Le COVID long: un nouveau nom pour la fibromyalgie?

Xavier MARIETTE
Hôpital Bicêtre, Assistance Publique-Hôpitaux de Paris,
Center for Immunology of Viral Infections and
Autoimmune Diseases INSERM U1184,
Université Paris-Saclay

Conflits d’intêret

- Honoraires non liés au COVID-19: Astra-Zeneca, BMS, Galapagos, GSK, Novartis, Pfizer

Les symptômes post-COVID

- Différencier
  - Syndrome post-réanimation
    - Survient après n'importe quel séjour en réa
    - Peut durer plusieurs mois
  - Dyspnée post-pneumopathie COVID
    - Peut durer quelques semaines voire quelques mois
  - « Covid long »
    - Association fatigue, douleurs diffuses, troubles du sommeil, etc… persistant au moins 3 mois après une infection COVID
    - Ce terme est au minimum impropre car PCR toujours négative à ce stade
    - Mais il peut s'agir d'un authentique syndrome post-viral
    - **Syndrome post-COVID est plus approprié que COVID long**

Bidirectional associations between COVID-19 and psychiatric disorder: retrospective cohort studies of 62 354 COVID-19 cases in the USA

Maxime Taquet, Sierra Luciano, John R Geddes, Paul J Harrison

Les maladies psychiatriques sont augmentées après le COVID

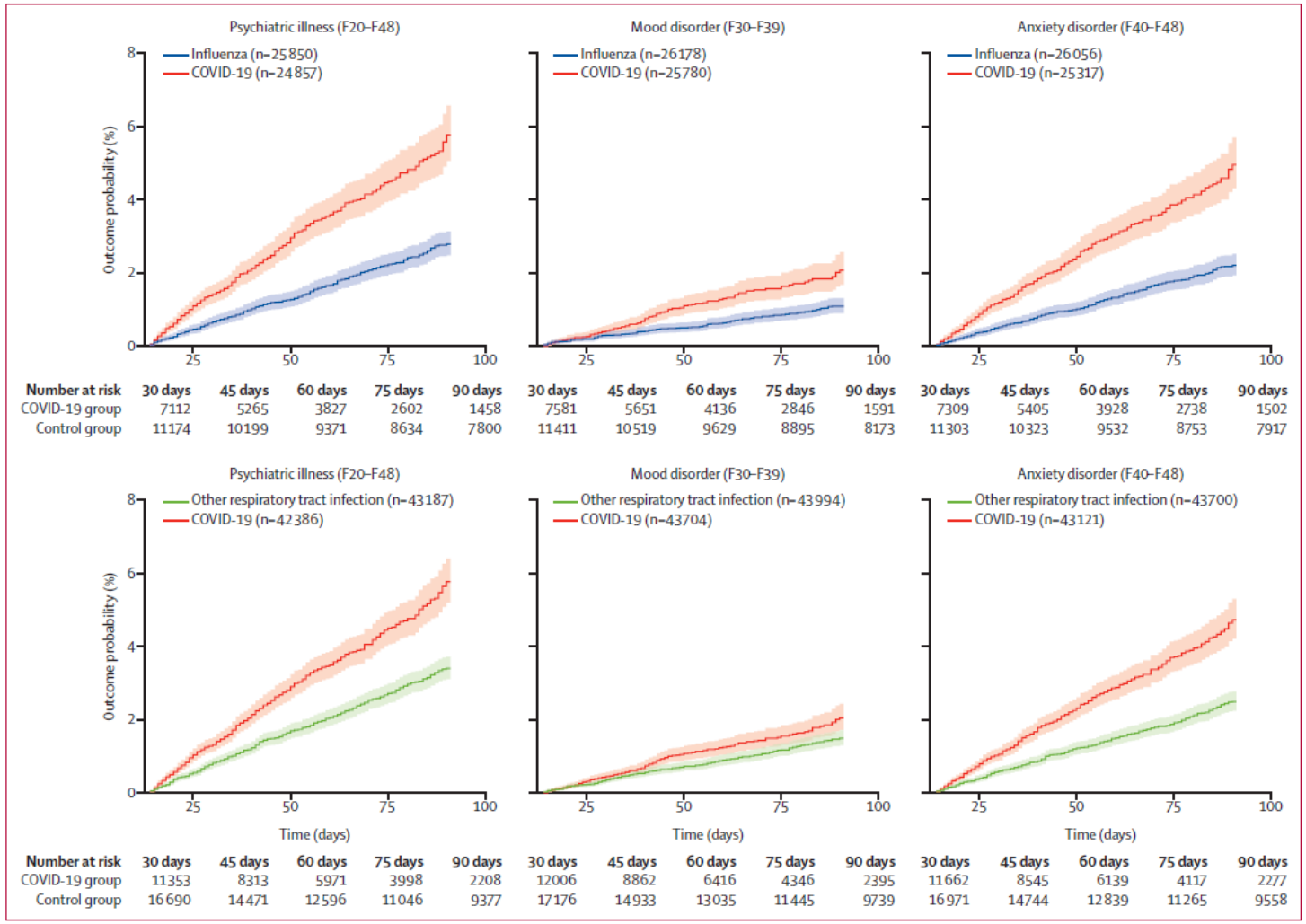


Figure 1: **Kaplan-Meier curves for onset of first psychiatric diagnoses after COVID-19 diagnosis compared with influenza and other respiratory tract infections**
Curves for the other control health events are presented in the appendix (p 23). Shaded areas represent 95% CIs. The number of subjects within each cohort corresponds to all those who did not have the outcome before the follow-up period.

Taquet M et al. Lancet Psychiatry Published online November 9, 2020

Neuropsychiatry

Original research

Somatic symptom disorder in patients with post-COVID-19 neurological symptoms: a preliminary report from the somatic study (Somatic Symptom Disorder Triggered by COVID-19)

Alexandra Kachaner ,[1] Cédric Lemogne,[2,3] Julie Dave,[4] Brigitte Ranque,[5,6] Thomas de Broucker,[4] Elodie Meppiel[4]

Consecutive patients referred for post COVID-19 neurological symptoms
From May 2020 to April 2021 (n=58)

Excluded patients (n=2)
- COVID-19 hospitalized (n=1)
- Suspected neurological pathol unrelated to COVID-19 (n=1)

Eligible to participate (n=56)

Excluded patients (n=6)
- Declined participation (n=2)
- Unable to reach by phone (n= 4)

Included patients (n=50)

Critère ppl: Dg de « Somatic Symptom Disorder » (Somatisation) du DSM5

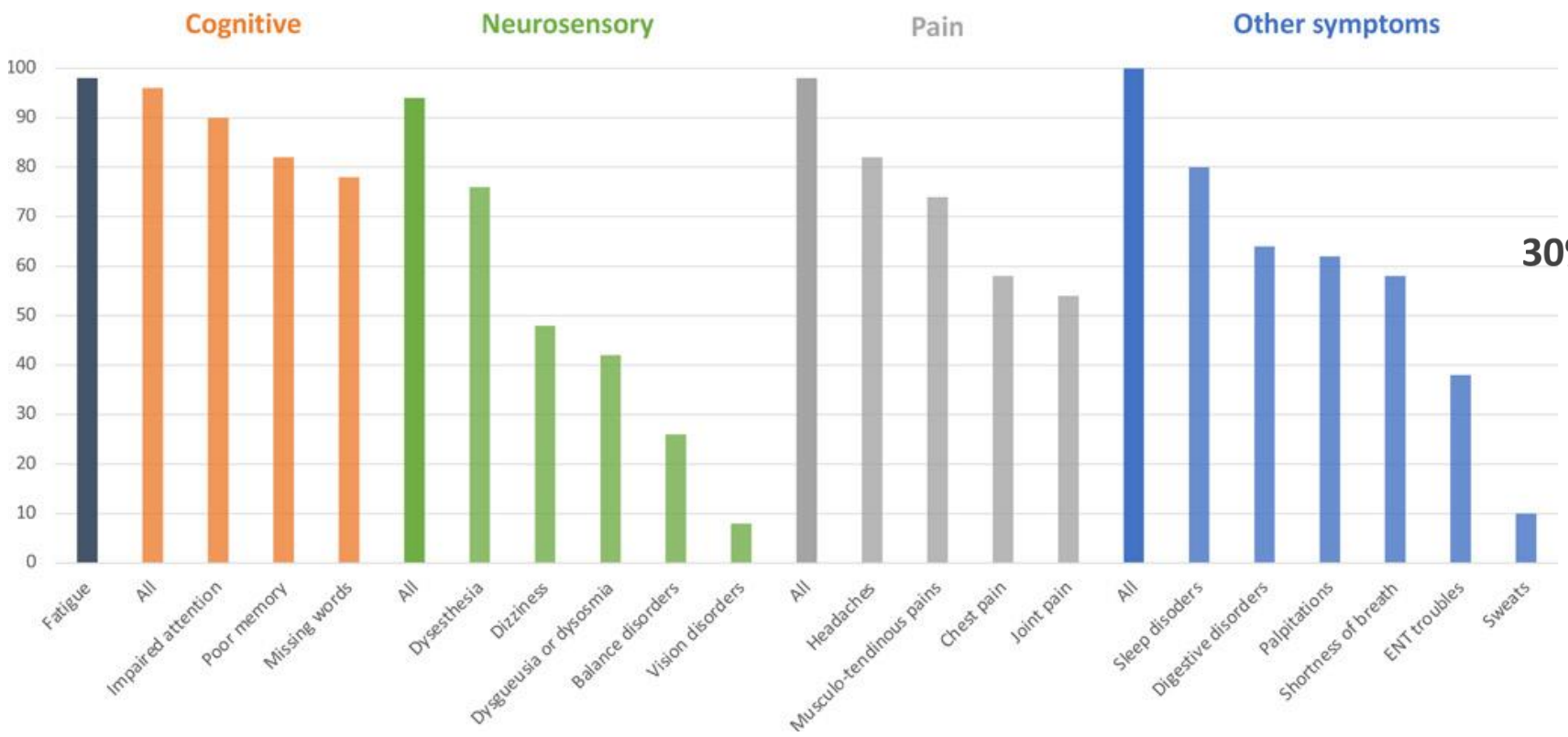
A. Un ou plusieurs symptôme somatique invalidant ou associé à un retentissement important sur la vie quotidienne
B. Préoccupations excessives, cortège affectif important, comportements semblant disproportionnés en rapport avec les symptômes.
C. Evolution chronique

Résultats

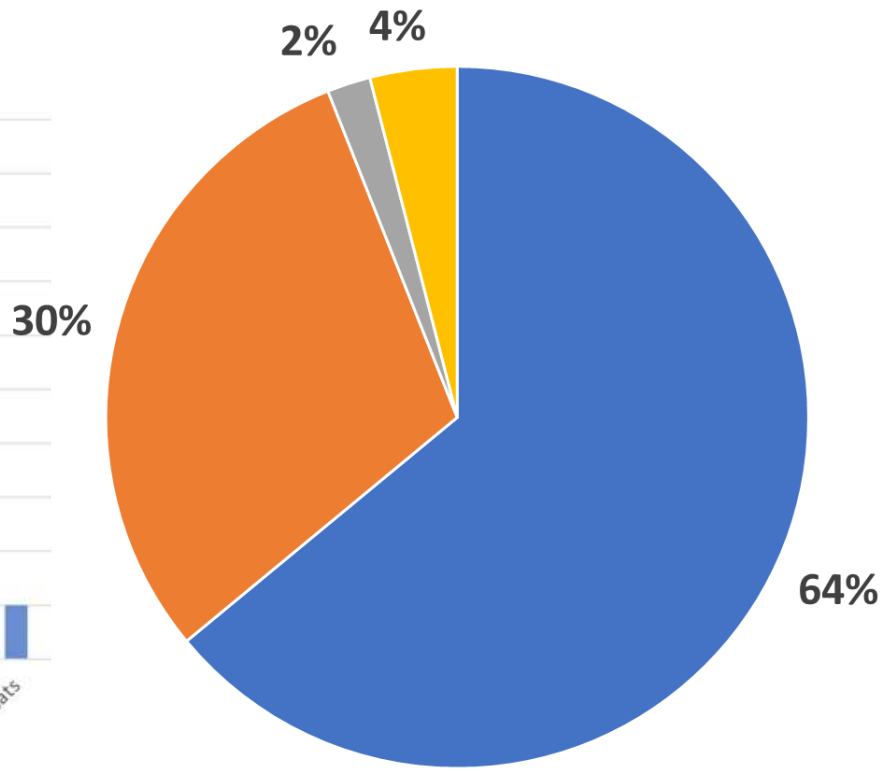
- Examen neurologique normal
- IRM cérébrale (98% des patients) : aucune anomalie significative
- Bilan neuropsychologique (30% des patients) :
  - Anomalies attentionnelles modérées
  - Pas d'altération des tests visuo spatiaux, de la mémoire épisodique ou du langage

Kachaner A, et al. J Neurol Neurosurg Psychiatry 2022

Symptomatologie floride et polymorphe



64% ont un diagnostic formel de « Somatic symptom disorder »



Kachaner A, et al. J Neurol Neurosurg Psychiatry 2022

Research

JAMA Internal Medicine | Original Investigation

Association of Self-reported COVID-19 Infection and SARS-CoV-2 Serology Test Results With Persistent Physical Symptoms Among French Adults During the COVID-19 Pandemic

Joane Matta, PhD; Emmanuel Wiernik, PhD; Olivier Robineau, MD, PhD; Fabrice Carrat, MD, PhD; Mathilde Touvier, PhD; Gianluca Severi, PhD; Xavier de Lamballerie, MD, PhD; Hélène Blanché, PhD; Jean-François Deleuze, PhD; Clément Gouraud, MD, MSc; Nicolas Hoertel, MD, PhD; Brigitte Ranque, MD, PhD; Marcel Goldberg, MD, PhD; Marie Zins, MD, PhD; Cédric Lemogne, MD, PhD; for the Santé, Pratiques, Relations et Inégalités Sociales en Population Générale Pendant la Crise COVID-19–Sérologie (SAPRIS-SERO) Study Group

- **Méthodes**
  - Cohorte CONSTANCES: 200,000 sujets de 18 à 69 ans en bonne santé inclus entre 2012 et 2019
  - 35,852 volontaires invités à participer.
  - May 2020 – Novembre 2020: envoi d'un kit pour sérologie
    - Résultat envoyé au patient
  - Décembre 2020-janvier 2021: envoi de questionnaires
    - Pensez-vous que vous avez été infecté par le virus du COVID-19 ?
    - Avez-vous eu ou avez-vous des symptômes parmi 18 symptômes banals ?

Matta J et al. JAMA Internal Medicine Published online November 8, 2021

Research

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Joane Matta, PhD; Emmanuel Wiernik, PhD; Olivier Robineau, MD, PhD; Fabrice Carrat, MD, PhD; Mathilde Touvier, PhD; Gianluca Severi, PhD; Xavier de Lamballerie, MD, PhD; Hélène Blanché, PhD; Jean-François Deleuze, PhD; Clément Gouraud, MD, MSc; Nicolas Hoertel, MD, PhD; Brigitte Ranque, MD, PhD; Marcel Goldberg, MD, PhD; Marie Zins, MD, PhD; Cédric Lemogne, MD, PhD; for the Santé, Pratiques, Relations et Inégalités Sociales en Population Générale Pendant la Crise COVID-19–Sérologie (SAPRIS-SERO) Study Group

- **Résultats**
  - 26,823 (74,8%) ont complété l'étude
  - 914 patients pensent avoir eu le COVID
    - 453 avec sérologie positive (49,6%)
  - 1091 ont une sérologie positive
    - 453 pensaient qu'ils avaient eu le COVID (41,5%)

Matta J et al. JAMA Internal Medicine Published online November 8, 2021

Table 3. Associations Between Persistent Symptoms, Belief, and Serology Test Results

Symptom	No.	Odds ratio (95% CI)[a]			
				Model 3	
		Model 1 Belief	Model 2 Serology	Belief	Serology
Sleep problems	2729	1.09 (0.88-1.36)	0.96 (0.77-1.19)	1.14 (0.89-1.46)	0.91 (0.71-1.15)
Joint pain	1894	1.32 (1.01-1.71)	1.03 (0.79-1.35)	1.39 (1.03-1.86)	0.89 (0.65-1.21)
Back pain	1630	1.41 (1.10-1.80)	1.16 (0.91-1.49)	1.40 (1.05-1.85)	1.01 (0.76-1.33)
Digestive tract problems[b]	909	1.92 (1.43-2.57)	1.06 (0.73-1.50)	2.19 (1.57-3.06)	0.73 (0.49-1.08)
Muscular pain, sore muscles	867	1.79 (1.29-2.48)	1.33 (0.94-1.87)	1.78 (1.22-2.59)	1.01 (0.68-1.50)
Fatigue	766	5.20 (4.20-6.43)	2.59 (2.03-3.30)	4.90 (3.79-6.33)	1.13 (0.84-1.52)
Poor attention or concentration	644	3.63 (2.79-4.71)	2.10 (1.57-2.82)	3.42 (2.50-4.67)	1.13 (0.79-1.61)
Skin problems	632	1.36 (0.92-2.00)	0.65 (0.39-1.06)	1.79 (1.17-2.73)	0.49 (0.29-0.85)
Other symptoms[c]	514	3.07 (2.22-4.25)	1.91 (1.32-2.75)	2.93 (1.99-4.31)	1.10 (0.71-1.70)
Sensory symptoms	492	1.60 (1.02-2.51)	0.77 (0.43-1.38)	2.06 (1.25-3.40)	0.54 (0.28-1.03)
Hearing impairment	479	1.47 (0.90-2.41)	1.22 (0.73-2.03)	1.45 (0.82-2.55)	1.03 (0.57-1.84)
Headache	360	2.52 (1.71-3.73)	1.69 (1.10-2.59)	2.40 (1.52-3.80)	1.10 (0.67-1.82)
Breathing difficulties	256	8.16 (5.95-11.19)	3.60 (2.48-5.24)	7.75 (5.25-11.43)	1.11 (0.70-1.76)
Palpitations	213	5.27 (3.55-7.82)	2.61 (1.62-4.19)	5.14 (3.18-8.29)	1.05 (0.59-1.87)
Dizziness	178	3.23 (1.88-5.56)	2.37 (1.33-4.24)	2.71 (1.40-5.24)	1.42 (0.70-2.88)
Chest pain	174	7.34 (4.95-10.88)	3.70 (2.33-5.87)	6.58 (4.02-10.75)	1.25 (0.70-2.22)
Cough	167	4.67 (3.00-7.25)	2.22 (1.25-3.97)	4.85 (2.75-8.56)	0.91 (0.45-1.83)
Anosmia	146	28.66 (20.16-40.74)	15.69 (10.85-22.70)	16.37 (10.21-26.24)	2.72 (1.66-4.46)

[a] Model 1 includes belief only, controlling for age, sex, educational level, and income. Model 2 includes serology test results only, controlling for age, sex, educational level, and income. Model 3 includes both belief and serology test results, controlling for age, sex, educational level, and income. We additionally tested interactions between serology test results and belief among all of the symptoms, and none were significant.

[b] Digestive tract problems refer to the presence of 1 or more of the following persistent symptoms: nausea, diarrhea, constipation, and stomach pain.

[c] Other symptoms refer to additional symptoms that patients declared and are not on the symptom list, plus symptoms with a low number of cases (<100), such as speech problems (n = 56), fever or fever sensation (n = 26), anomaly of the facial nerves (n = 16), and discomfort (n = 12).

Matta J et al. JAMA Internal Medicine Published online November 8, 2021

Persistence of somatic symptoms after COVID-19 in the Netherlands: an observational cohort study

*Aranka V Ballering, Sander K R van Zon, Tim C olde Hartman, Judith G M Rosmalen, for the Lifelines Corona Research Initiative**

- General population with symptoms questionnaire before and after COVID-19
- 4231 (5·5%) participants had COVID-19 (80% PCR positive) and were matched to 8462 controls without COVID-19
- Persistent symptoms in COVID-19-positive participants at 90–150 days after COVID-19 compared with before COVID-19 and compared with matched controls

Difference between controls and post-COVID at 90-150 days
- At least 1 moderate symptom : 11,4%
- Increase of at least 1 moderate symptom: 11,5%

→ FM like symptoms attribuable to COVID-19 in 11-12% of patients with previous COVID-19

Ballering AV et al. Lancet 2022; 400: 452–61

	Presence of symptom of at least moderate severity		Substantial increase in symptom severity to at least moderate severity	
	Controls (n=4353)	COVID-19-positive participants (n=1942)	Controls (n=4130)	COVID-19-positive participants (n=1782)
Ageusia or anosmia	37 (0·8%)	158 (8·1%)*	17 (0·4%)	135 (7·6%)*
Difficulties with breathing	38 (0·9%)	68 (3·5%)*	21 (0·5%)	43 (2·4%)*
Chest pain	44 (1·0%)	63 (3·2%)*	24 (0·6%)	43 (2·4%)*
Pain when breathing	13 (0·3%)	20 (1·0%)*	<10 (<0·2%)	16 (0·9%)*
Lump in throat	59 (1·4%)	61 (3·1%)*	24 (0·6%)	42 (2·4%)*
Heavy arms or legs	130 (3·0%)	126 (6·5%)*	65 (1·6%)	75 (4·2%)*
General tiredness	159 (3·7%)	136 (7·0%)*	87 (2·1%)	88 (4·9%)*
Painful muscles	378 (8·7%)	262 (13·5%)*	134 (3·2%)	130 (7·3%)*
Tingling extremities	145 (3·3%)	98 (5·0%)*	65 (1·6%)	52 (2·9%)*
Fever	19 (0·4%)	16 (0·8%)	18 (0·4%)	12 (0·7%)
Wet cough	83 (1·9%)	58 (3·0%)	40 (1·0%)	28 (1·6%)
Dry cough	81 (1·9%)	50 (2·6%)	43 (1·0%)	28 (1·6%)
Headache	239 (5·5%)	166 (8·5%)*	111 (2·7%)	76 (4·3%)
Itchy eyes	143 (3·3%)	96 (4·9%)*	78 (1·9%)	51 (2·9%)
Feeling hot and cold alternately	155 (3·6%)	112 (5·8%)*	70 (1·7%)	63 (2·5%)*
Sore throat	84 (1·9%)	48 (2·5%)	51 (1·2%)	29 (1·6%)
Runny nose	217 (5·0%)	110 (5·7%)	94 (2·3%)	50 (2·8%)
Nausea	128 (2·9%)	72 (3·7%)	74 (1·8%)	37 (2·1%)
Sneezing	210 (4·8%)	101 (5·2%)	74 (1·9%)†	35 (2·1%)‡
Back pain	413 (9·5%)	210 (10·8%)	182 (4·4%)	88 (4·9%)
Stomach pain	108 (2·5%)	53 (2·7%)	58 (1·4%)	25 (1·4%)
Dizziness	93 (2·1%)	46 (2·4%)	56 (1·4%)	25 (1·4%)
Diarrhoea	80 (1·8%)	38 (2·0%)	52 (1·3%)	19 (1·1%)
Total	1275 (29·3%)	790 (40·7%)*	749 (18·1%)	526 (29·6%)*

Data are n (%). Symptoms are ordered according to their relative increase in frequency in COVID-19-positive participants compared with controls. A substantial increase in severity was defined as an increase in symptom severity of at least 1 point on the 5-point scale. *p<0·001. †n=3988; sneezing was assessed in 23 surveys instead of 24. ‡n=1704; sneezing was assessed in 23 surveys instead of 24.

Table 2: **Frequencies of participants who had presence of, or a substantial increase to, symptoms of at least moderate severity at 90–150 days after COVID-19 diagnosis or matched timepoint**

Post-infective and chronic fatigue syndromes precipitated by viral and non-viral pathogens: prospective cohort study

Ian Hickie, Tracey Davenport, Denis Wakefield, Ute Vollmer-Conna, Barbara Cameron, Suzanne D Vernon, William C Reeves, Andrew Lloyd, for the Dubbo Infection Outcomes Study Group

BMJ

- 253 patients enrolled after viral infection and followed at regular intervals over 12 months by self report, structured interview, and clinical assessment

- Prolonged illness characterised by disabling fatigue, musculoskeletal pain, neurocognitive difficulties, and mood disturbance was evident in
  - **29 (12%) of 253 participants at six months**,
  - of whom 28 met the diagnostic criteria for chronic fatigue syndrome.
  - Identical frequency with different viruses and … also in patients without confirmation of viral infection

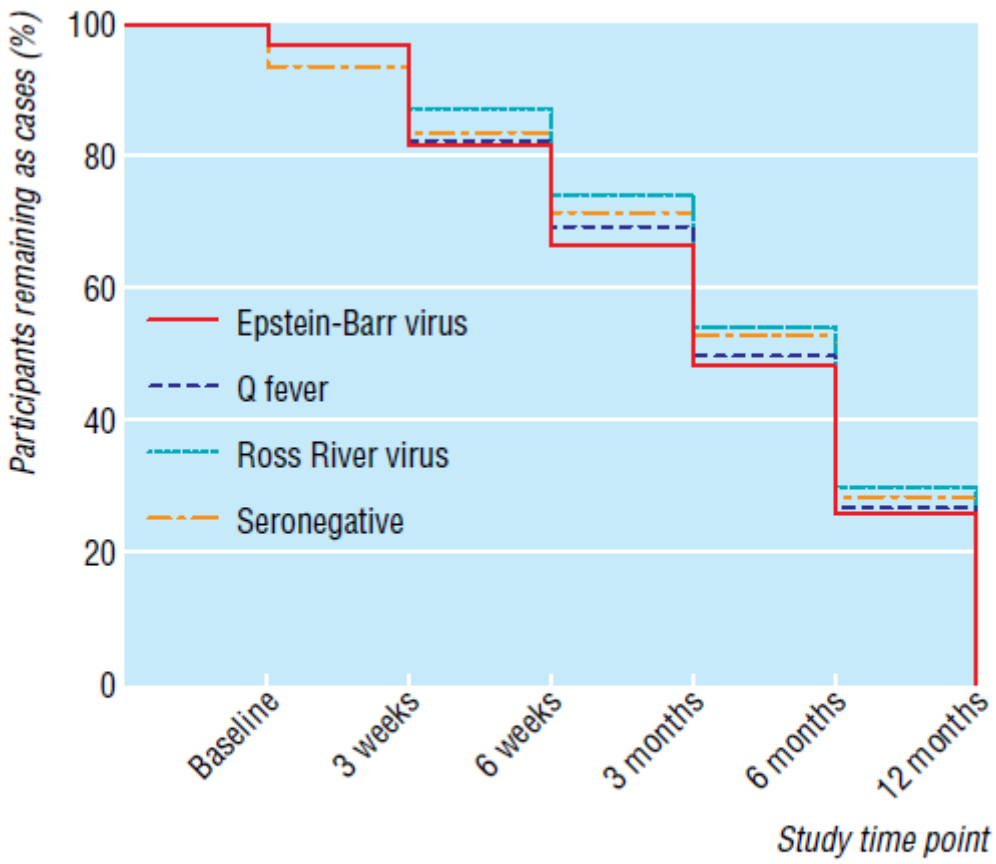


Fig 1 Survival curves of post-infective fatigue syndrome by infective agent after onset of acute infection. Kaplan-Meier analyses of proportion of participants within each infective subcohort who remained as cases. Test of equality across groups: χ^2=3.45, df=3, P>0.05

Hickie I et al. BMJ. 1st Sept 2006

nature immunology

LETTERS

https://doi.org/10.1038/s41590-021-01113-x

Check for updates

Immunological dysfunction persists for 8 months following initial mild-to-moderate SARS-CoV-2 infection

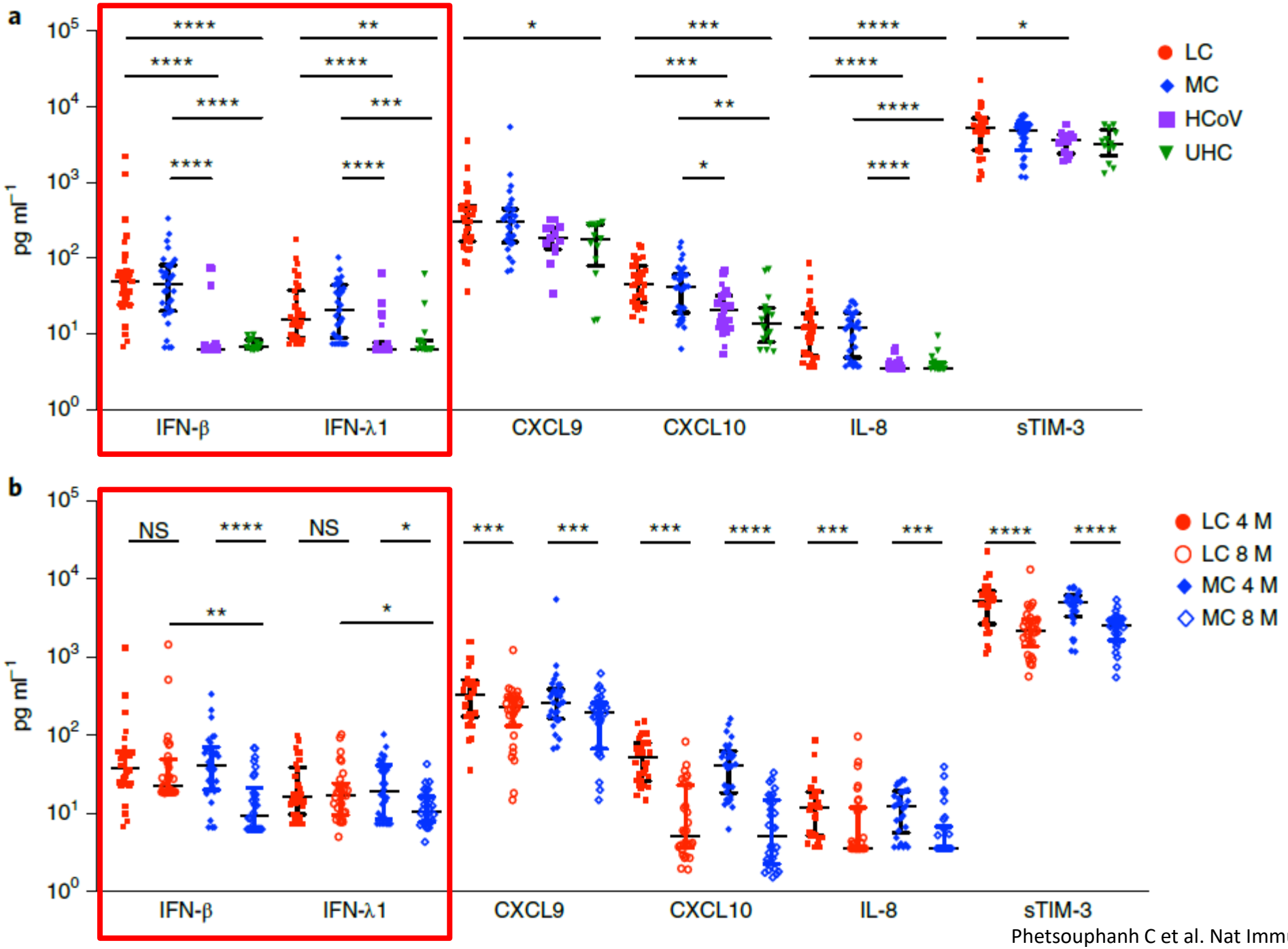
Chansavath Phetsouphanh[1,7], David R. Darley[2,7], Daniel B. Wilson[3], Annett Howe[1], C. Mee Ling Munier[1], Sheila K. Patel[4], Jennifer A. Juno[5], Louise M. Burrell[4], Stephen J. Kent[5,6], Gregory J. Dore[1,2], Anthony D. Kelleher[1,2,7] and Gail V. Matthews[1,2,7]

- 146 patients avec COVID vus à 4 mois
- 31 (21%) avec signes de « COVID long » (LC)
  - 1 parmi fatigue, dyspnée, douleur thoracique
- Suivi jusqu'à 8 mois
- Comparaison avec
  - 31 patients appariés ayant eu le COVID mais sans signe de CL (MCs)
  - 25 patients infectés par des Coronavirus bénins (HCoVs)
  - 30 contrôles non exposés (UHCs)

Table 1 | Patient characteristics

Characteristics	LC	MCs	HCoVs	UHCs (St Vincent's)	UHCs (University of Melbourne)
Number of samples	31	31	25	16	30
Age (y), mean ± s.d.	49.6 ± 14.9	48.9 ± 12.8	47.4 ± 16.9	37.13 ± 10.02	48.13 ± 11.89
Male, *n* (%)	15 (48)	15 (48)	14 (54)	8 (50)	15 (50)
Median days after positive SARS-CoV-2 PCR (IQR)	128 (115–142)	120 (115–142)	N/A	N/A	N/A
White, *n* (% total)	28 (90)	26 (84)		12 (75)	N/A
Severity, n (% total)					
Hospitalized	8 (26)	2/31 (6)			
Community	23 (74)	29/31 (94)	N/A	N/A	N/A
Comorbidities, *n* (% total)	12 (39)	12 (39)	N/A	N/A	N/A
Transmission (acquired overseas), *n* (%)	13 (42)	15/31(48)	N/A	N/A	N/A
Phenotyping (*n*)	14	14	N/A	7	-
HCoV positive (*n*)	-	-	26	-	-
HKU-1			1		
229E			14		
NL63			14		
OC43			10		
ACE2 assay (*n*)			26	-	30
Month 3	26	29	-		-
Month 5	25	24	-		-
Month 8	27	29	-		-

Phetsouphanh C et al. Nat Immunol. 2022 Jan 13



Phetsouphanh C et al. Nat Immunol. 2022 Jan 13

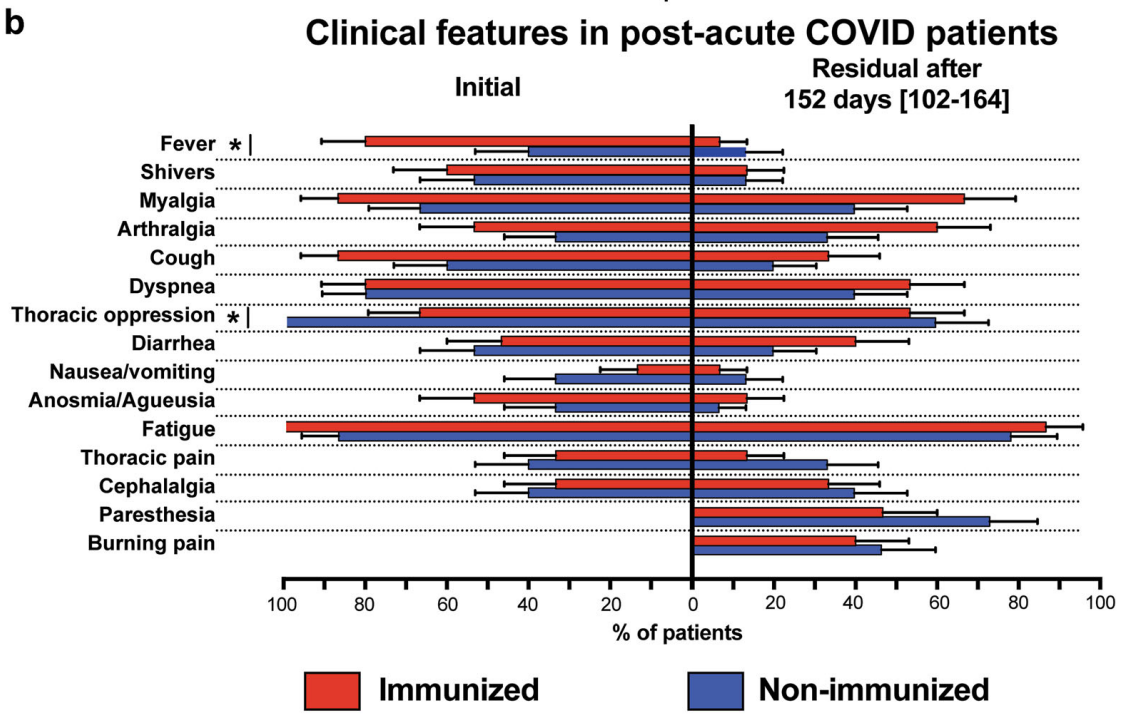
Infect Dis Ther (2021) 10:1747–1763
https://doi.org/10.1007/s40121-021-00484-w

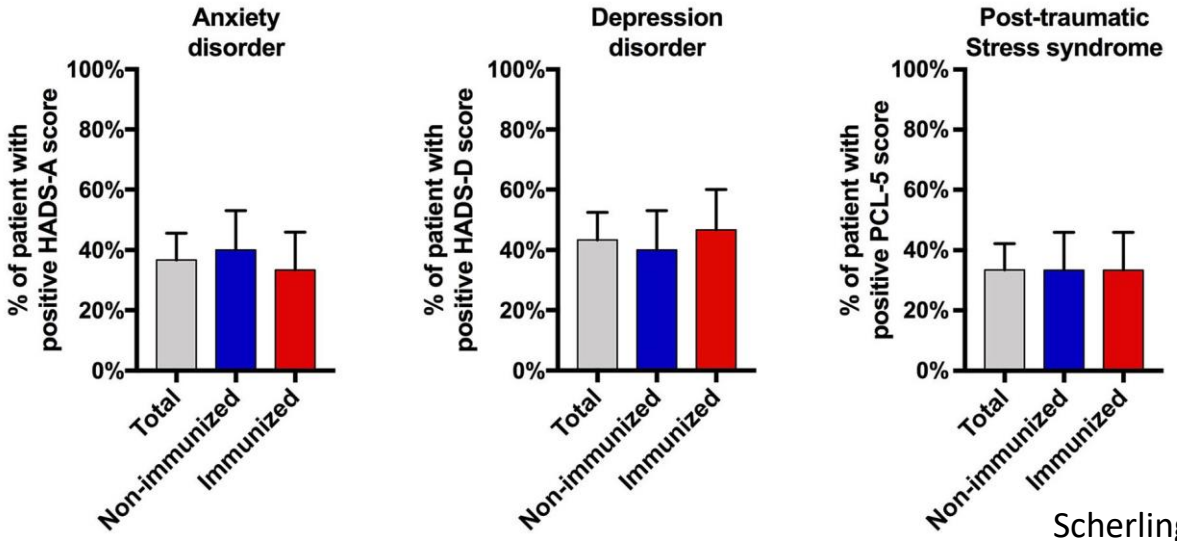
ORIGINAL RESEARCH

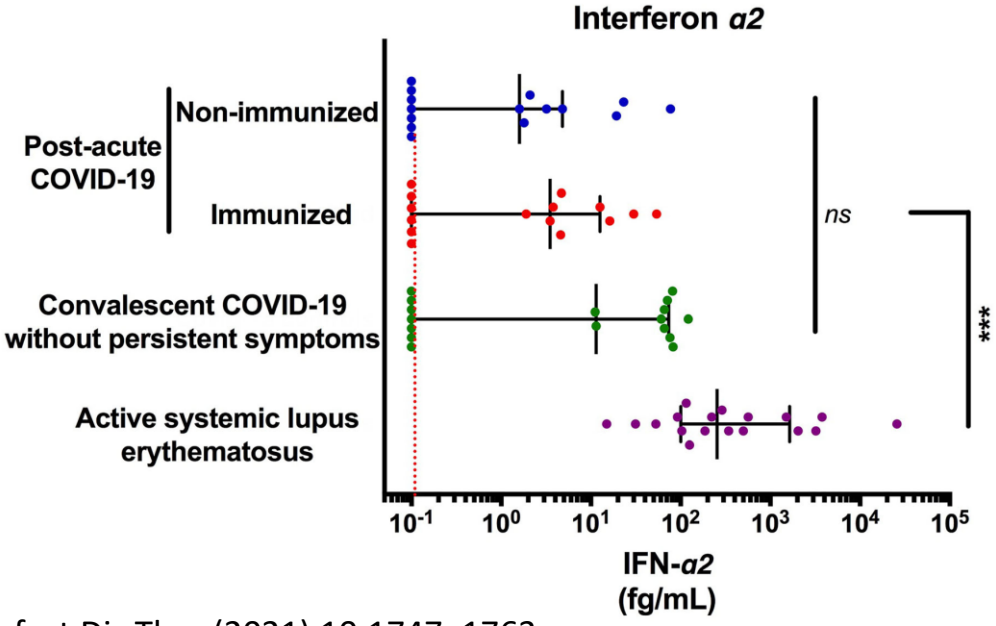
Refining "Long-COVID" by a Prospective Multimodal Evaluation of Patients with Long-Term Symptoms Attributed to SARS-CoV-2 Infection

Marc Scherlinger · Renaud Felten · Floriane Gallais · Charlotte Nazon · Emmanuel Chatelus · Luc Pijnenburg · Amaury Mengin · Adrien Gras · Pierre Vidailhet · Rachel Arnould-Michel · Sabrina Bibi-Triki · Raphaël Carapito · Sophie Trouillet-Assant · Magali Perret · Alexandre Belot · Seiamak Bahram · Laurent Arnaud · Jacques-Eric Gottenberg · Samira Fafi-Kremer · Jean Sibilia

- 30 consecutive patients seeking medical help for persistent symptoms (30 days) attributed to COVID-19.
- Median time from supposed infection: 152 days
- Only 15/30 had anti-SARS-CoV2 Ab







Scherlinger M et al. Infect Dis Ther (2021) 10:1747–1763

Le post-COVID: nouvelle appellation du syndrome fibromyalgique ?

- Les différents noms du syndrome fibromyalgique à travers l'histoire
  - Neurasthénie
  - Fibrosite
  - Spasmophilie
  - Syndrome de fatigue chronique
  - Syndrome polyalgique idiopathique diffus
  - Syndrome de la guerre du Golfe
  - Myofasciite à macrophages
  - SAPS (Syndrome Asthénie Polyalgie Sécheresse)
  - Lyme chronique
  - Chickungunya chronique
  - Spectre d'Ehler Danlos
  - COVID long ou post-COVID

Conclusion

- Les syndromes post-COVID proches de la fibromyalgie existent probablement chez environ 10% des patients ayant été infectés
  - Fréquence identique à celle observée après d'autres maladies virales

- Physiopathologie inconnue
  - L'infection virale (ou le fait de croire l'avoir eu) sert d'ancrage" pour des symptômes fonctionnels, et ce d'autant plus qu'elle est survenue dans un contexte susceptible de créer un traumatisme (soignants de la première vague par exemple), chez certains sujets ayant un profil de somatisation
  - Anomalies immunologiques ou d'intégration de la douleur possibles dans ces troubles somatiques fonctionnels??

- Besoin de la médecine d'organiciser les troubles somatiques fonctionnels. Pourquoi ?
  - Pas assez de travaux des psychiatres sur la somatisation
  - Pas assez de travaux sur les mécanismes d'intégration de la douleur chronique

- Que dire et que proposer à ces patients en étant empathique mais honnête ?
  - Nommer c'est apaiser (R Barthes)
  - Mais « Mal nommer les choses c'est ajouter au malheur du monde » (A Camus)
  - Un syndrome post COVID récent a un bien meilleur pronostique de réversibilité avec une prise en charge précoce et adaptée basée sur le soutien psychologique qu'une fibromyalgie qui évolue depuis 15 ans .