

COVID 19 & Pulmón

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SMI
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Sociedad de
MEDICINA INTERNA
de Buenos Aires

Severidad

- **Asintomáticos - Presintomáticos**
- **Leve:** fiebre, tos, odinofagia, malestar, cefalea, mialgias, náuseas, vómitos, diarrea, pérdida del gusto o del olfato
- **Moderado:** evidencia clínico radiológica de compromiso pulmonar con saturación $>94\%$ al AA
- **Severo:** Saturación $< 94\%$ al AA, $PaO_2/FiO_2 < 300\text{mmHg}$, frecuencia respiratoria > 30 por minuto o infiltrados pulmonares $> 50\%$
- **Crítica:** falla respiratoria, shock séptico o disfunción multiorgánica

Individualizing Risk Prediction for Positive Coronavirus Disease 2019 Testing

Results From 11,672 Patients

Check for updates

Lara Jehi, MD, MHCDS; Xinge Ji, MS; Alex Milinovich, MS; Serpil Erzurum, MD; Brian P. Rubin, MD, PhD; Steve Gordon, MD; James B. Young, MD; and Michael W. Kattan, PhD

Predict COVID-19 test result

Age
18

Race
White

Ethnicity
Non-Hispanic

Gender
Male

Smoking
No

BMI
21

5 digit ZIP code
[]

Symptoms and risks
[]

Comorbidities
[]

Pneumococcal polysaccharide vaccine
No

Influenza vaccine
No

Pre-testing medications
[]

Platelets? AST? Chloride?

Creatinine? Hematocrit?

Potassium?

Individualizing Risk Prediction for Positive Coronavirus Disease 2019 Testing Results From 11,672 Patients

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Platelets? AST? Chloride?
Creatinine? Hematocrit?
Potassium?

- Hombres
- Afro americanos
- Mayor edad
- Exposición conocida al COVID
- Vacuna antigripal
- Vacuna

- antineumocócica
- Melatonina, carvedilol, paroxetina

Evolución

- La indicación más frecuente de internación es por neumonía viral
- 80% manejo en salas generales
- 5-10% progresan a enfermedad crítica
- Evolución en 2 etapas
 - inicial L - M
 - 9-12 días desde el inicio de síntomas progresa
 - extensión del compromiso pulmonar x imágenes
 - linfopenia
 - alteración coagulación
 - aumento Dímero D

George PM, Barratt SL, Condliffe R, et al
Respiratory follow-up of patients with COVID-19
pneumonia

Thorax 2020;75:1009-1016.

Ganesh Raghu, Kevin C Wilson.

www.thorax.com/respiratory/Vol.75/September.2020

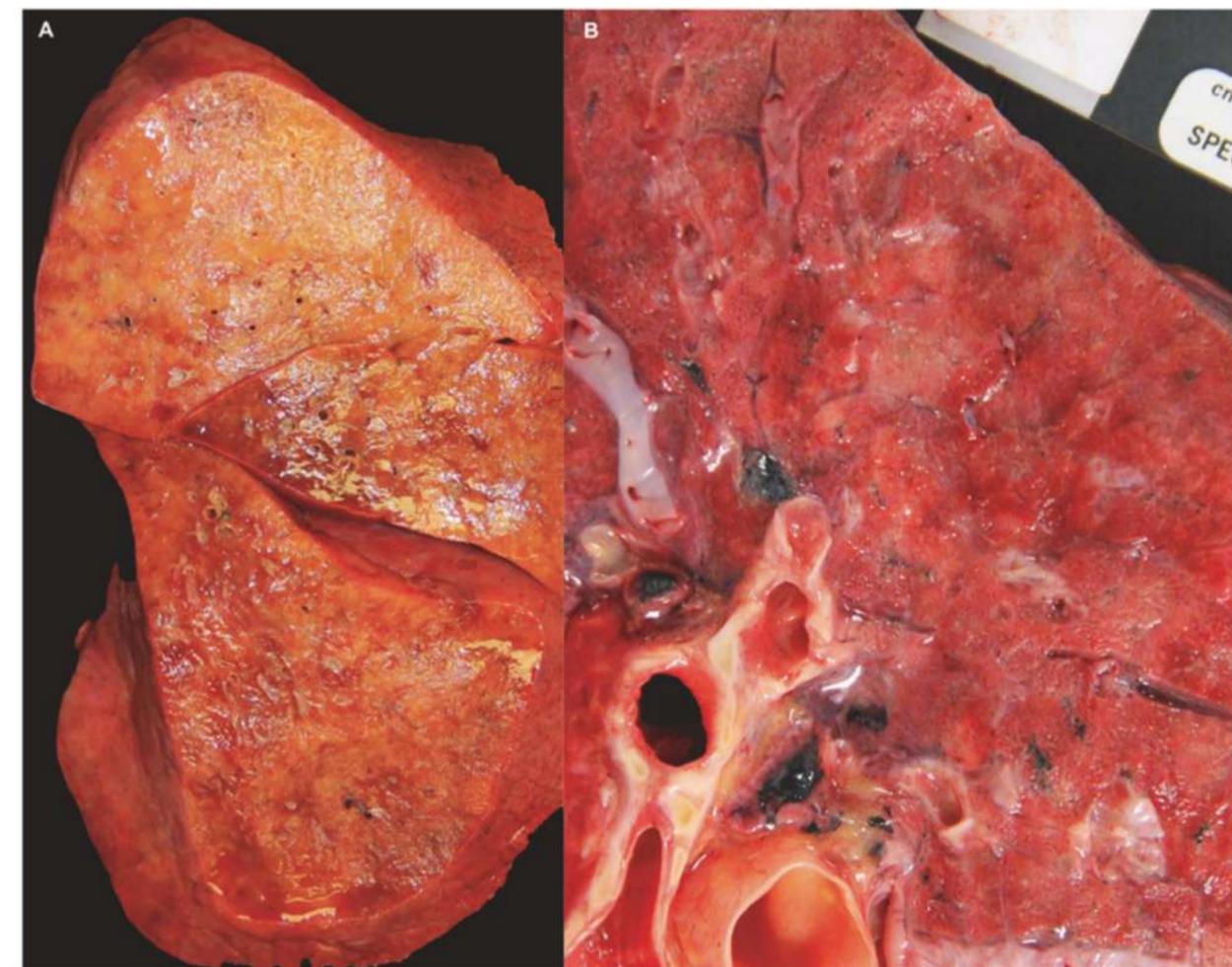


COVID-19 pulmonary pathology: a multi-institutional autopsy cohort from Italy and New York City

Alain C. Borczuk¹ · Steven P. Salvatore¹ · Surya V. Seshan¹ · Sanjay S. Patel¹ · James B. Bussel² · Maria Mostyka¹ · Sarah Elsoukkary¹ · Bing He¹ · Claudia Del Vecchio³ · Francesco Fortarezza⁴ · Federica Pezzuto⁴ · Paolo Navalesi⁵ · Andrea Crisanti³ · Mary E. Fowkes⁶ · Clare H. Bryce⁶ · Fiorella Calabrese⁴ · Mary Beth Beasley⁶

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- Inflamación traqueobronquial
- DAD
- Injuria vascular





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- Inflamación traqueobronquial
- DAD
- Injuria vascular
- Traqueobronquitis severa 88%
- Parches blanquecinos
- Ulceración mucosa
- 92% de inflamación en vías aéreas de gran calibre



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- Inflamación traqueobronquial
- DAD
- Injuria vascular
- Membranas hialinas
- Hiperplasia cels AT2
- Neumonocitos atípicos
- Neumonía en organización
- Metaplasia escamosa



COVID-19 pulmonary pathology: a multi-institutional autopsy cohort from Italy and New York City

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- Inflamación traqueobronquial
- DAD
- Injuria vascular
- Trombos en grandes vasos 42%
- Microtrombos 84%
- Focos de injuria capilar aguda con neutrofilia y necrosis



ORIGINAL ARTICLE
PULMONARY INFECTIONS



CrossMark

Elevated D-dimers and lack of anticoagulation predict PE in severe COVID-19 patients

Basile Mouhat ¹, Matthieu Besutti¹, Kevin Bouiller^{2,3}, Franck Grillet ⁴, Charles Monnin¹, Fiona Ecarnot^{1,5}, Julien Behr⁴, Gilles Capellier^{5,6}, Thibaud Soumagne⁶, Sébastien Pili-Floury^{5,7}, Guillaume Besch^{5,7}, Guillaume Mourey^{8,9}, Quentin Lepiller¹⁰, Catherine Chirouze ^{2,3}, François Schiele ^{1,5}, Romain Chopard^{1,5,11} and Nicolas Meneveau^{1,5,11}

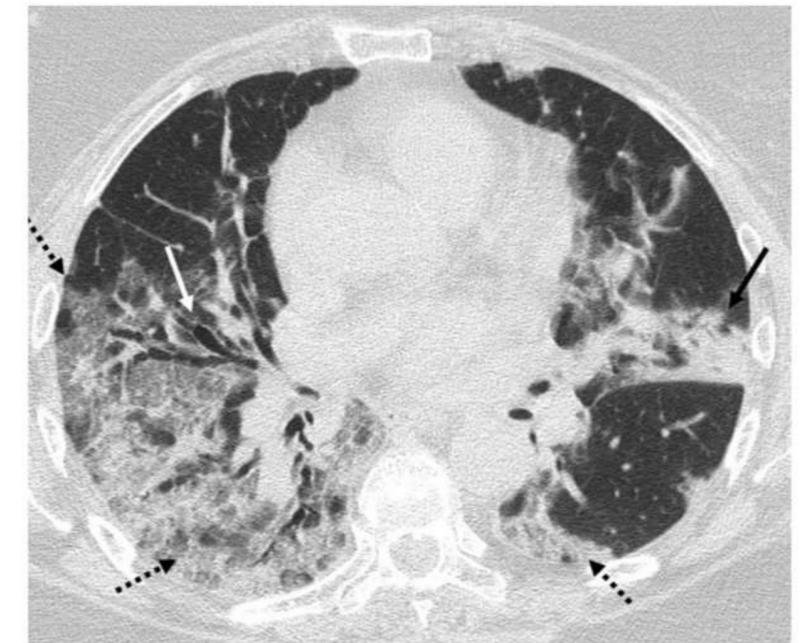
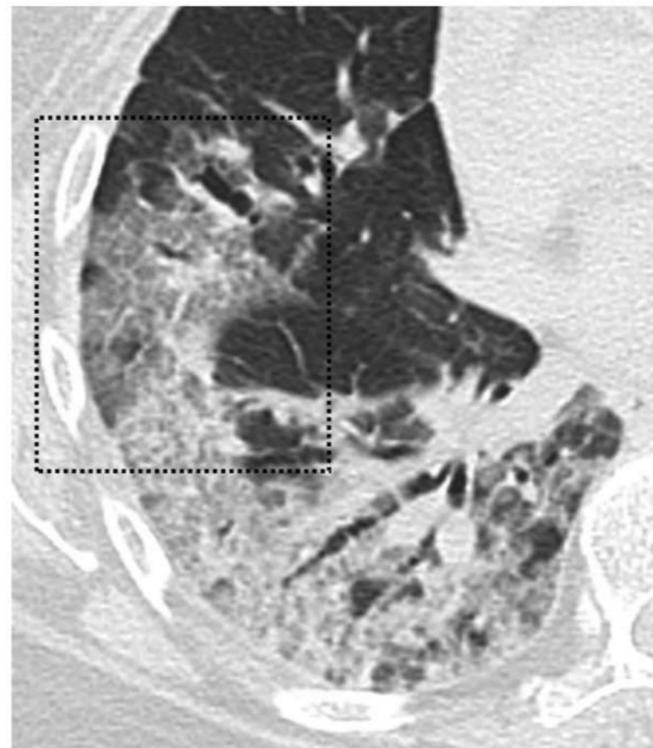
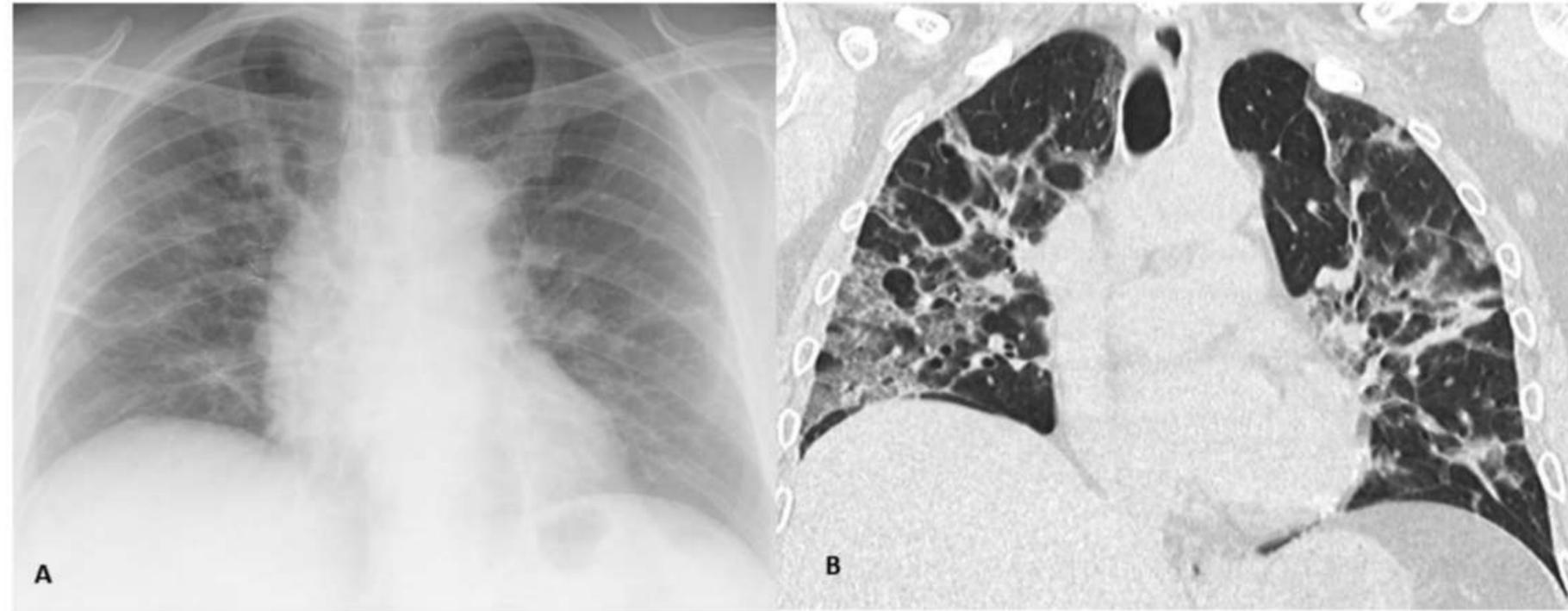
- TEP reportado en 20 - 30% pac
- 162 pacientes en quienes se realizó angio TC por deterioro gasométrico, clínico o taquipnea
- Análisis multivariado

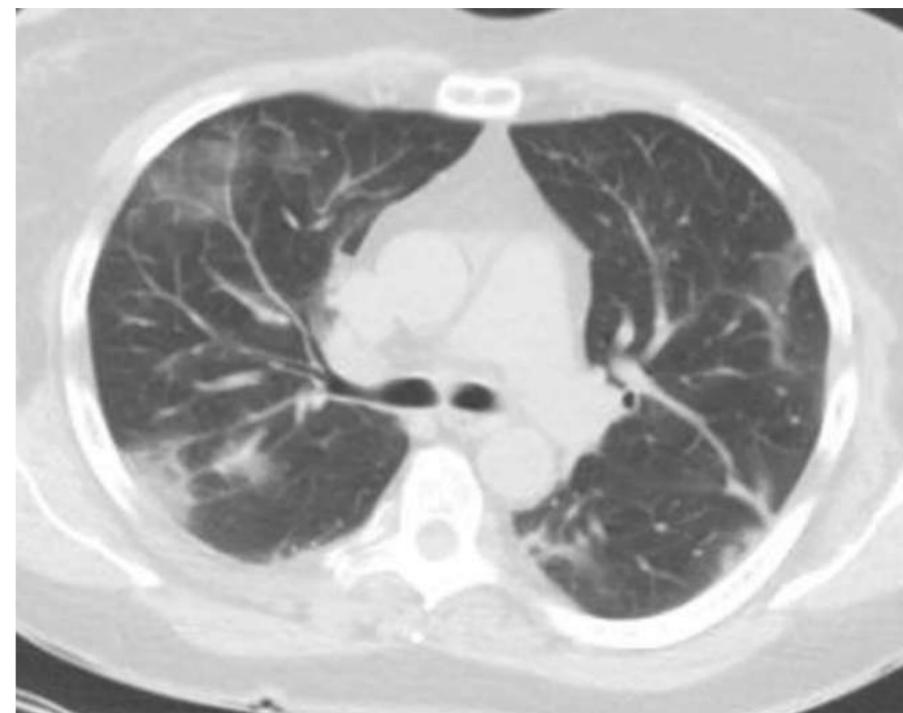
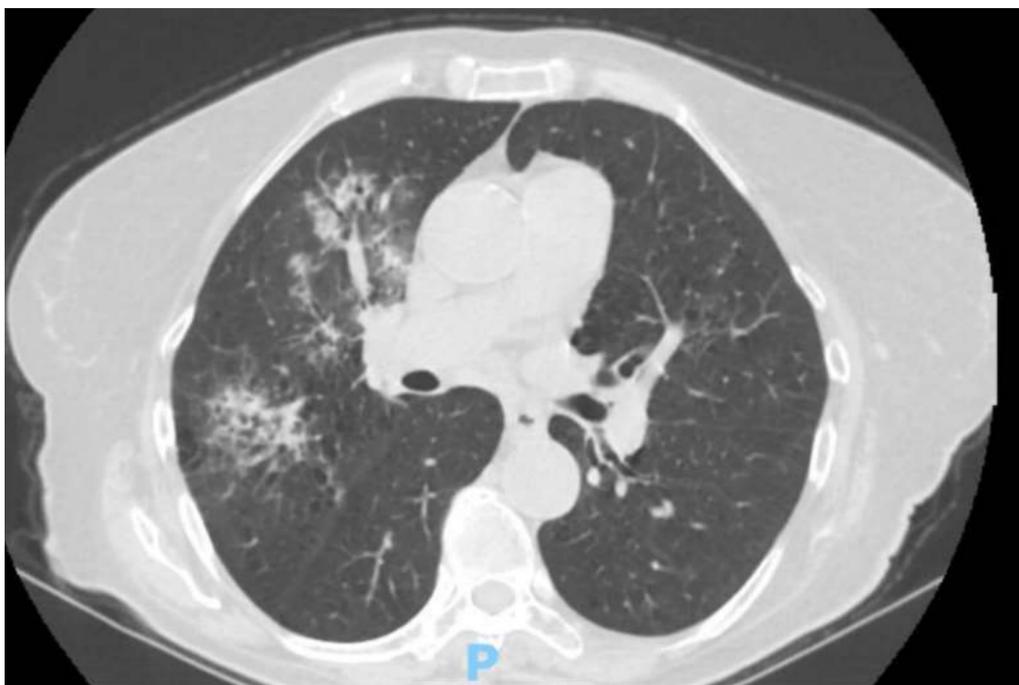
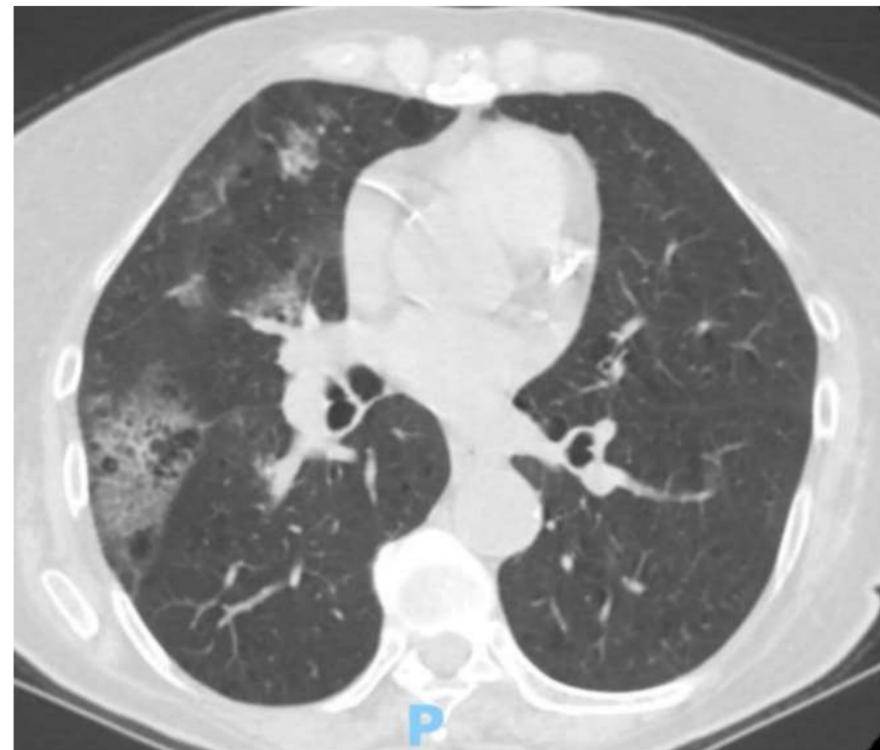
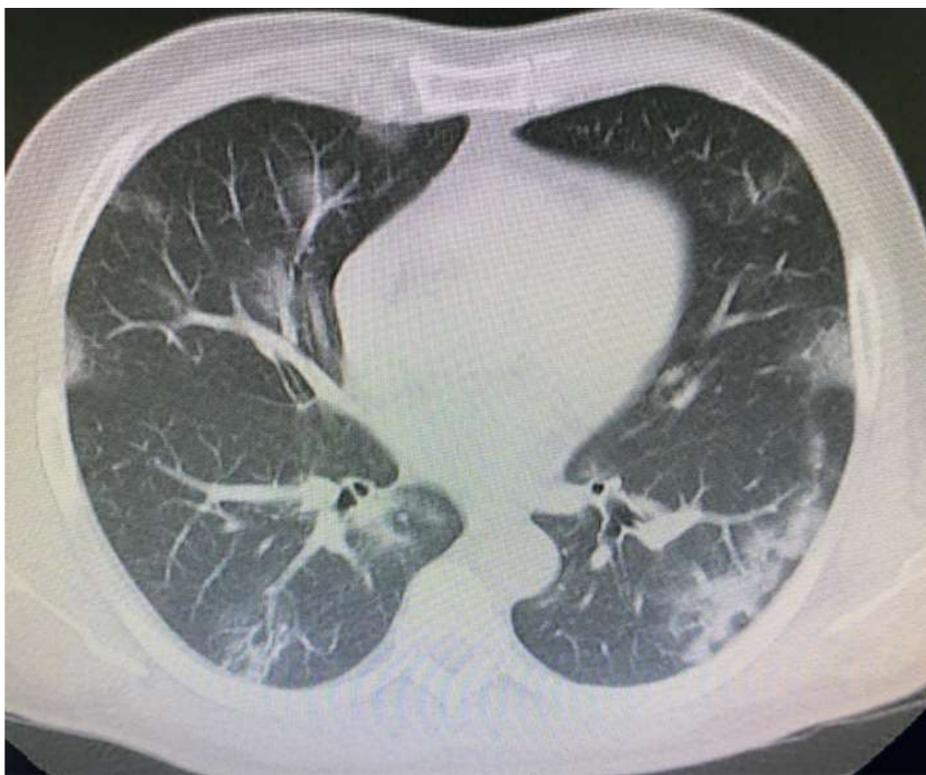
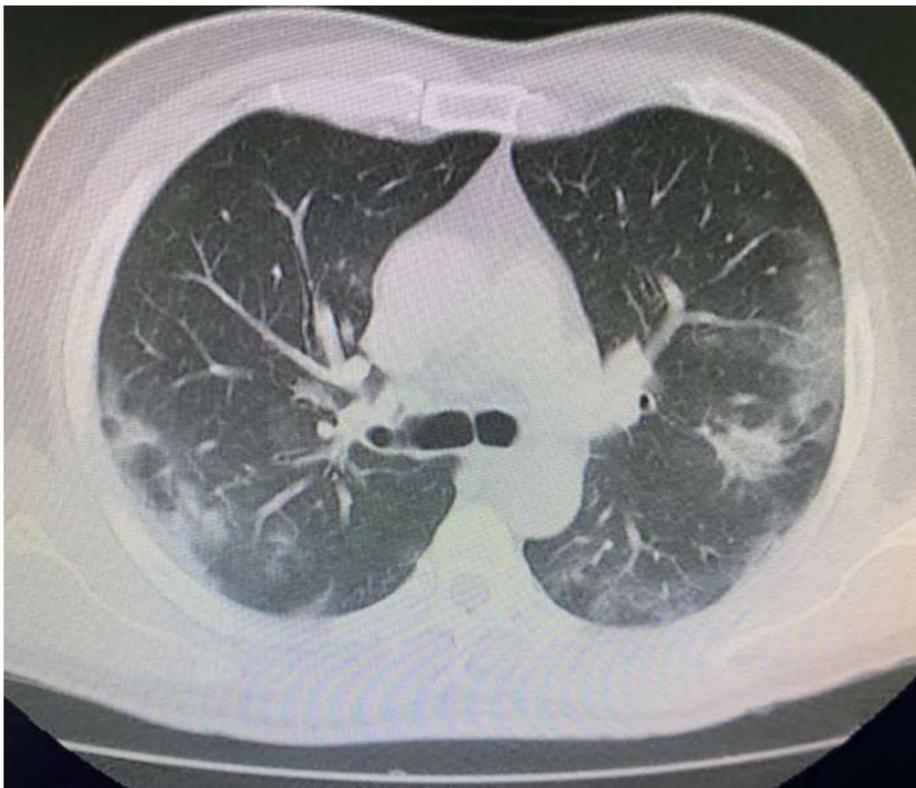
- Predictores de TEP:
 - Dímero D > 2590ng/ml
 - Ningún tipo de anticoagulación indicada

Imágenes en COVID

Rx - TC

- Vidrio esmerilado +/- consolidación
- Engrosamiento de sextos interlobulares
- Bronquiectasias
- Engrosamiento pleural
- Patrón en empedrado
- Compromiso
 - Bilateral
 - Lóbulos inferiores
 - Periférico - Posterior







Early View

Original article

Diagnosing COVID-19 pneumonia in a pandemic setting: Lung Ultrasound *versus* CT (LUVCT) A multi-centre, prospective, observational study

Abstract

Background In this COVID-19 pandemic, fast and accurate testing is needed to profile patients at the emergency department (ED) and efficiently allocate resources. Chest imaging has been considered in COVID-19 workup, but evidence on lung ultrasound (LUS) is sparse. We therefore aimed to assess and compare the diagnostic accuracy of LUS and computed tomography (CT) in suspected COVID-19 patients.

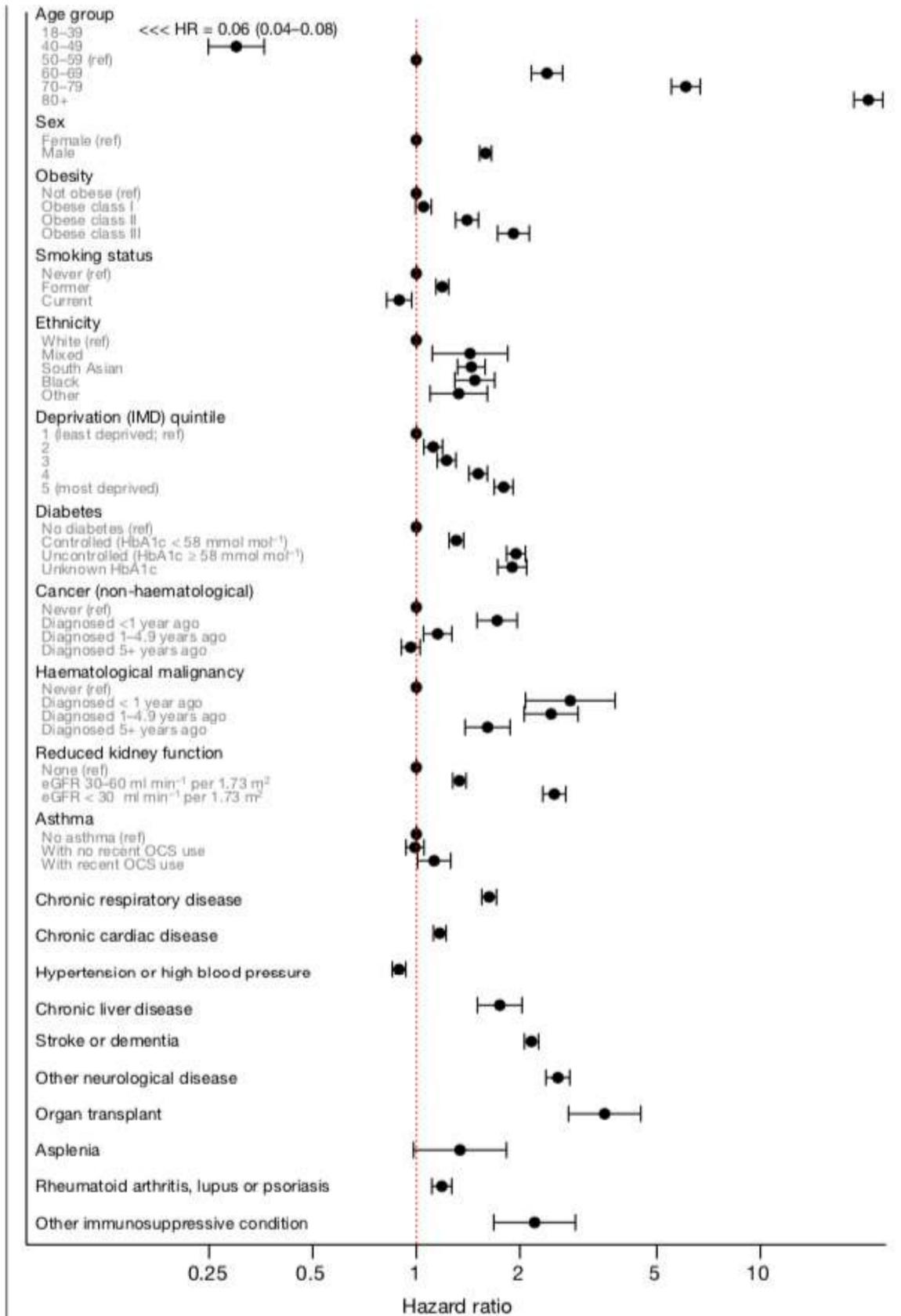
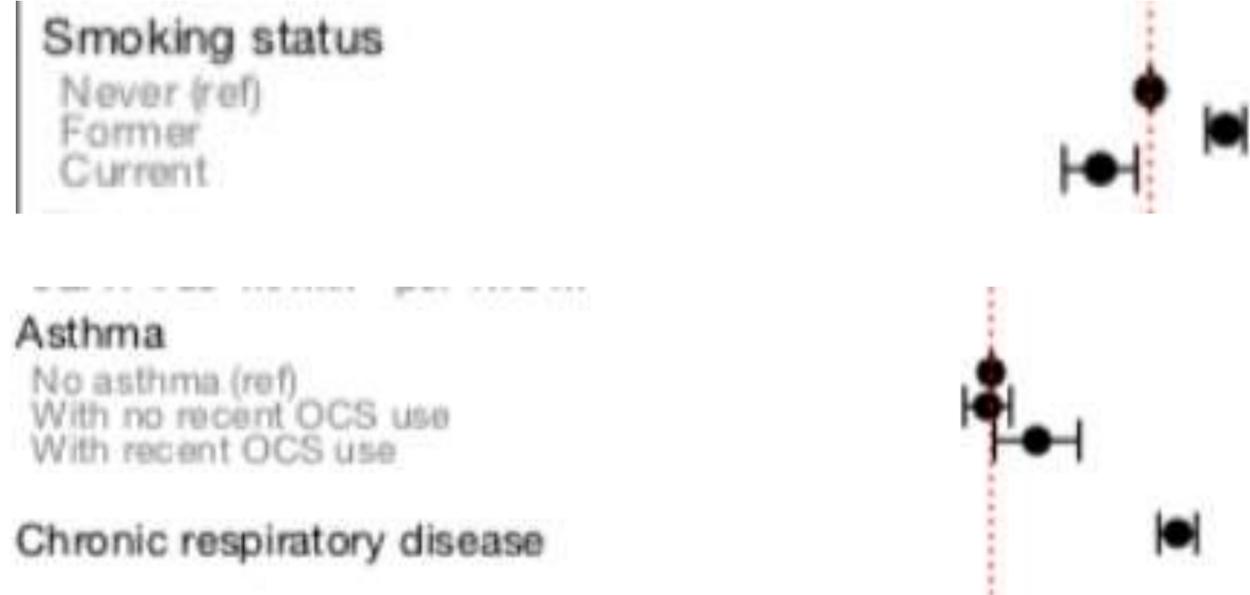
Methods This multi-centre, prospective, observational study included adult patients with suspected COVID-19 referred to internal medicine at the ED. We calculated diagnostic accuracy measures for LUS and CT using both PCR and multi-disciplinary team (MDT) diagnosis as reference. We also assessed agreement between LUS and CT, and between sonographers.

Results Between March 19 and May 4, 2020, 187 patients were included. Area under the receiver operating characteristic (AUROC) was 0.81 (CI 0.75–0.88) for LUS and 0.89 (CI 0.84–0.94) for CT. Sensitivity and specificity for LUS were 91.9% (CI 84.0–96.7) and 71.0% (CI 61.1–79.6), *versus* 88.4% (CI 79.7–94.3) and 82.0% (CI 73.1–89.0) for CT. Negative likelihood ratio was 0.1 (CI 0.06–0.24) for LUS and 0.14 (0.08–0.3) for CT. No patient with a false negative LUS, required supplemental oxygen or admission. LUS specificity increased to 80% (CI 69.9–87.9) compared to MDT diagnosis, with an AUROC of 0.85 (CI 0.79–0.91). Agreement between LUS and CT was 0.65. Inter-observer agreement for LUS was good: 0.89 (CI 0.83–0.93).

Conclusion LUS and CT have comparable diagnostic accuracy for COVID-19 pneumonia. LUS can safely exclude clinically relevant COVID-19 pneumonia and may aid COVID-19 diagnosis in high prevalence situations.

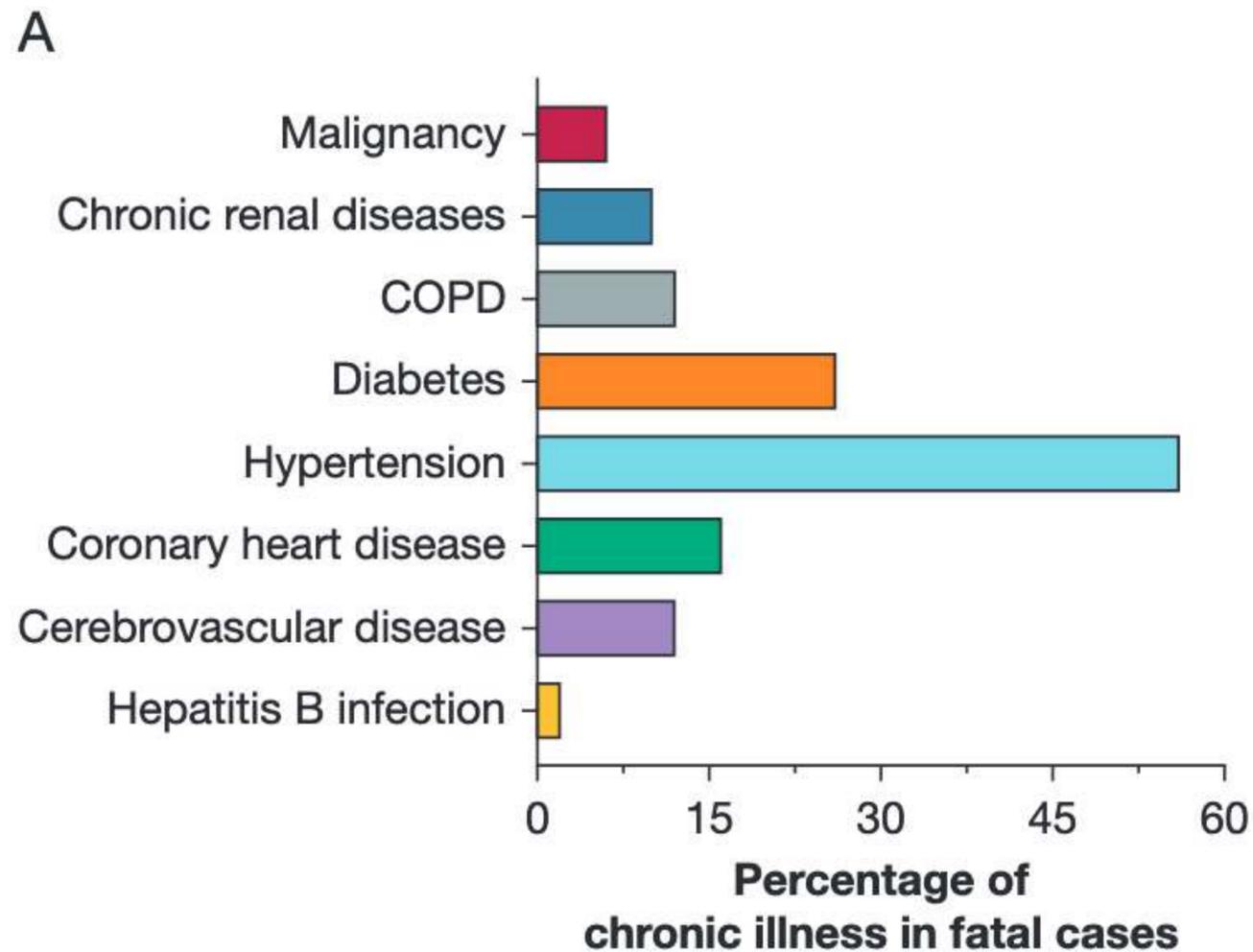
Qué tanto riesgo tienen los pacientes con enfermedades respiratorias crónicas frente al COVID 19?

Factors associated with COVID-19-related death using OpenSAFELY



Risk Factors of Fatal Outcome in Hospitalized Subjects With Coronavirus Disease 2019 From a Nationwide Analysis in China

Check for updates



Asma y EPOC en pacientes hospitalizados por COVID 19

- Wuhan 0% Asma, 1,4% EPOC
- China RS Yang 1,5% enf respiratorias crónicas
- Italia 4% EPOC
- USA 9% Asma, 5,4% EPOC
- UK 14% Asma 19% enf pulmonares crónicas no asmáticas
- España 2,4% Asma, 7,1% EPOC

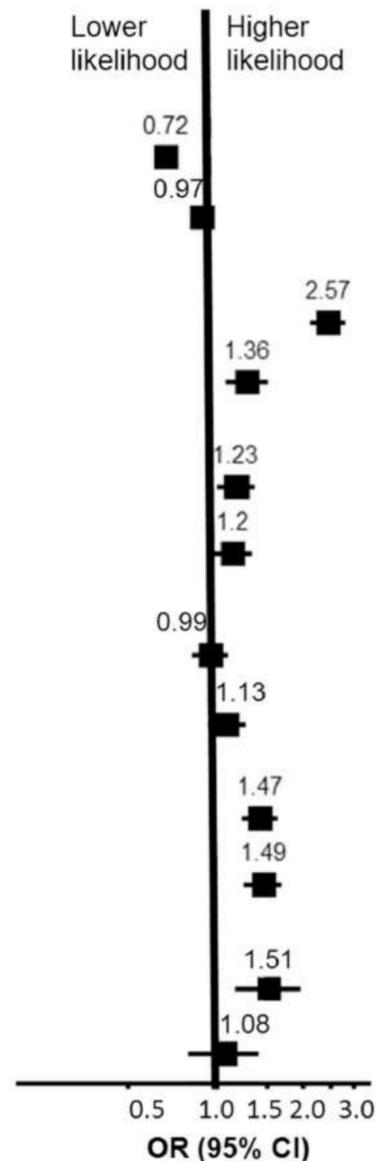
SARS-CoV-2 infection in the COPD population is associated with increased healthcare utilization: An analysis of Cleveland clinic's COVID-19 registry

Amy A Attaway^{a,*}, Joe Zein^{a,b}, Umur S Hatipoğlu^a

^a Respiratory Institute, Cleveland Clinic, 9500 Euclid Avenue A-90, Cleveland, OH 44195, United States

^b Lerner Research Institute, Cleveland Clinic, Cleveland, OH, United States

Outcome	OR (95% CI)
Positive CV-19 test	
Unadjusted	0.72 (0.66-0.77)
Adjusted	0.97 (0.89-1.05)
Risk for hospitalization	
Unadjusted	2.57 (2.22-2.96)
Adjusted	1.36 (1.15-1.60)
ICU admission	
Unadjusted	1.23 (1.06-1.43)
Adjusted	1.20 (1.02-1.40)
Noninvasive ventilation	
Unadjusted	0.99 (0.86-1.14)
Adjusted	1.13 (0.97-1.32)
Invasive mechanical ventilation	
Unadjusted	1.47 (1.27-1.70)
Adjusted	1.49 (1.28-1.73)
In-hospital mortality	
Unadjusted	1.51 (1.14-1.96)
Adjusted	1.08 (0.81-1.42)

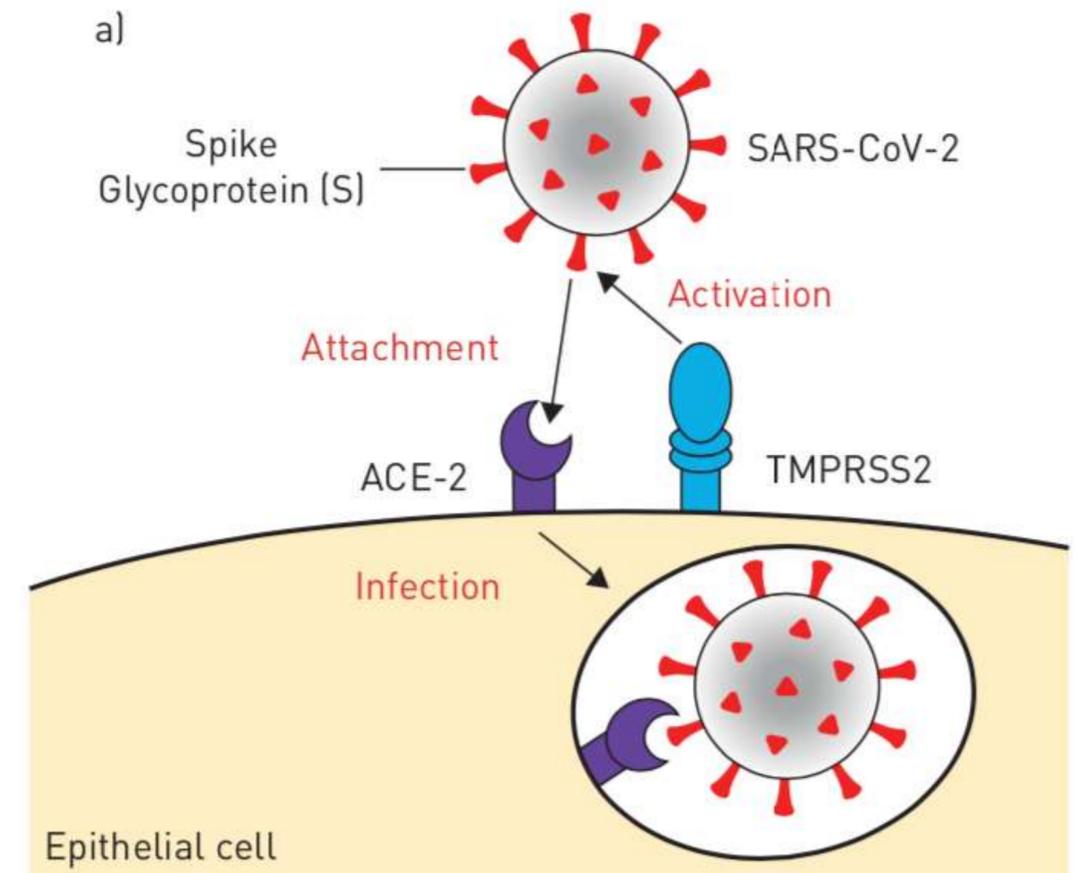


- Riesgo de Infección=
- Riesgo de internación >
- Riesgo de internación en UTI >
- Riesgo de requerir ARM >
- Riesgo de muerte intrahospitalaria =

COVID-19 and COPD

Janice M. Leung^{1,2}, Masahiro Niikura³, Cheng Wei Tony Yang¹ and Don D. Sin^{1,2}

- Riesgo de enfermarse no sería mayor al de la población general
- Al enfermarse tendrían peor evolución
- Receptores ACE2 up regulated en la vía aérea de pacientes EPOC y tabaquistas (principalmente VA superior) vinculado a la nicotina
- Meds: uso de corticoides inhalados en asmáticos disminuye los ACE2. No suspender tto de base
- Recovery uso de Dexametasona bajó la mortalidad 1/3
- Controles clínicos - rehabilitación





Early View

Original article

Effect of Asthma and Asthma Medication on the Prognosis of Patients with COVID-19

Yong Jun Choi, Ju-Young Park, Hye Sun Lee, Jin Suh, Jeung Yoon Song, Min Kwang Byun, Jae Hwa Cho, Hyung Jung Kim, Jae-Hyun Lee, Jung-Won Park, Hye Jung Park

- 7590 pacs COVID 19
 - 3% asmáticos
 - Gasto médico > a no asmáticos
 - Mortalidad en COVID + Asma 7.8%
 - Asma no factor de riesgo independiente
 - Asma solo en tto con salbutamol si
- factor de riesgo independiente de mortalidad
 - Asmáticos en escalón 5 de tto internaciones más prolongadas

COVID-19: GINA ANSWERS TO FREQUENTLY ASKED QUESTIONS ON ASTHMA MANAGEMENT



GLOBAL INITIATIVE
FOR ASTHMA

- Los pacientes asmáticos deben continuar con todos sus tratamientos, incluidos los corticoides inhalados
- En el caso de una exacerbación se deber indicar corticoides sistémicos
- Los pacientes asmáticos que requieren corticoides sistémicos crónicos los deben seguir recibiendo (evaluar la indicación de biológicos)
- Las Nebulizaciones deben ser evitadas siempre que sea posible
 - Aerosoles con espaciador/aerocámara
 - Durante el tratamiento por una exacerbación no se debe suspender el tratamiento de base
- Los pacientes con rinitis alérgica deben continuar con sus corticoides nasales
- Las espirometrías de rutina deben ser suspendidas y se realizarán en casos muy especiales

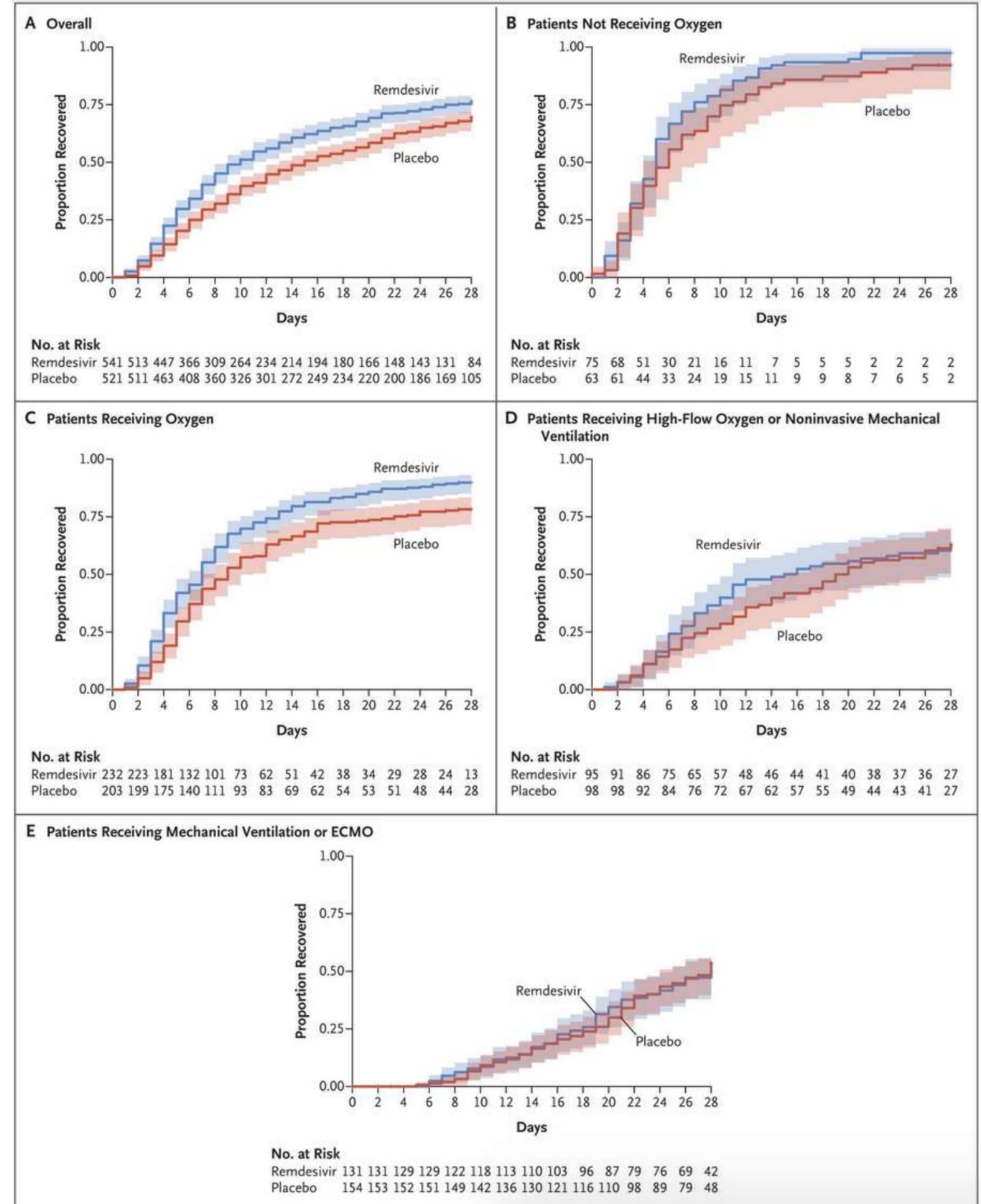
**Updated guidance on the management of
COVID-19: from an American Thoracic
Society/European Respiratory Society
coordinated International Task Force
(29 July 2020)**

- Remdesivir: pacientes internados por neumonía COVID 19 que requieren O2 suplementario o ARM
- Dexametasona: pacientes internados por neumonía COVID 19 que requieren O2 suplementario o ARM
- Anticoagulación: por 3 meses en los pacientes internados por neumonía COVID19 en quienes se diagnosticó TVP

ORIGINAL ARTICLE

Remdesivir for the Treatment of Covid-19 — Final Report

J.H. Beigel, K.M. Tomashek, L.E. Dodd, A.K. Mehta, B.S. Zingman, A.C. Kalil, E. Hohmann, H.Y. Chu, A. Luetkemeyer, S. Kline, D. Lopez de Castilla, R.W. Finberg, K. Dierberg, V. Tapson, L. Hsieh, T.F. Patterson, R. Paredes, D.A. Sweeney, W.R. Short, G. Touloumi, D.C. Lye, N. Ohmagari, M. Oh, G.M. Ruiz-Palacios, T. Benfield, G. Fätkenheuer, M.G. Kortepeter, R.L. Atmar, C.B. Creech, J. Lundgren, A.G. Babiker, S. Pett, J.D. Neaton, T.H. Burgess, T. Bonnett, M. Green, M. Makowski, A. Osinusi, S. Nayak, and H.C. Lane, for the ACTT-1 Study Group Members*

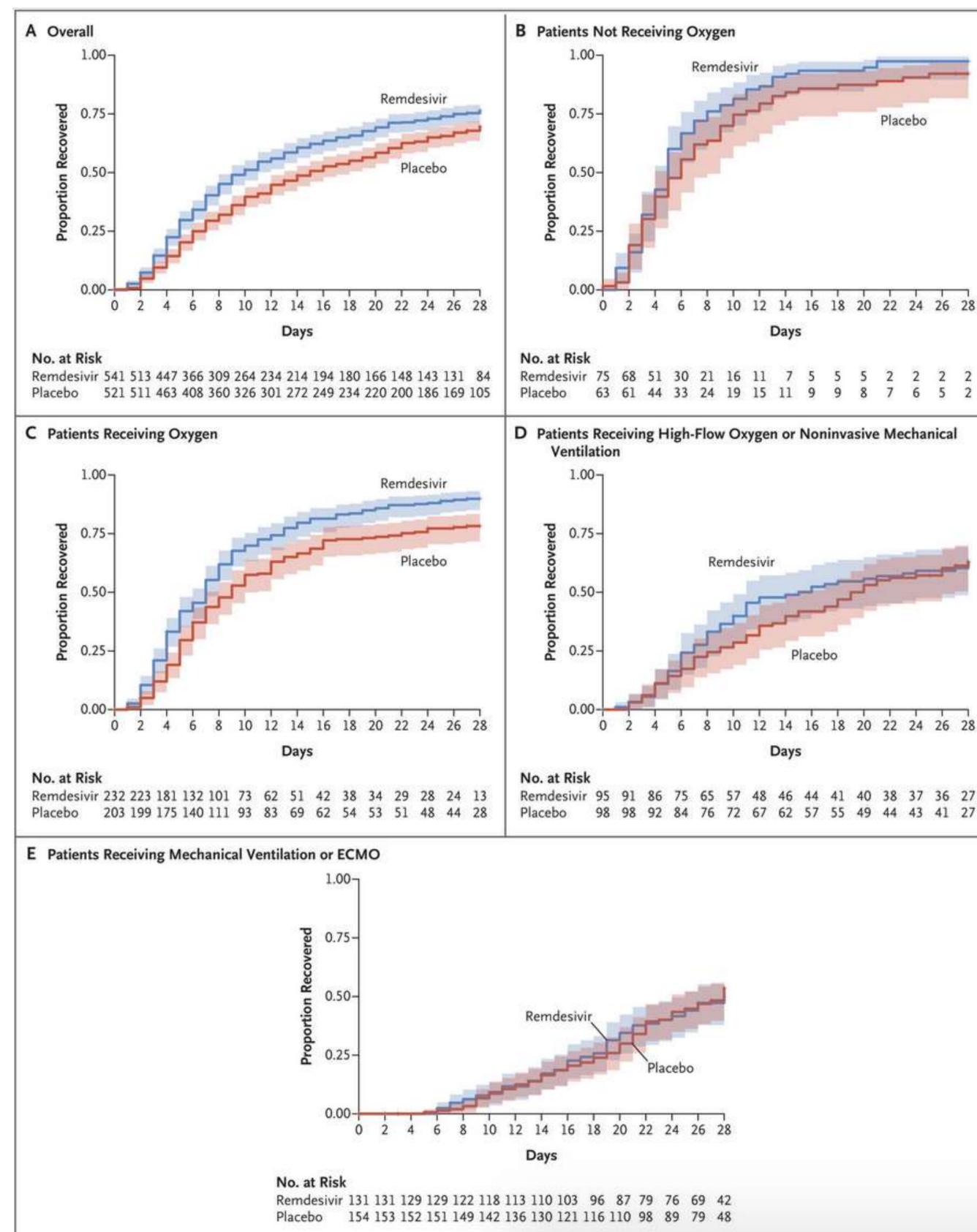


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Mejoría al día 15
OR 1,5 en el grupo
tratado
(CI 95% 1.2- 1.9)

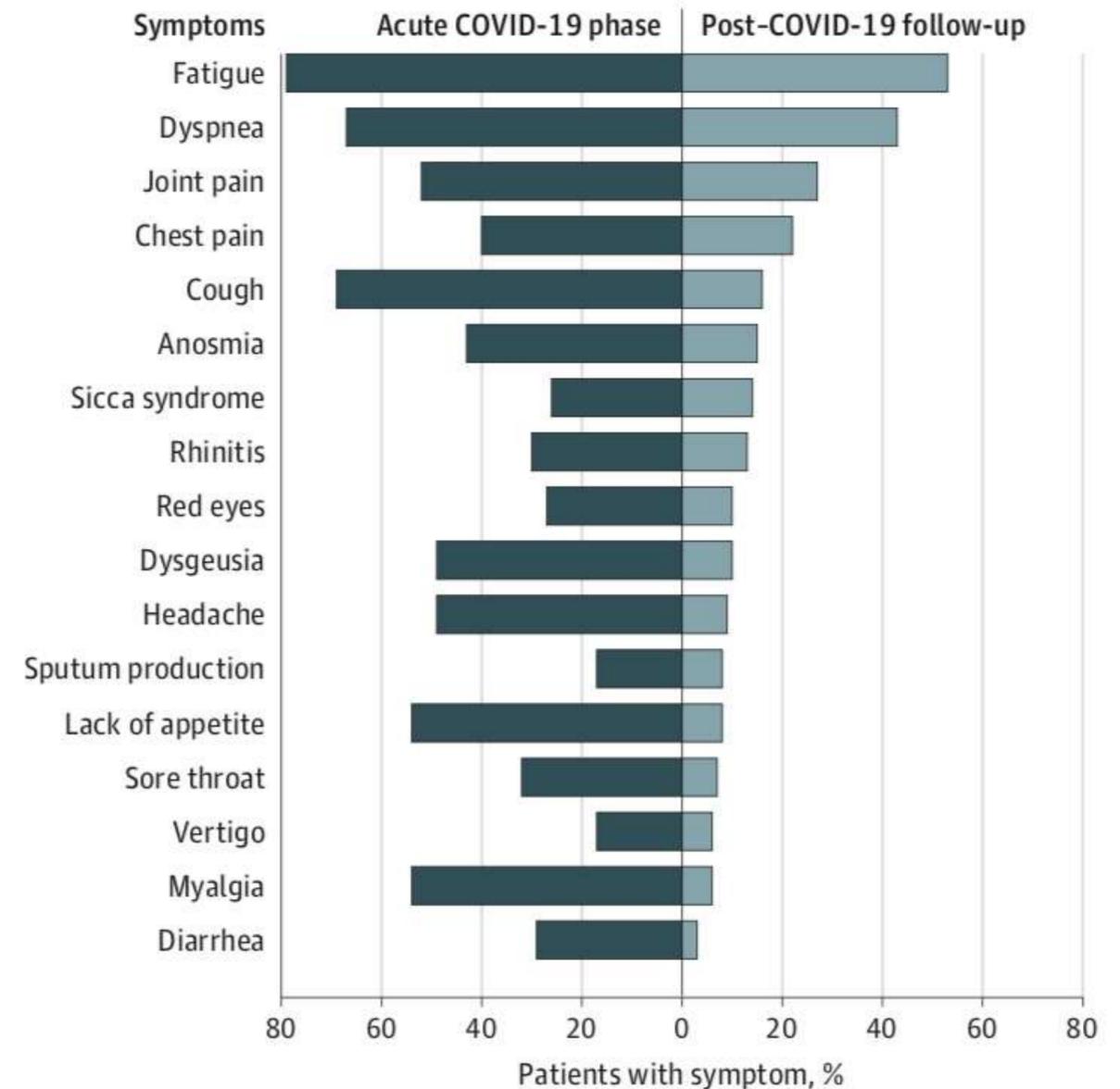


Post COVID

Síntomas persistentes post COVID 19 agudo

- 143 pacientes incluidos entre el 21/4 y el 29/5
- Edad media 56.5 años
- 53% mujeres
- 73% neumonía intersticial
- Evaluación a los 60 días del inicio de síntomas
- 12% asintomáticos

Figure. COVID-19–Related Symptoms



The figure shows percentages of patients presenting with specific coronavirus disease 2019 (COVID-19)-related symptoms during the acute phase of the disease (left) and at the time of the follow-up visit (right).



ORIGINAL ARTICLE
COVID-19

Persistent symptoms 3 months after a SARS-CoV-2 infection: the post-COVID-19 syndrome?

Yvonne M.J. Goërtz^{1,2,3,9}, Maarten Van Herck^{1,2,3,4,9}, Jeannet M. Delbressine¹, Anouk W. Vaes ¹, Roy Meys^{1,2,3}, Felipe V.C. Machado^{1,2,3}, Sarah Houben-Wilke¹, Chris Burtin⁴, Rein Posthuma ^{1,2,3}, Frits M.E. Franssen ^{1,2,3}, Nicole van Loon^{1,5}, Bitaj Hajian ^{1,2,3}, Yvonne Spies⁶, Herman Vijlbrief⁶, Alex J. van 't Hul ⁷, Daisy J.A. Janssen ^{1,8} and Martijn A. Spruit ^{1,2,3,4}

- Encuesta en 2 grupos de FB en Holanda y Bélgica de pacientes que tuvieron COVID 19
- Pac ambulatorios e internados no en UTI
- Bajo % de asintomáticos a los 3m
- Media de 6 síntomas
- Principales fatiga y disnea como en otras series

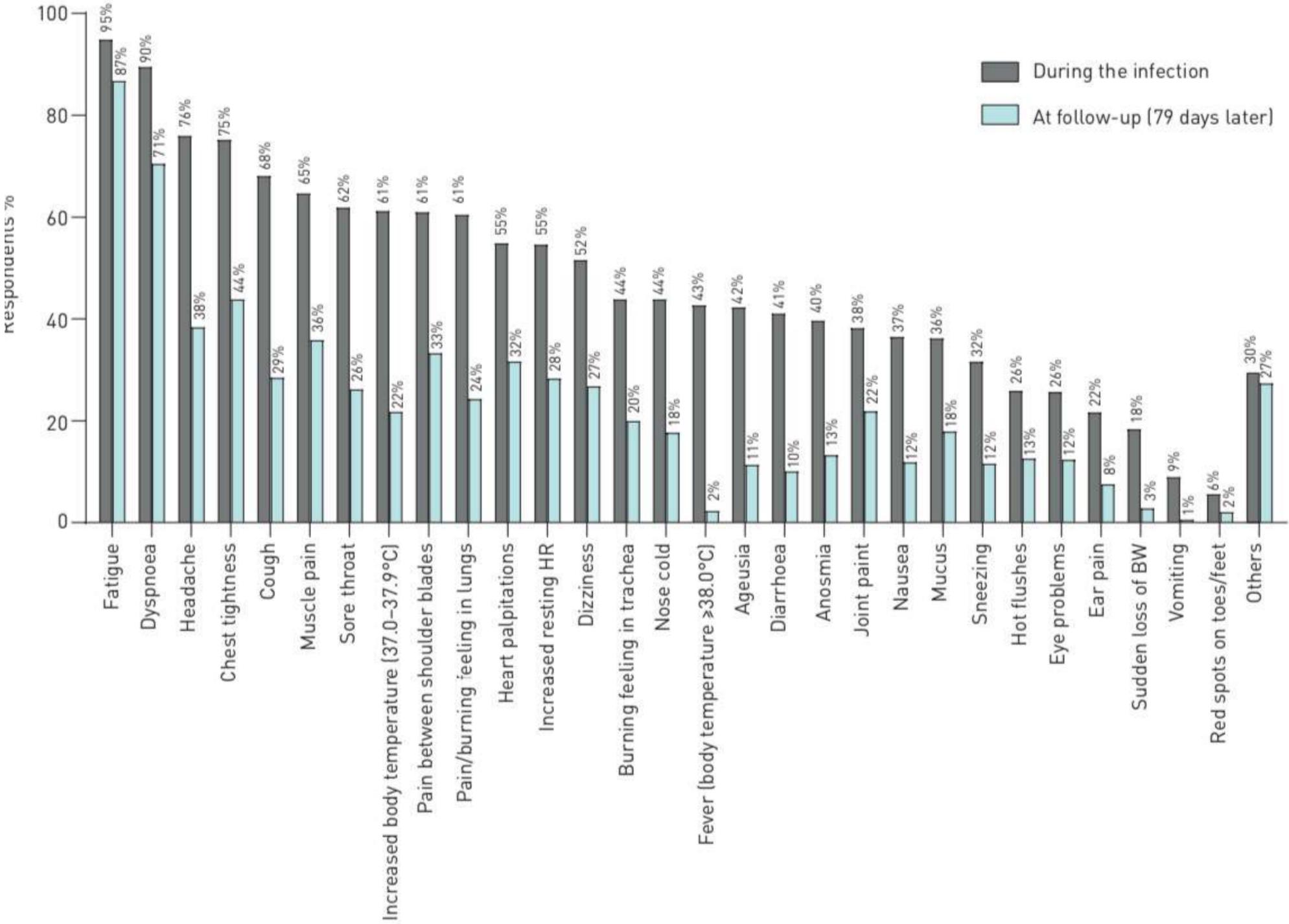


FIGURE 2 Prevalence of symptoms during the infection and at follow-up (79 days later). BW: body weight; HR: heart rate.

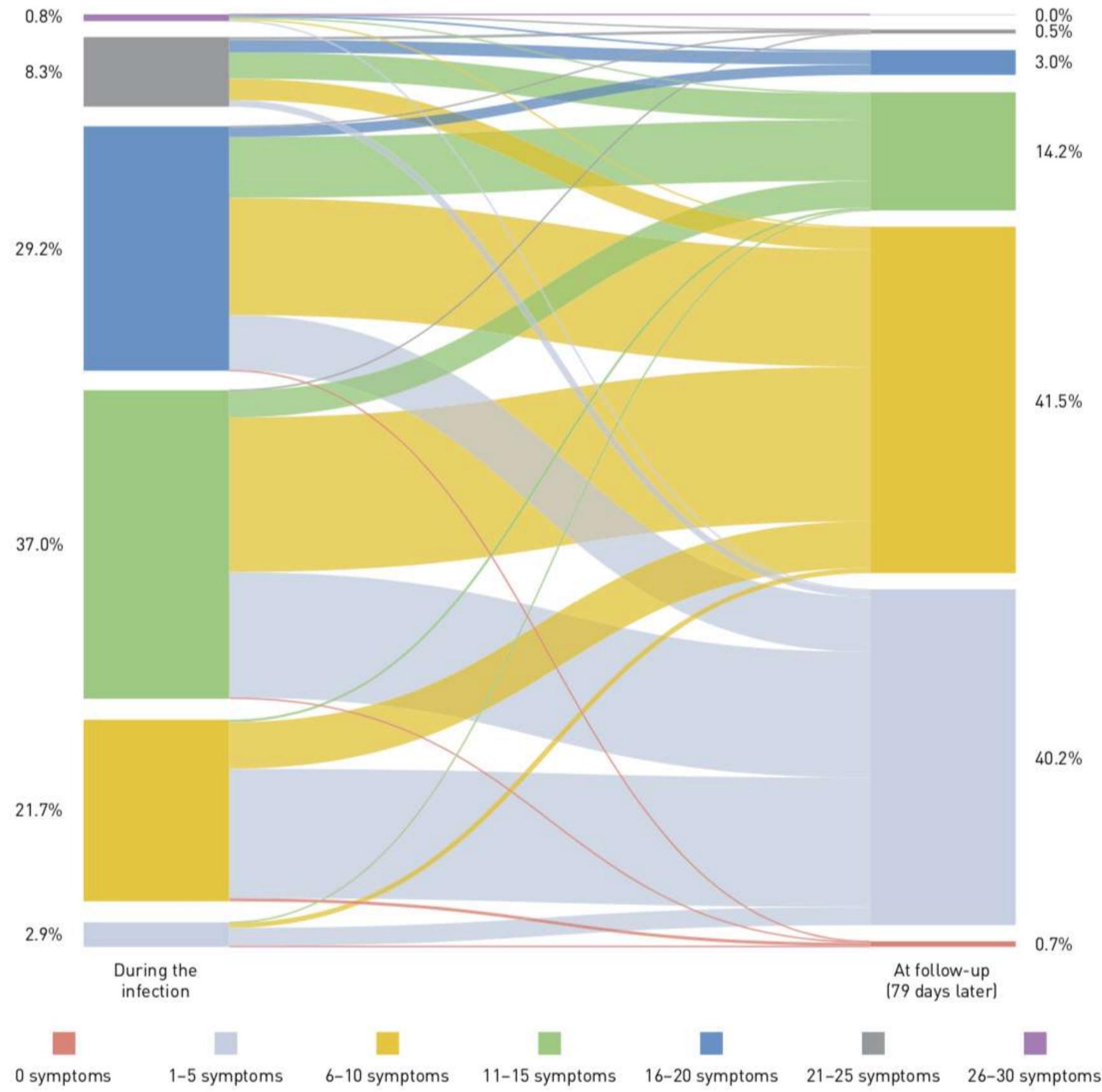


FIGURE 1 Prevalence and change in the total number of symptoms during and 3 months after infection. The width of lines in the figure are proportional to the flow rate.

Secuelas respiratorias post COVID

- 30% de los pacientes con secuelas
 - 80% déficits leves
- Tos crónica
- Fibrosis pulmonar
- Bronquiectasias
- Signos de fibrosis desde las 3 semanas de inicio de síntomas
- Alteración función pulmonar desde 2 semanas post alta

No sabemos:

factores de riesgo para lesiones pulmonares permanentes

evolución de las lesiones pulmonares según los tratamientos (dexa/ remdesivir)



Early View

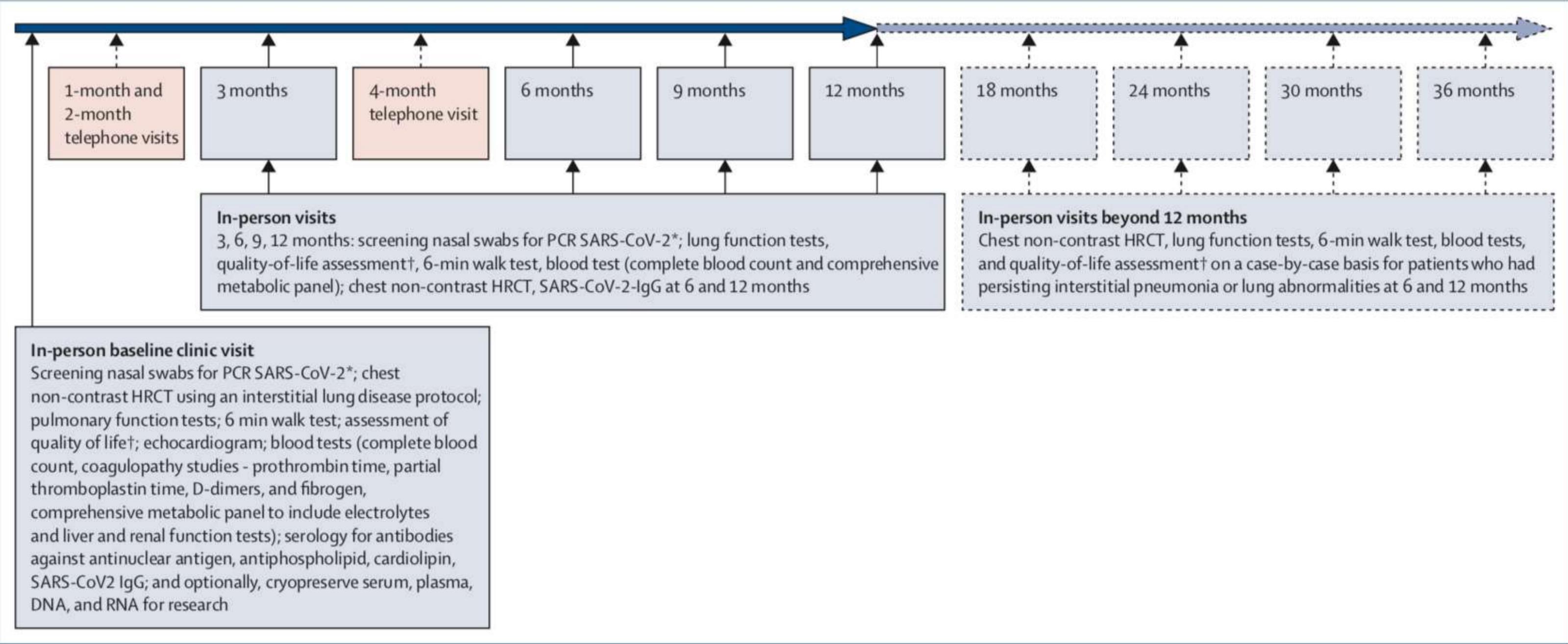
Original article

COVID-19: Interim Guidance on Rehabilitation in the Hospital and Post-Hospital Phase from a European Respiratory Society and American Thoracic Society-coordinated International Task Force

Martijn A. Spruit, Anne E. Holland, Sally J. Singh, Thomy Tonia, Kevin C. Wilson, Thierry Troosters

- Rehabilitación individualizada en lo motriz, respiratorio y emocional desde el ingreso
- Evaluar antes del alta el requerimiento de O₂ en reposo y en ejercicio
- Reevaluar a las 4 a 6 semanas

COVID-19 interstitial pneumonia: monitoring the clinical course in survivors



"El mejor médico es el que conoce la inutilidad de la mayor parte de las medicinas"

Benjamin Franklin