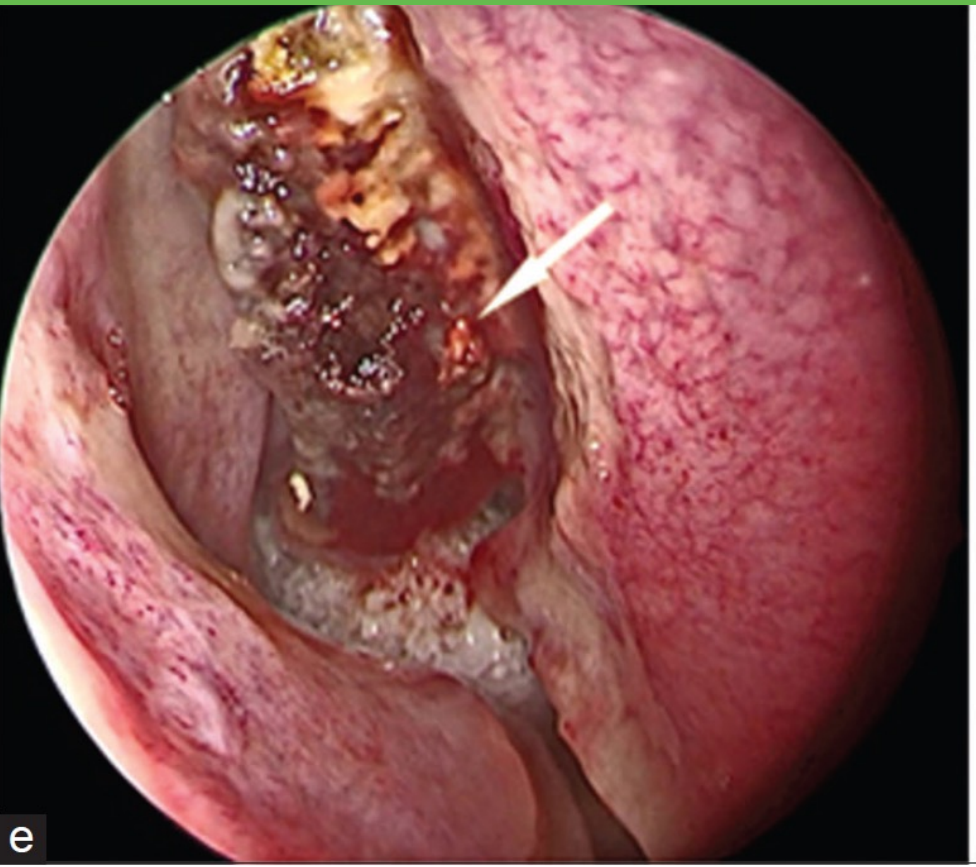
Analyses of COVID-19 treatment protocols used in India this year[4,5] showed that indiscriminate use of corticosteroids, poor control of hyperglycaemia (in people with known or newly diagnosed diabetes), impaired immunity, blanket use of antibiotics, high intake of zinc, prolonged hospital stay, use of industrial oxygen, and ventilators with defective humidifiers were associated with the outbreak of COVID-19-associated mucormycosis. Moreover, COVID-19-related complications, such as cytokine storm, associated

Janvier 2022



Expedited Publication, Original Article

Epidemiology, clinical profile, management, and outcome of COVID-19-associated rhino-orbital-cerebral mucormycosis in 2826 patients in India – Collaborative OPAI-IJO Study on Mucormycosis in COVID-19 (COSMIC), Report 1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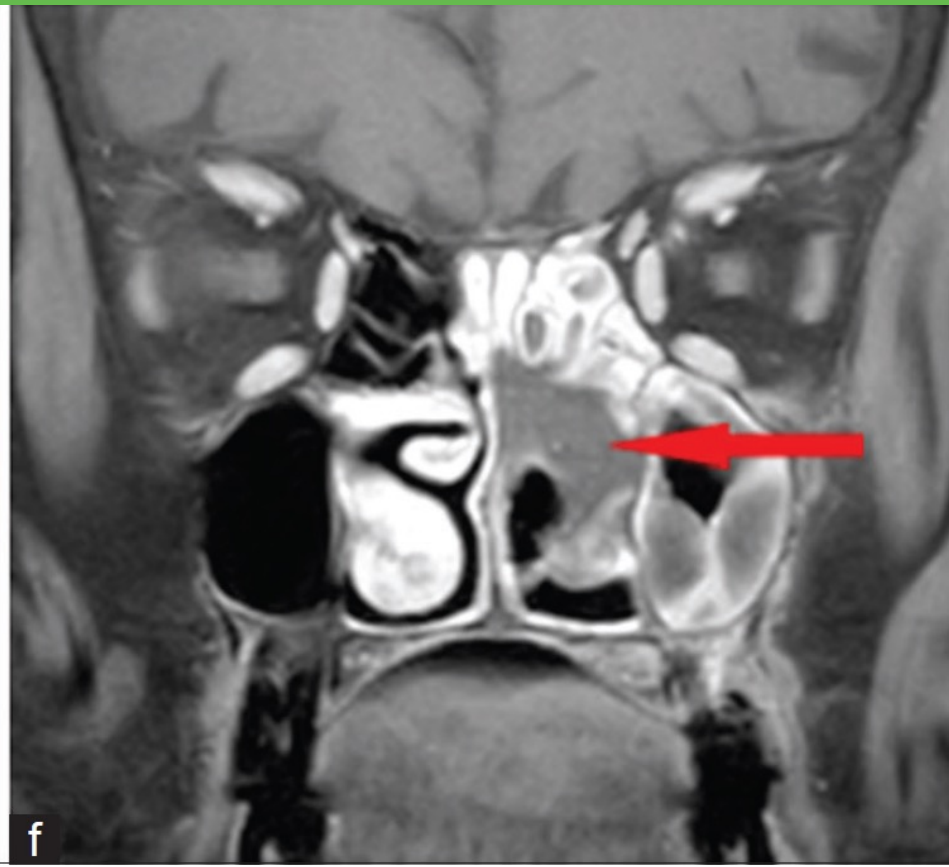
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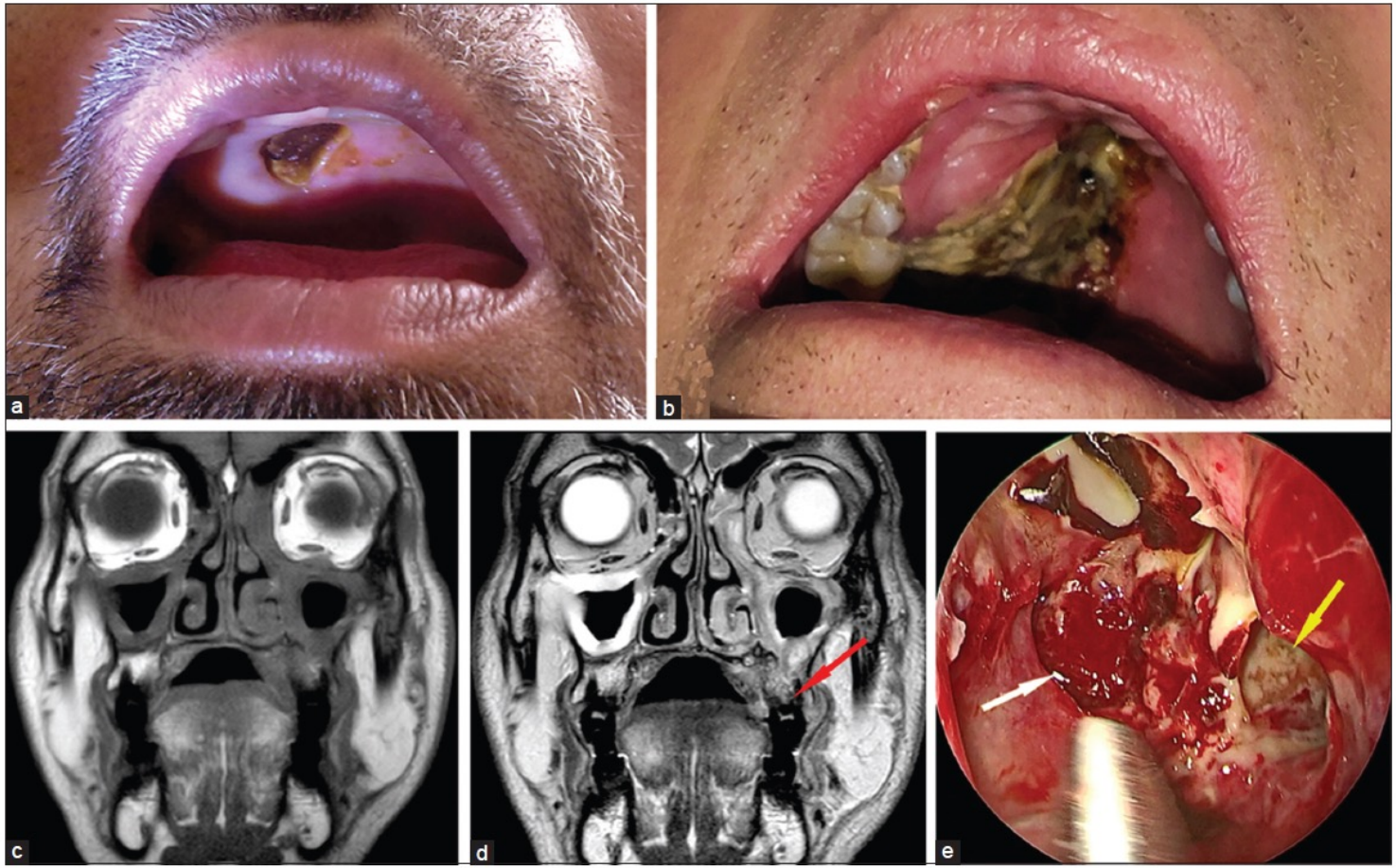
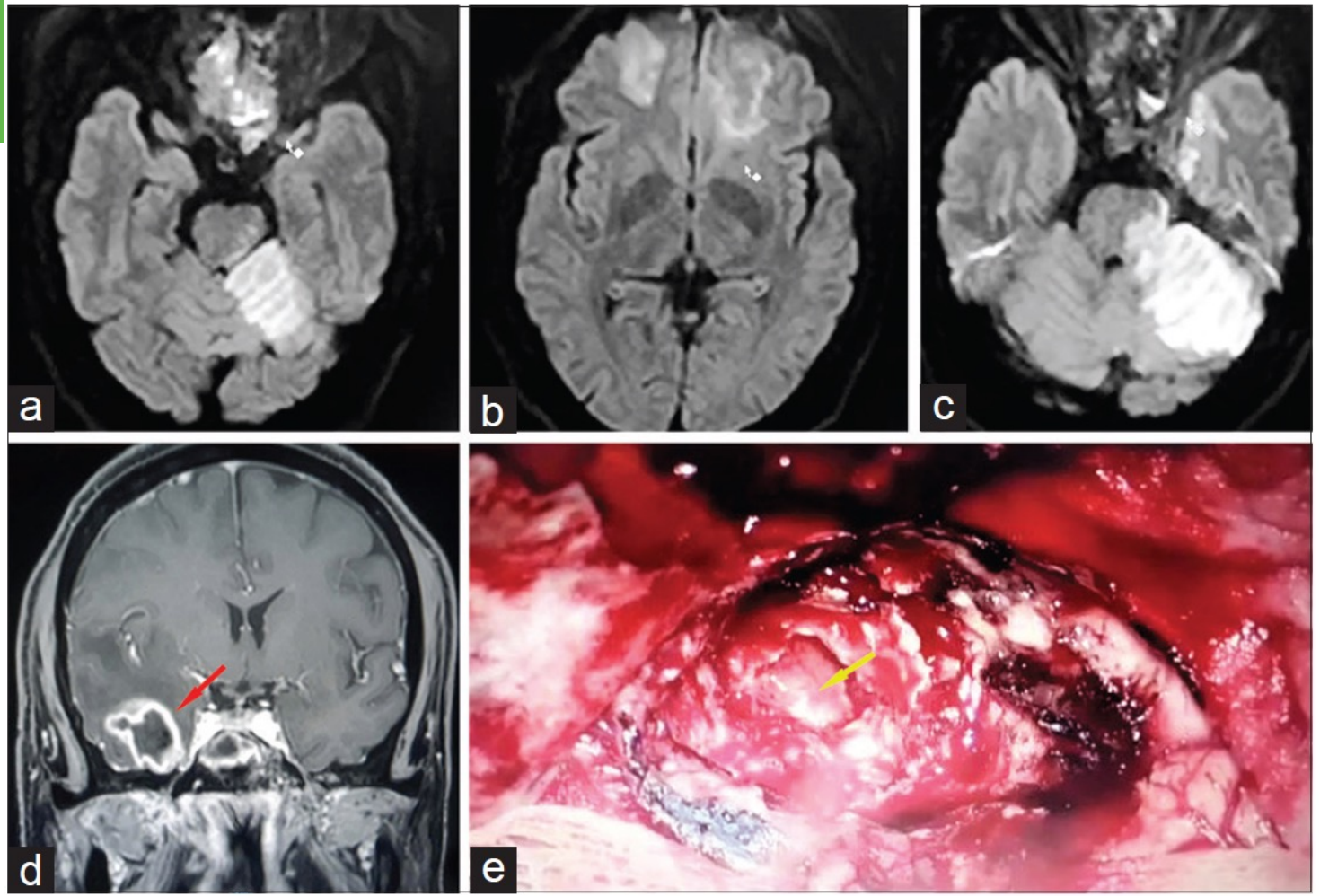


Figure 8: Stage 2c rhino-orbital-cerebral mucormycosis (a, b) Clinical photographs showing palatal involvement with a visible black eschar (c) Coronal MRI (T1) and (d) Coronal MRI (T2) of the orbit and paranasal sinuses showing mucosal thickening in >2 ipsilateral sinuses along with palatal involvement (red arrow) (e) Endoscopy picture showing necrosed tissue in left sphenoid sinus (white arrow) and left maxillary sinus (yellow arrow). (*Clinical images provided by Chinmayee T, MRI images by Ravi Varma, endoscopy image by Sandeep Karmarkar*)


a
b
c
d
e

Clinical Infectious Diseases
MAJOR ARTICLE

Preliminary In Vivo Evidence of Reduced Synaptic Density in Human Immunodeficiency Virus (HIV) Despite Antiretroviral Therapy

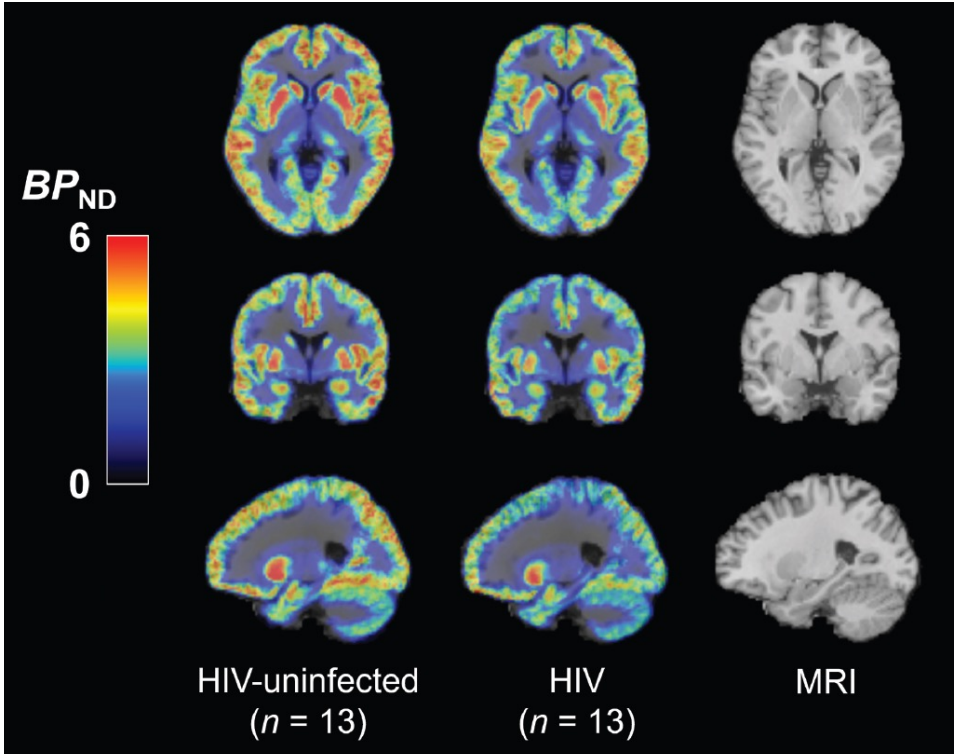
Julian J. Weiss,[1] Rachela Calvi,[1] Mika Naganawa,[2] Takuya Toyonaga,[2] Shelli F. Farhadian,[1,3] Michelle Chintanaphol,[1] Jennifer Chiarella,[1] Ming-Qiang Zheng,[2] Jim Ropchan,[2] Yiyun Huang,[2] Robert H. Pietrzak,[4,5] Richard E. Carson,[2] and Serena Spudich[1]

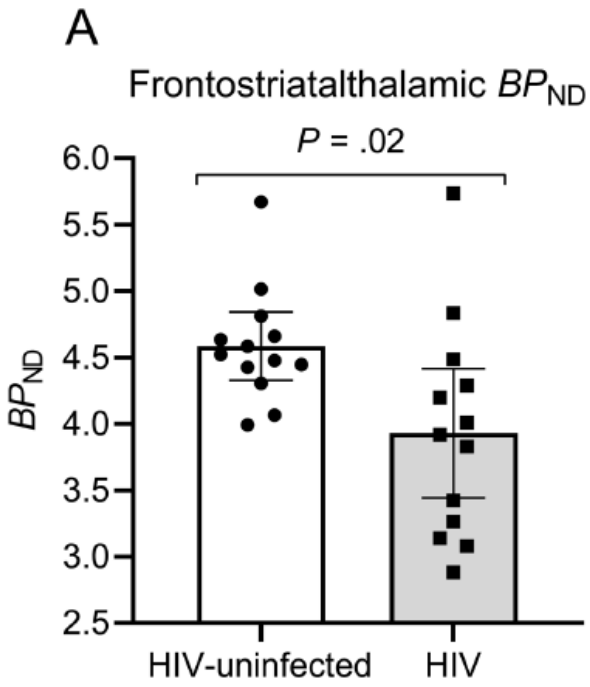
[1]Department of Neurology, Yale School of Medicine, New Haven, Connecticut, USA; [2]Department of Radiology and Biomedical Imaging, Yale School of Medicine, New Haven, Connecticut, USA; [3]Department of Medicine, Section of Infectious Diseases, Yale School of Medicine, New Haven, Connecticut, USA; [4]Department of Psychiatry, Yale School of Medicine, New Haven, Connecticut, USA; and [5]US Department of Veteran Affairs National Center for Posttraumatic Stress Disorder, Clinical Neurosciences Division, VA Connecticut Healthcare System, West Haven, Connecticut, USA

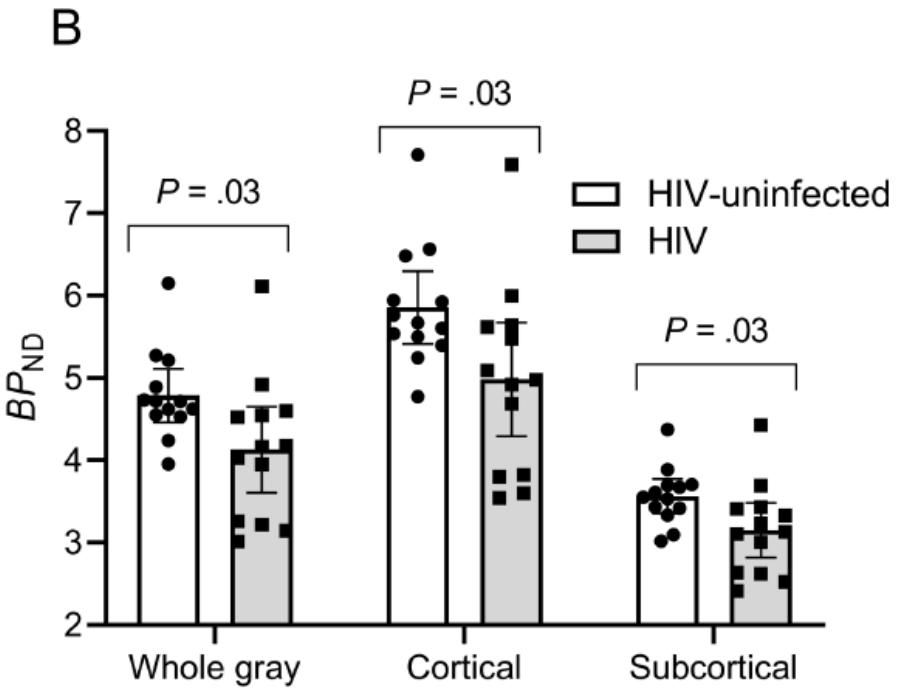
Table 1. Demographics and Clinical Characteristics of Participants

	HIV (n = 13)	HIV-uninfected Participants (n = 13)
Demographic characteristic		
Male sex, no. (%)	13 (100)	13 (100)
Age, mean (SD), y	59.8 (5.1)	57.3 (6.8)
Non-White race, no. (%)	10 (77)	4 (31)
HIV-specific characteristic		
$CD4^+$ T cells, median (IQR), cells/μL	689 (504, 865)	
$CD4^+/CD8^+$ ratio, mean (SD)	1.01 (0.44)	
$CD4^+$ nadir, median (IQR), cells/μL[c]	188 (83, 448)	
Plasma HIV RNA < 20 copies/mL, no. (%)	11 (85)	
CSF HIV RNA < 20 copies/mL, no. (%)[d]	9 (75)	
CSF white blood cells, mean (SD), cells/μL[d]	3.8 (3.6)	
CSF protein, mean (SD), mg/dL[d]	41 (20)	

Détection de la *synaptic vesical protein 2A (SV2A)* par tomodensitométrie à émission de positons




A
Frontostriatalthalamic BP_{ND}
P = .02
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
BP_{ND}
HIV-uninfected
HIV


B
P = .03
P = .03
P = .03
8
7
6
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4
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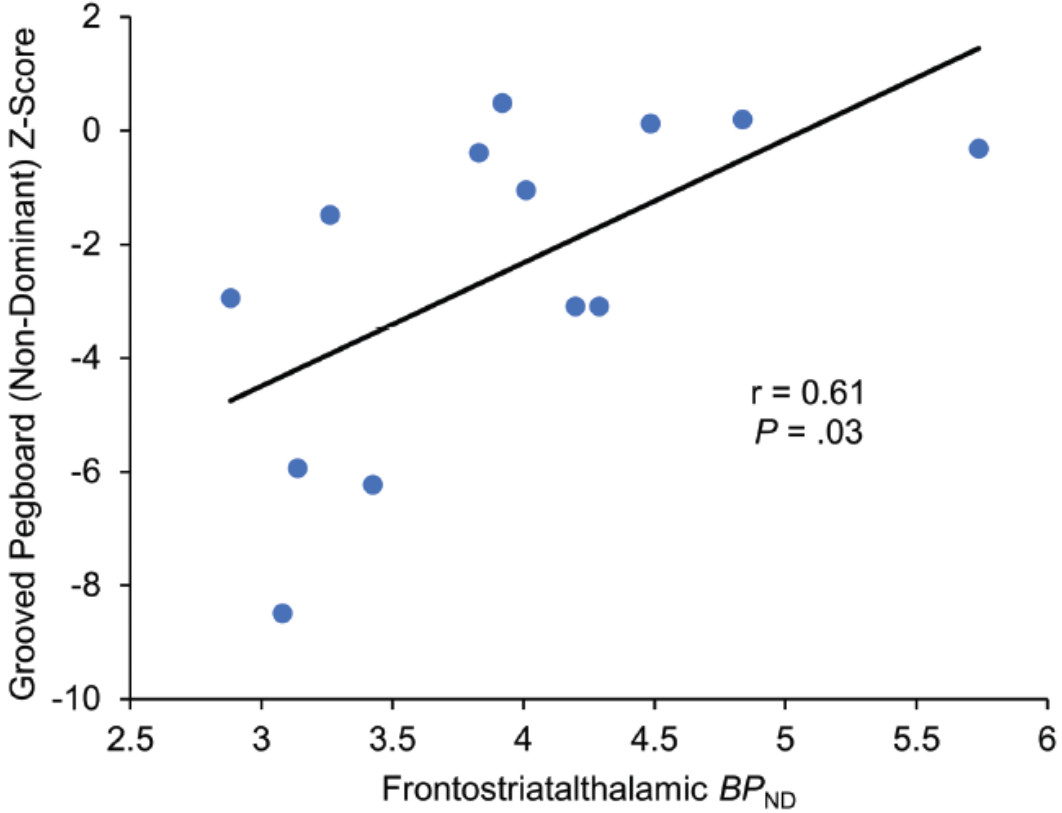
2
BP_{ND}
HIV-uninfected
HIV
Whole gray
Cortical
Subcortical

Grooved pegboard test



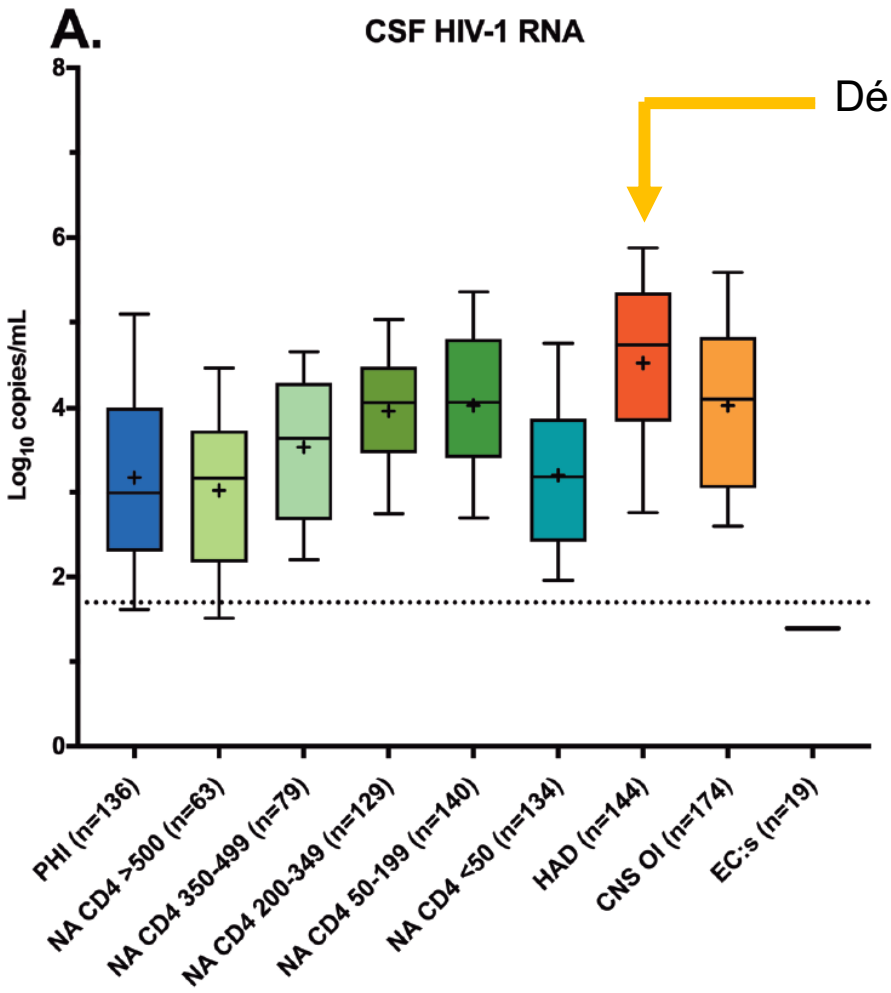
Clinical Infectious Diseases

MAJOR ARTICLE

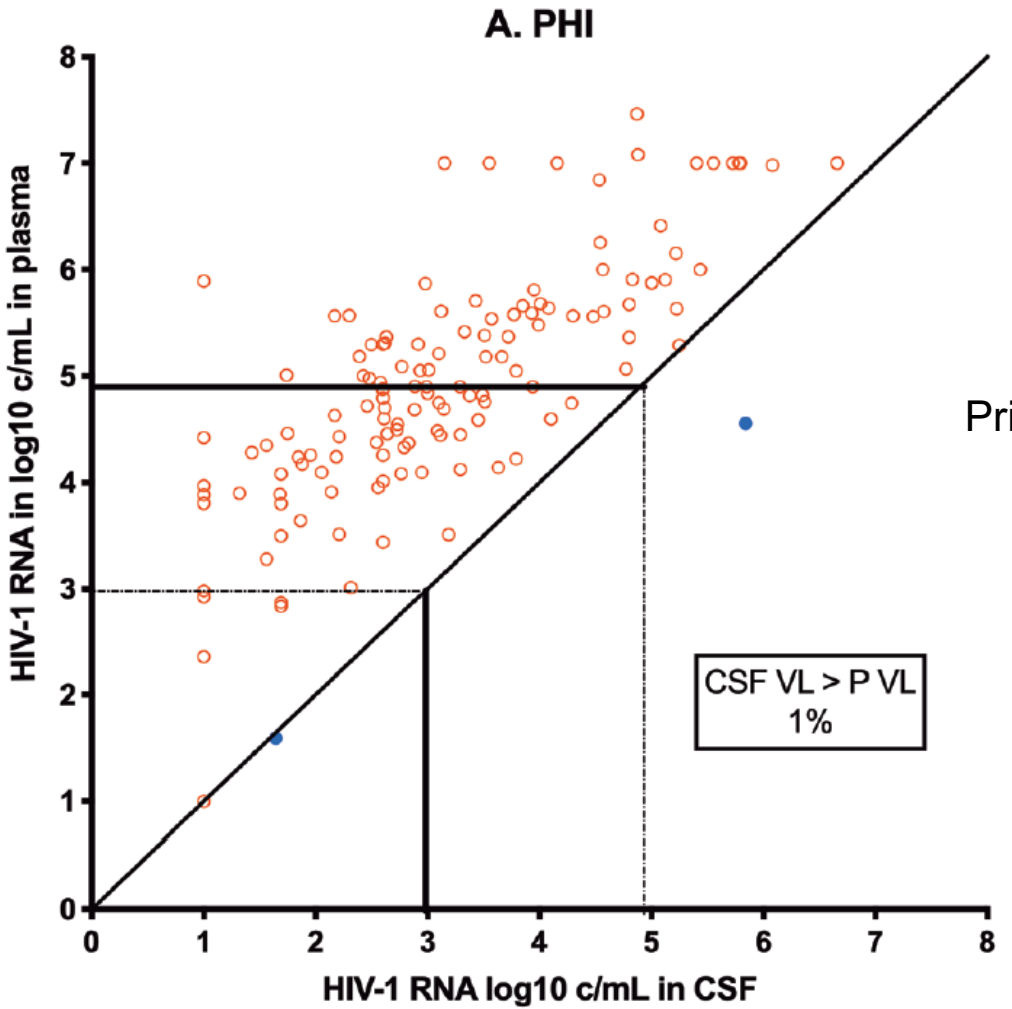
Cerebrospinal Fluid Viral Load Across the Spectrum of Untreated Human Immunodeficiency Virus Type 1 (HIV-1) Infection: A Cross-Sectional Multicenter Study

Gustaf Ulfhammer,[1,2] Arvid Edén,[1,2] Andrea Antinori,[3] Bruce J. Brew,[4] Andrea Calcagno,[5] Paola Cinque,[6] Valentina De Zan,[6] Lars Hagberg,[1,2] Amy Lin,[7] Staffan Nilsson,[8] Cristiana Oprea,[9] Carmela Pinnetti,[3] Serena Spudich,[10] Mattia Trunfio,[5] Alan Winston,[11] Richard W Price,[12] and Magnus Gisslén,[1,2]

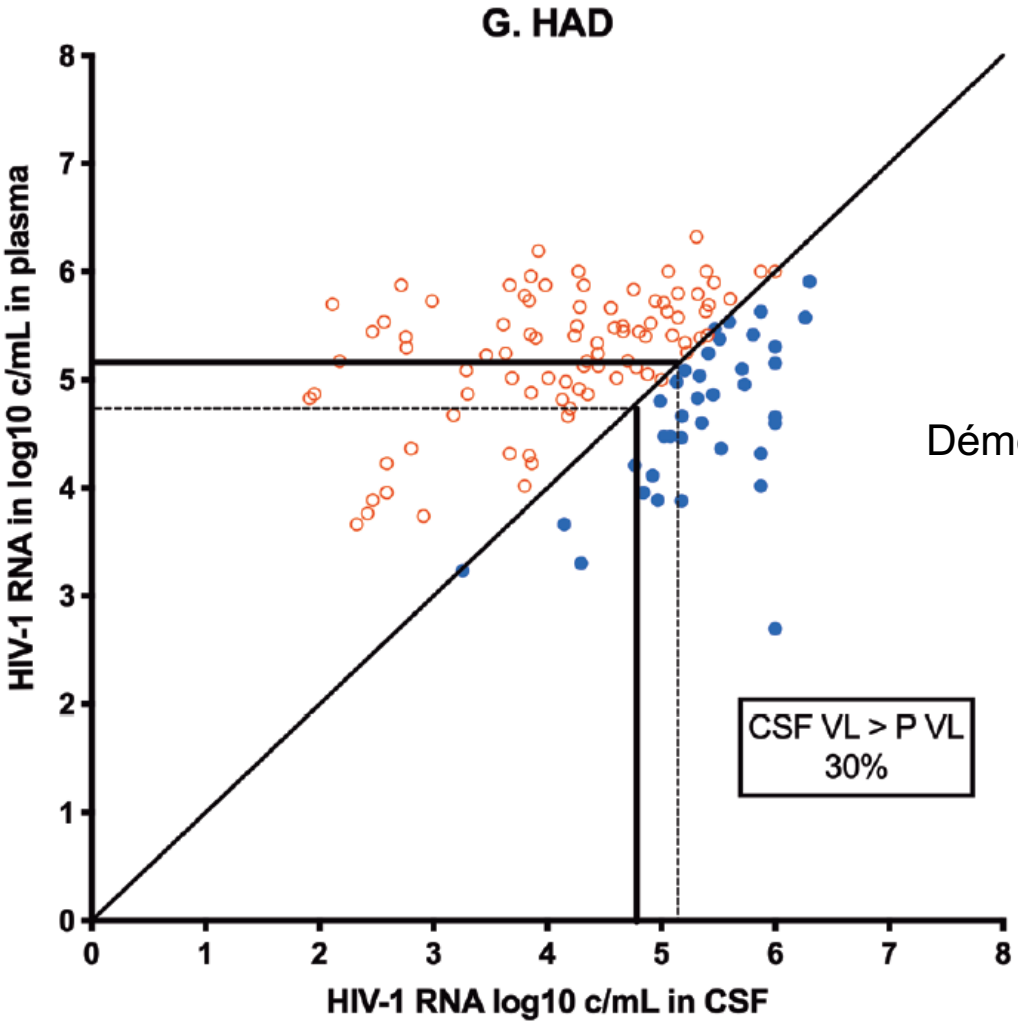
[1]Department of Infectious Diseases, Institute of Biomedicine, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden; [2]Region Västra Götaland, Sahlgrenska University Hospital, Department of Infectious Diseases, Gothenburg, Sweden; [3]National Institute of Infectious Diseases L. Spallanzani, Rome, Italy; [4]Departments of Neurology and Immunology, Peter Duncan Neurosciences Unit St Vincent's Centre for Applied Medical Research, St Vincent's Hospital, University of New South Wales and University of Notre Dame, Australia; [5]Unit of Infectious Diseases, Department of Medical Sciences, University of Torino, Torino, Italy; [6]Scientific Institute San Raffaele, Milan, Italy; [7]Stanford University School of Medicine, Department of Biomedical Data Science, Palo Alto, California, USA; [8]Mathematical Sciences, Chalmers University of Technology, Gothenburg, Sweden; [9]Carol Davila University of Medicine and Pharmacy, Victor Babes Clinical Hospital for Infectious and Tropical Diseases, Bucharest, Romania; [10]Yale University, New Haven, Connecticut, USA; [11]Imperial College, London, United Kingdom; and [12]University of California at San Francisco, San Francisco, California, USA



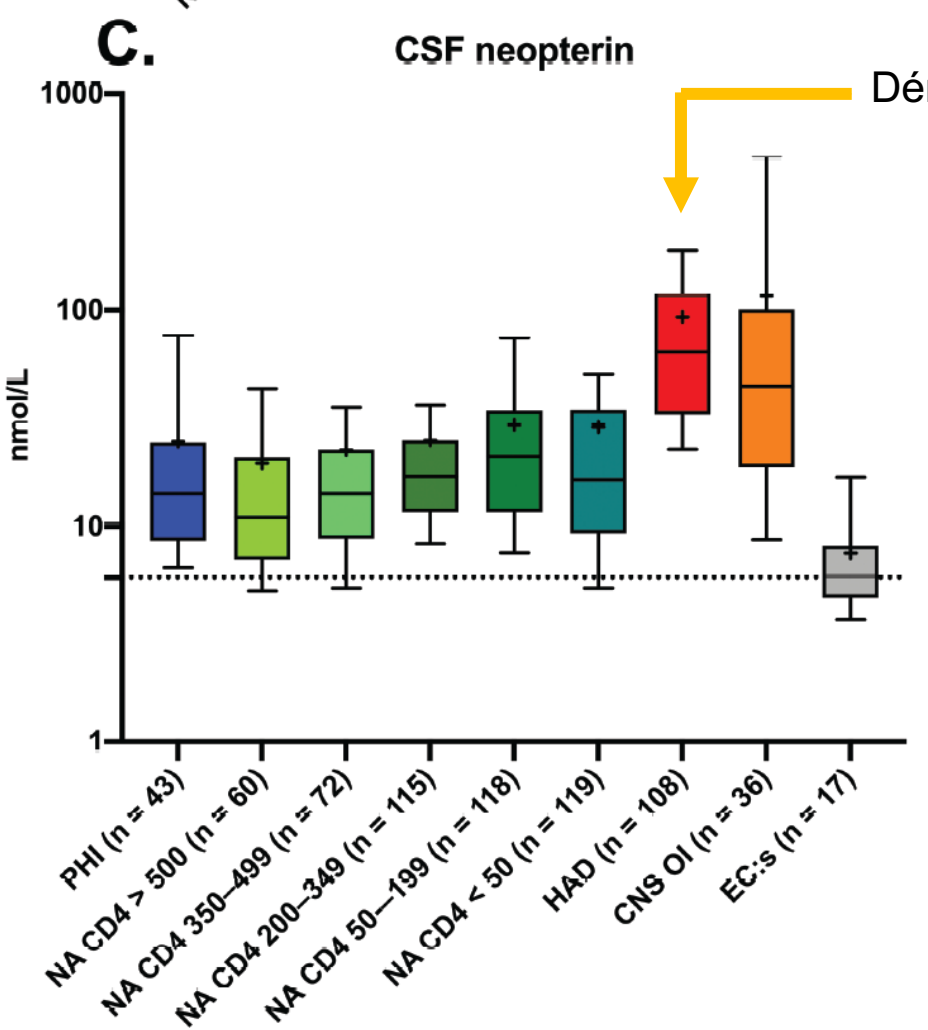
Démence associée au VIH



Primo-infection



Démence associée au VIH


C.
CSF neopterin
Démence associée au VIH
1000
100
10
1
nmol/L
PHI (n = 43)
NA CD4 > 500 (n = 60)
NA CD4 350–499 (n = 72)
NA CD4 200–349 (n = 115)
NA CD4 50–199 (n = 118)
NA CD4 < 50 (n = 119)
HAD (n = 108)
CNS OI (n = 36)
EC:s (n = 17)

Clinical Infectious Diseases

MAJOR ARTICLE

Herpes Simplex Virus 2 Meningitis in Adults: A Prospective, Nationwide, Population-Based Cohort Study

Anna Jakobsen,[1,a] Marie Thaarup Skov,[1,a] Lykke Larsen,[2,3] Pelle Trier Petersen,[4] Christian Brandt,[4,5] Lothar Wiese,[5] Birgitte Rønde Hansen,[6] Hans Rudolf Lüttichau,[7] Malte Mose Tetens,[8] Jannik Helweg-Larsen,[8] Merete Storgaard,[9] Henrik Nielsen,[1,10] and Jacob Bodilsen[1,10]; for the DASGIB study group

[1]Department of Infectious Diseases, Aalborg University Hospital, Aalborg, Denmark; [2]Research Unit for Infectious Diseases, Odense University Hospital, Odense, Denmark; [3]University of Southern Denmark, Odense, Denmark; [4]Department of Pulmonary and Infectious Diseases, Nordsjællands Hospital, Hillerød, Denmark; [5]Department of Infectious Diseases, Sjælland University Hospital, Roskilde, Denmark; [6]Department of Infectious Diseases, Hvidovre University Hospital, Hvidovre, Denmark; [7]Department of Medicine and Infectious Diseases, Herlev Gentofte Hospital, Copenhagen, Denmark; [8]Department of Infectious Diseases, Rigshospitalet, Copenhagen, Denmark; [9]Department of Infectious Diseases, Aarhus University Hospital, Aarhus, Denmark; and [10]Department of Clinical Medicine, Aalborg University, Aalborg, Denmark

- **205 épisodes chez 191 patients**
  - 76% de femmes, âge médian 35 ans
  - 31% avec un antécédent de méningite virale
  - 9% d'immunodéprimés
- **Clinique :**
  - Céphalées 94%
  - « *History of fever* » : 76%
  - Raideur de nuque 54%
- **96% ont reçu du (val)aciclovir**
  - Pendant une médiane de 10 jours (16% uniquement par voie orale)

Table 3. Outcome in 205 Adult Patients With Herpes Simplex Virus 2 Meningitis Diagnosed at Danish Departments of Infectious Diseases, 2015–2020

Outcome by GOS or GOSE Score	Patients, No./Total No. Assessed (%) by Time of Outcome Assessment			
	Discharge	1 mo	3 mo	6 mo
GOS score				
1 (Dead)				
2 (Vegetative state)				
3 (Severe disability)				
4 (Moderate disability)				
5 (Good recovery)				
GOSE score				
1 (Dead)				
2 (Vegetative state)				
3 (Lower severe disability)				
4 (Upper severe disability)				
5 (Lower moderate disability)				
6 (Upper moderate disability)				
7 (Lower good recovery)				
8 (Upper good recovery)				

Abbreviations: GOS, Glasgow Outcome Scale; GOSE, Extended GOS.

Table 3. Outcome in 205 Adult Patients With Herpes Simplex Virus 2 Meningitis Diagnosed at Danish Departments of Infectious Diseases, 2015–2020

Outcome by GOS or GOSE Score	Patients, No./Total No. Assessed (%) by Time of Outcome Assessment			
	Discharge	1 mo	3 mo	6 mo
GOS score				
1 (Dead)	0	0	0	0
2 (Vegetative state)	0	0	0	0
3 (Severe disability)	1/205 (0.5)	1/197 (0.5)	1/192 (0.5)	1/181 (0.6)
4 (Moderate disability)	62/205 (30)	43/197 (22)	35/192 (18)	18/181 (10)
5 (Good recovery)	142/205 (69)	153/197 (78)	156/192 (81)	162/181 (90)
GOSE score				
1 (Dead)	0	0	0	0
2 (Vegetative state)	0	0	0	0
3 (Lower severe disability)	1/197 (0.5)	1/190 (0.5)	1/183 (0.6)	1/178 (0.6)
4 (Upper severe disability)	0	0	0	0
5 (Lower moderate disability)	23/197 (12)	10/190 (5)	6/183 (3)	3/178 (2)
6 (Upper moderate disability)	33/197 (17)	29/190 (15)	20/183 (11)	8/178 (4)
7 (Lower good recovery)	72/197 (37)	74/190 (39)	65/183 (36)	65/178 (37)
8 (Upper good recovery)	68/197 (35)	76/190 (40)	91/183 (50)	101/178 (57)

Abbreviations: GOS, Glasgow Outcome Scale; GOSE, Extended GOS.

Table 5. Adjusted Analyses of Prognostic Factors for Unfavorable Outcome Among 205 Adult Patients With Herpes Simplex Virus 2 Meningitis Diagnosed at Danish Departments of Infectious Diseases[a]

	RR (95% CI)	
Prognostic Factors	Crude	Adjusted[b]
Sex		
Male	Reference	Reference
Female	1.12 (.68–1.85)	1.08 (.65–1.79)
Age, y		
<35	Reference	Reference
≥35	1.33 (.88–2.01)	1.28 (.83–1.97)
Immunocompromise[c]		
No	Reference	Reference
Yes	1.20 (.64–2.25)	1.07 (.57–2.03)
CSF leukocyte count, ×10 × 6/L		
0–99	Reference	Reference
100–499	0.94 (.53–1.66)	1.00 (.56–1.77)
500–999	0.74 (.38–1.45)	0.81 (.41–1.62)
≥1000	0.73 (.31–1.71)	0.78 (.33–1.84)

Abbreviations: CI, confidence interval; CSF, cerebrospinal fluid; RR, relative risk.

1 result(s) found for: meningitis AND hsv-2. Displaying page 1 of 1.

EudraCT Number: 2020-000033-41 **Sponsor Protocol Number:** AMEN1 **Start Date*:** 2020-02-17

Sponsor Name: Aalborg University Hospital

Full Title: Aciclovir for HSV-2 meningitis: A double-blind randomised controlled trial (AMEN)

Medical condition: Viral meningitis caused by Herpes simplex virus 2

Disease:	Version	SOC Term	Classification Code	Term	Level
	21.1	100000004862	10047469	Viral meningitis	LLT

Population Age: Adults **Gender:** Male, Female

Trial protocol: DK *(Ongoing)*

Trial results: *(No results available)*

www.clinicaltrialsregister.eu

Méningite tuberculeuse et dose de rifampicine

Travaux antérieurs :

- **10 mg/kg : faibles taux dans le LCS**
- **Intérêt d'une dose plus élevée**
  - 13 mg/kg/j IV : amélioration de la survie
  - 15 mg/kg/j PO : pas d'amélioration de la survie
- **Méta-analyse (sur 3 études) :**
  - Association entre concentration sérique de rifampicine et survie

Clinical Infectious Diseases

MAJOR ARTICLE

High-Dose Oral and Intravenous Rifampicin for the Treatment of Tuberculous Meningitis in Predominantly Human Immunodeficiency Virus (HIV)-Positive Ugandan Adults: A Phase II Open-Label Randomized Controlled Trial

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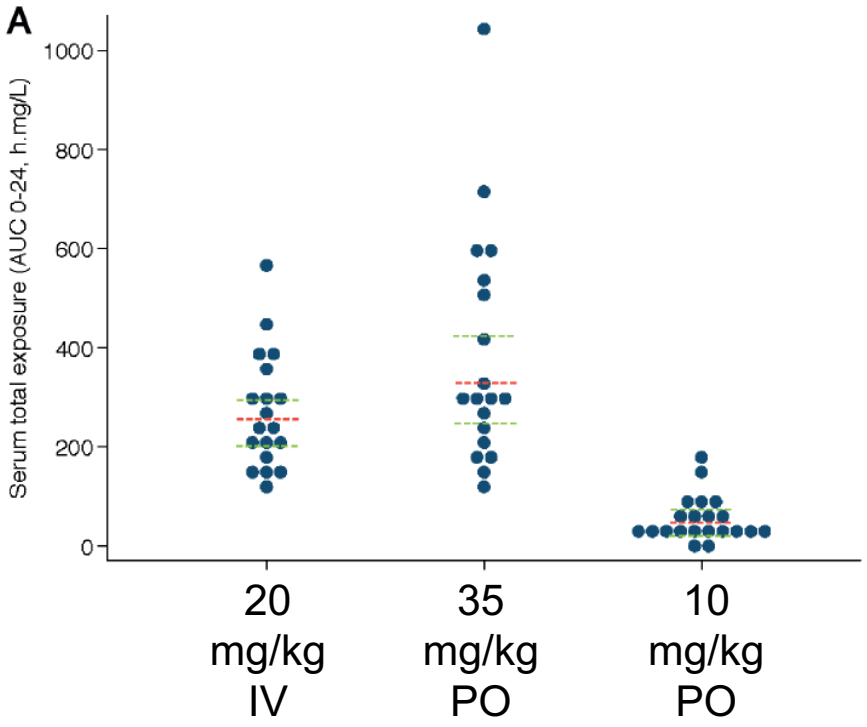
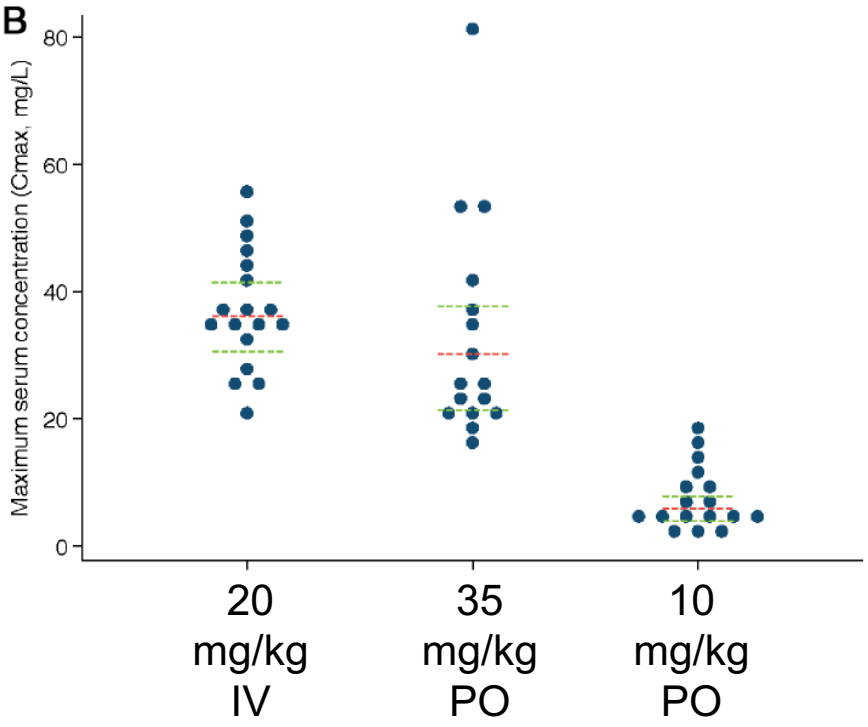
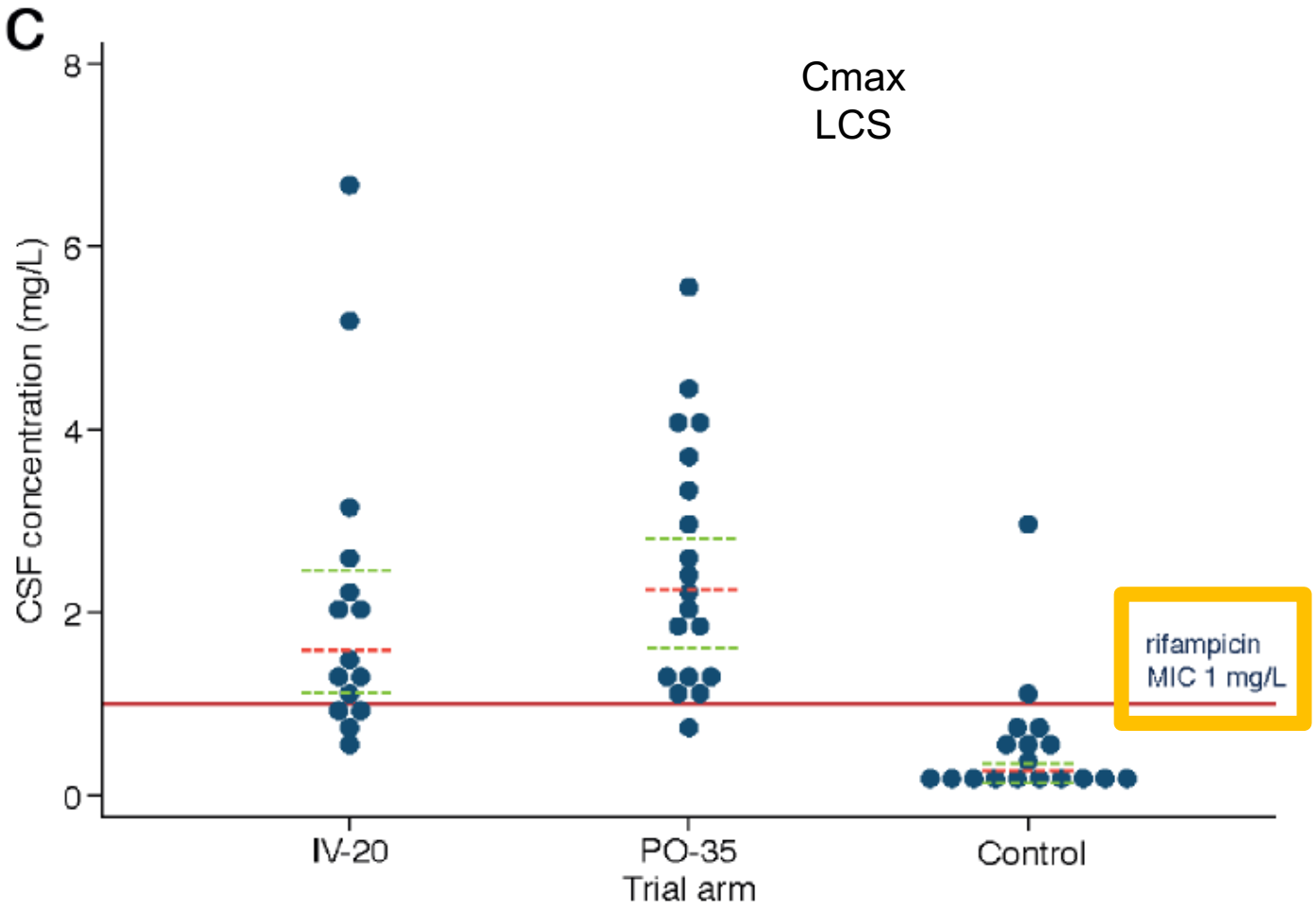
- **61 participants dont 56 VIH+; 3 doses de rifampicine :**
  - N=21 : 10 mg/kg/j PO
  - N=20 : 20 mg/kg/J IV
  - N=20 : 35 mg/kg/J PO
- **+** isoniazide, pyrazinamide, éthambutol, et corticoïdes

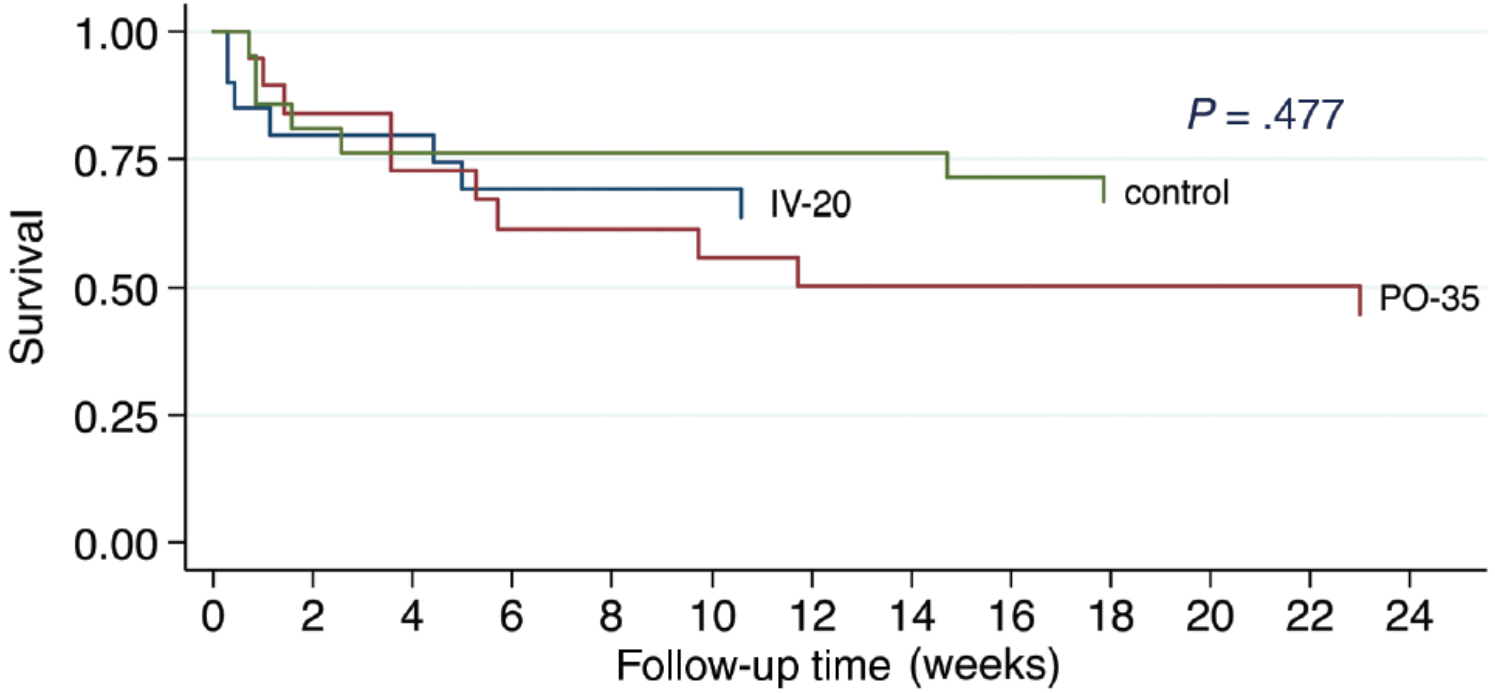
Aire sous la courbe plasma

Cmax plasma






C
Cmax
LCS
CSF concentration (mg/L)
8
6
4
2
0
rifampicin
MIC 1 mg/L
IV-20
PO-35
Control
Trial arm



Number at risk

IV-20	20	14	13	12	12	12
PO-35	20	13	10	9	9	8
control	21	16	16	15	14	14

Hospital-treated infectious diseases and the risk of dementia: a large, multicohort, observational study with a replication cohort

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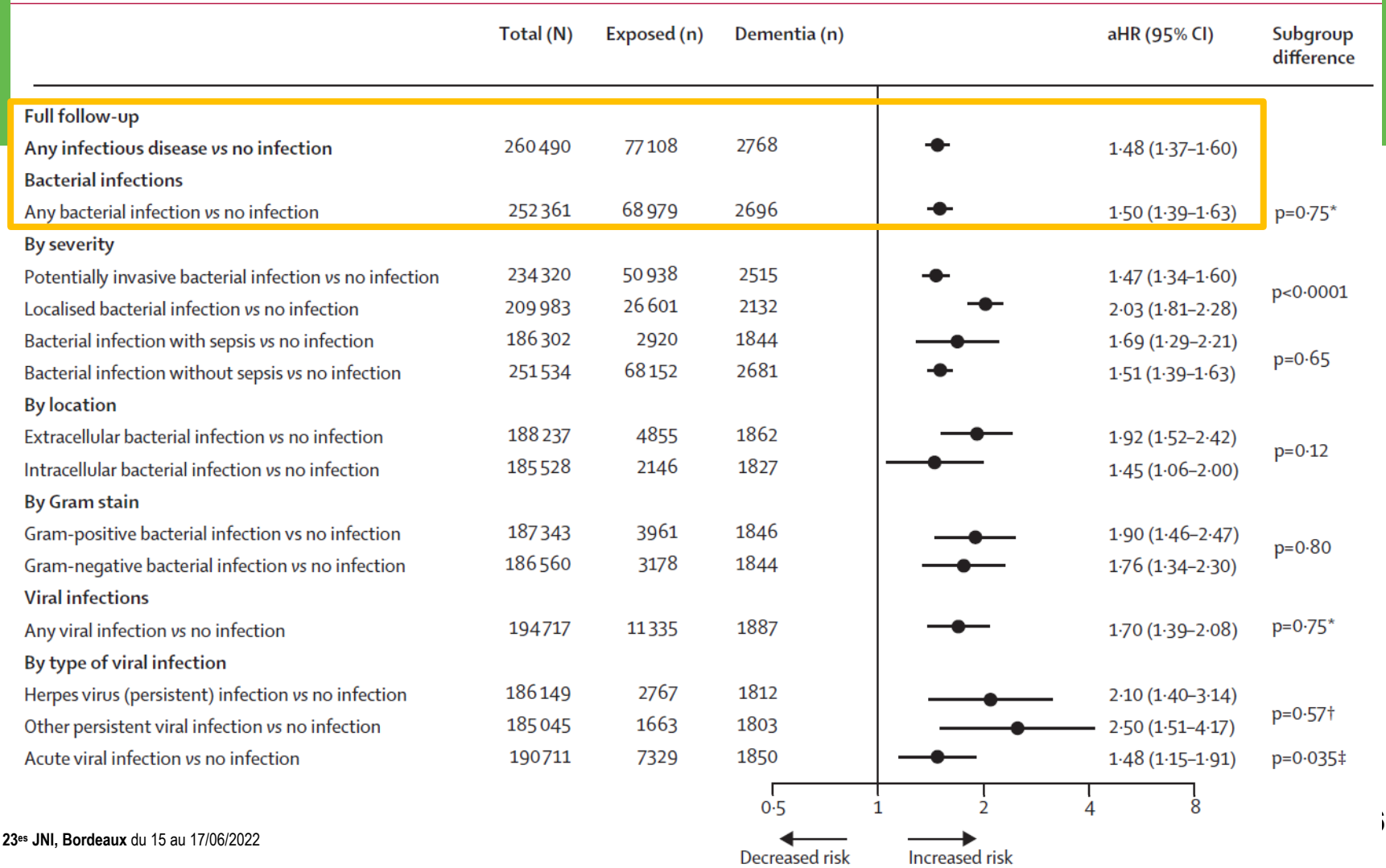
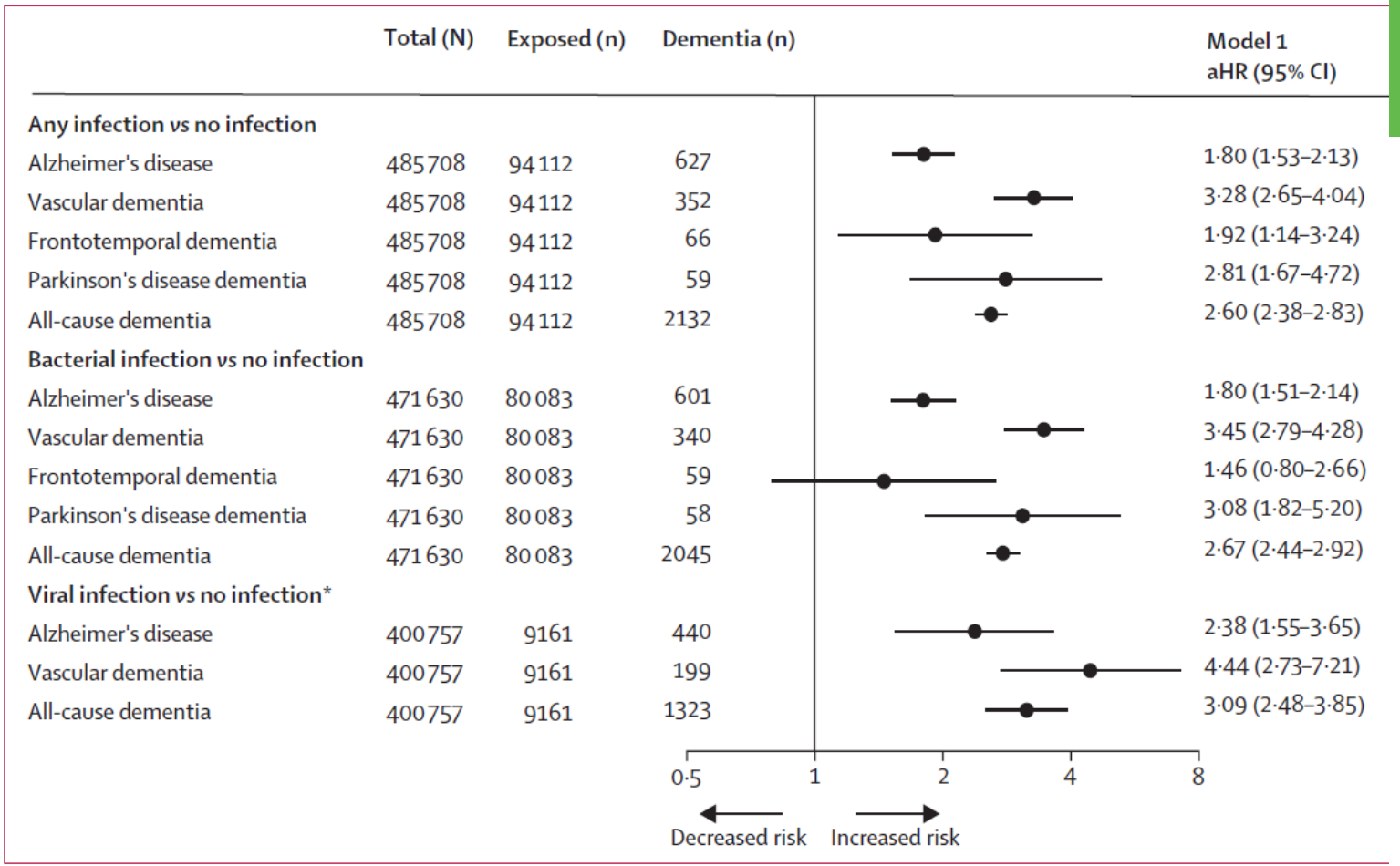
2 cohortes :

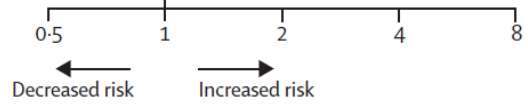
- **1986-2005 : 260 490 personnes, suivi médian 15 ans**
  - 77 108 ont au moins une infection motivant une hospitalisation (avant tout diagnostic de démence)
  - 2 768 développent une démence
- **2006-2010 : 485 708 personnes, suivi médian 8 ans**
  - 2 132 développent une démence


Total (N)
Exposed (n)
Dementia (n)
aHR (95% CI)
Subgroup difference
Full follow-up
Any infectious disease vs no infection
260 490
77 108
2768
1·48 (1·37–1·60)
Bacterial infections
Any bacterial infection vs no infection
252 361
68 979
2696
1·50 (1·39–1·63)
p=0·75*
By severity
Potentially invasive bacterial infection vs no infection
234 320
50 938
2515
1·47 (1·34–1·60)
Localised bacterial infection vs no infection
209 983
26 601
2132
2·03 (1·81–2·28)
p<0·0001
Bacterial infection with sepsis vs no infection
186 302
2920
1844
1·69 (1·29–2·21)
Bacterial infection without sepsis vs no infection
251 534
68 152
2681
1·51 (1·39–1·63)
p=0·65
By location
Extracellular bacterial infection vs no infection
188 237
4855
1862
1·92 (1·52–2·42)
Intracellular bacterial infection vs no infection
185 528
2146
1827
1·45 (1·06–2·00)
p=0·12
By Gram stain
Gram-positive bacterial infection vs no infection
187 343
3961
1846
1·90 (1·46–2·47)
Gram-negative bacterial infection vs no infection
186 560
3178
1844
1·76 (1·34–2·30)
p=0·80
Viral infections
Any viral infection vs no infection
194 717
11 335
1887
1·70 (1·39–2·08)
p=0·75*
By type of viral infection
Herpes virus (persistent) infection vs no infection
186 149
2767
1812
2·10 (1·40–3·14)
Other persistent viral infection vs no infection
185 045
1663
1803
2·50 (1·51–4·17)
p=0·57†
Acute viral infection vs no infection
190 711
7329
1850
1·48 (1·15–1·91)
p=0·035‡
0·5
1
2
4
8
Decreased risk
Increased risk


Total (N)
Exposed (n)
Dementia (n)
Model 1
aHR (95% CI)
Any infection vs no infection
Alzheimer's disease 485 708 94 112 627 1·80 (1·53–2·13)
Vascular dementia 485 708 94 112 352 3·28 (2·65–4·04)
Frontotemporal dementia 485 708 94 112 66 1·92 (1·14–3·24)
Parkinson's disease dementia 485 708 94 112 59 2·81 (1·67–4·72)
All-cause dementia 485 708 94 112 2132 2·60 (2·38–2·83)
Bacterial infection vs no infection
Alzheimer's disease 471 630 80 083 601 1·80 (1·51–2·14)
Vascular dementia 471 630 80 083 340 3·45 (2·79–4·28)
Frontotemporal dementia 471 630 80 083 59 1·46 (0·80–2·66)
Parkinson's disease dementia 471 630 80 083 58 3·08 (1·82–5·20)
All-cause dementia 471 630 80 083 2045 2·67 (2·44–2·92)
Viral infection vs no infection*
Alzheimer's disease 400 757 9161 440 2·38 (1·55–3·65)
Vascular dementia 400 757 9161 199 4·44 (2·73–7·21)
All-cause dementia 400 757 9161 1323 3·09 (2·48–3·85)
0·5
1
2
4
8
Decreased risk
Increased risk

En regardant plus de 10 ans après l'infection …

Follow-up from year 10 onwards					
Any infectious disease *vs* no infection	196 266	56 375	1692	1·22 (1·09–1·36)	
Bacterial infections					
Any bacterial infection *vs* no infection	188 864	48 973	1648	1·24 (1·10–1·38)	p=0·37*
By severity					
Potentially invasive bacterial infection *vs* no infection	173 452	33 561	1574	1·23 (1·09–1·39)	p=0·39
Localised bacterial infection *vs* no infection	159 682	19 791	1361	1·37 (1·12–1·68)	
Bacterial infection with sepsis *vs* no infection	140 717	826	1273	1·85 (1·11–3·09)	p=0·090
Bacterial infection without sepsis *vs* no infection	188 501	48 610	1639	1·22 (1·09–1·37)	
By location					
Extracellular bacterial infection *vs* no infection	142 785	2894	1282	1·69 (1·13–2·51)	p=0·38
Intracellular bacterial infection *vs* no infection	141 496	1605	1281	1·29 (0·86–1·93)	
By Gram stain					
Gram-positive bacterial infection *vs* no infection	142 171	2280	1272	1·50 (0·90–2·50)	p=0·52
Gram-negative bacterial infection *vs* no infection	141 742	1851	1283	1·81 (1·21–2·68)	
Viral infections					
Any viral infection *vs* no infection	148 949	9058	1302	1·36 (1·01–1·83)	p=0·37*
By type of viral infection					
Herpes virus (persistent) infection *vs* no infection	142 183	2292	1271	2·35 (1·38–3·98)	p=0·77†
Other persistent viral infection *vs* no infection	141 200	1309	1266	2·05 (1·06–3·96)	
Acute viral infection *vs* no infection	145 632	5741	1281	1·03 (0·69–1·55)	p=0·0082‡



New confirmed cases of Covid-19 in France

Seven-day rolling average of new cases