

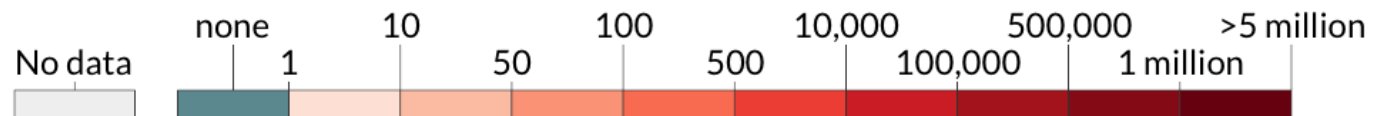
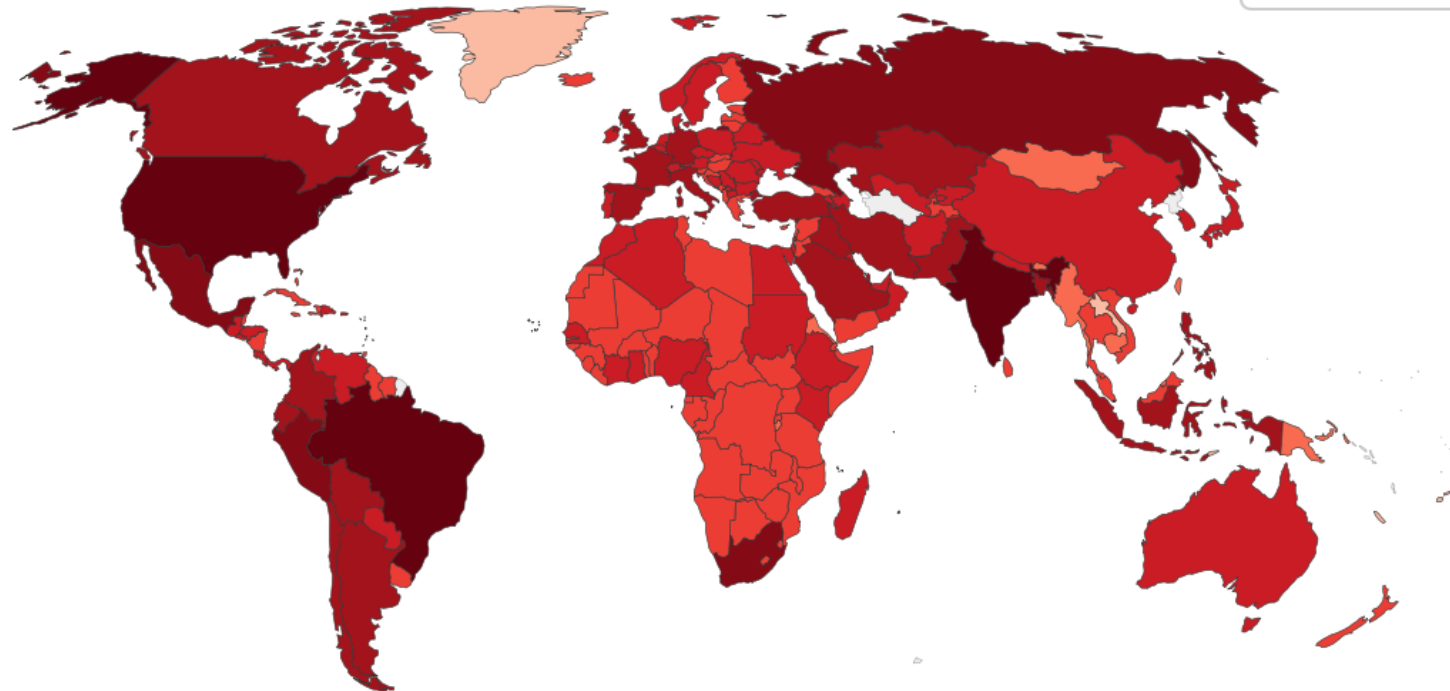
Evolución del diagnóstico y tratamiento de COVID-19 durante la pandemia

Dr. Jhon Cuenca Vega
Médico Clínico Intensivista
Grupo Hospitalario Kennedy
Guayaquil, Ecuador

Cumulative confirmed COVID-19 cases, Aug 19, 2020

The number of confirmed cases is lower than the number of actual cases; the main reason for that is limited testing.

World

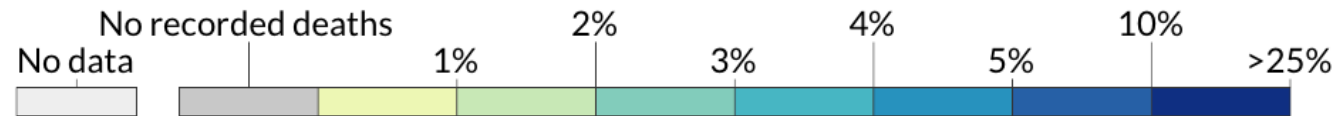
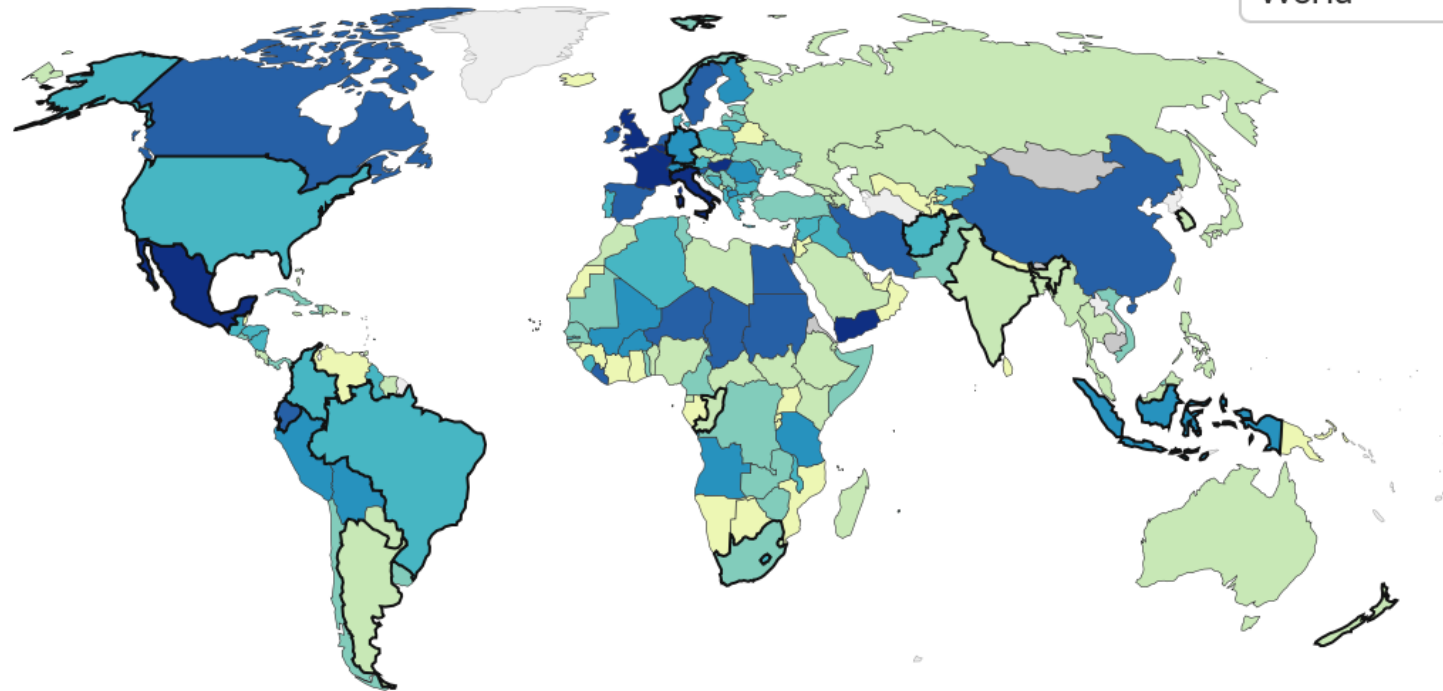


Source: European CDC – Situation Update Worldwide – Last updated 19 August, 10:04 (London time), Official data collated by Our World in Data
CC BY

Case fatality rate of the ongoing COVID-19 pandemic, Aug 19, 2020

The Case Fatality Rate (CFR) is the ratio between confirmed deaths and confirmed cases. During an outbreak of a pandemic the CFR is a poor measure of the mortality risk of the disease. We explain this in detail at [OurWorldInData.org/Coronavirus](https://ourworldindata.org/coronavirus)

World 



Source: European CDC - Situation Update Worldwide - Last updated 19 August, 10:04 (London time)

CC BY

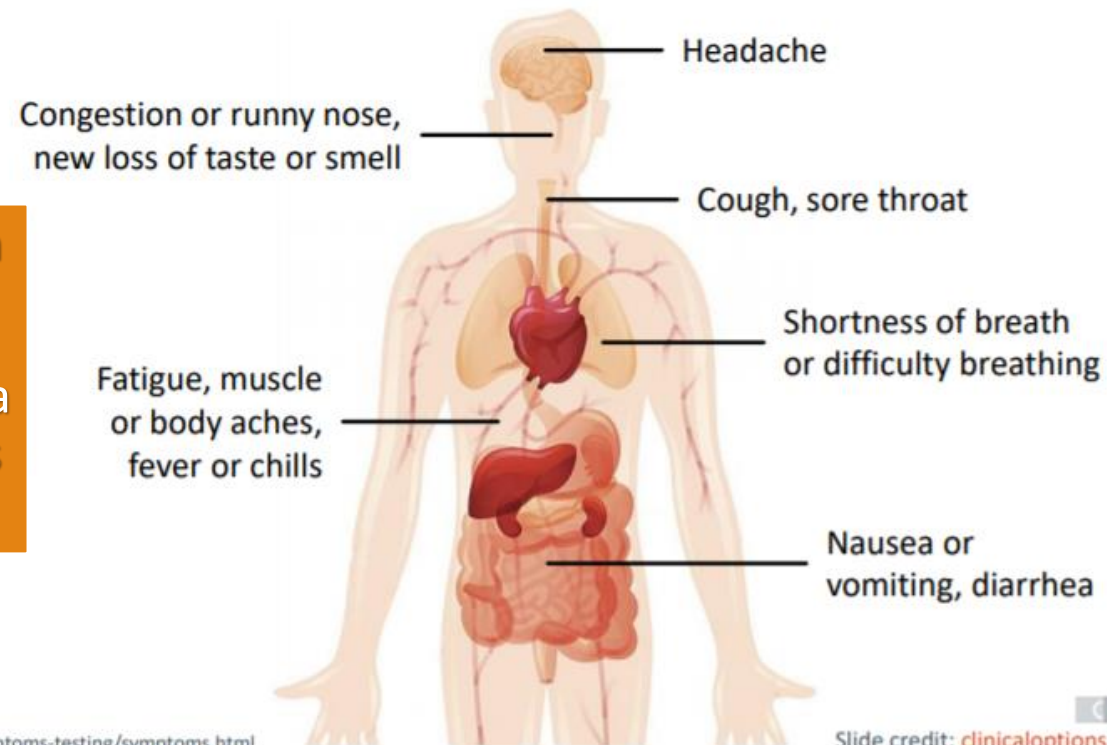
Comparación:

❖ EEUU	328 millones hab	5,410,000 ptes	1,64	170.000 muertos	3.14 %
❖ Brasil	210 millones hab	3,340,000 ptes	1,5	108.000 muertos	3.23%
❖ Alemania	83 millones hab	228,000 ptes	0,27	9.305 muertos	4.08%
❖ Holanda	17,280,000 hab	65,000 ptes	0,37	6.000 muertos	9.2%
❖ Suecia	10,230,000 hab	85,219 ptes	0,83	5790 muertos	6.8%
❖ Corea S	51,640,000 hab	16,058 ptes	0,03	306 muertos	1.9%
❖ Chile	18,000,000 hab	386,000 ptes	2,14	10.452 muertos	7%
❖ Peru	32,000.000 hab	536,000 ptes	1,6	26.281 muertos	6.8%
❖ Ecuador	17,000.000 hab	102,000 ptes	0,6	6.070 muertos	5.95%

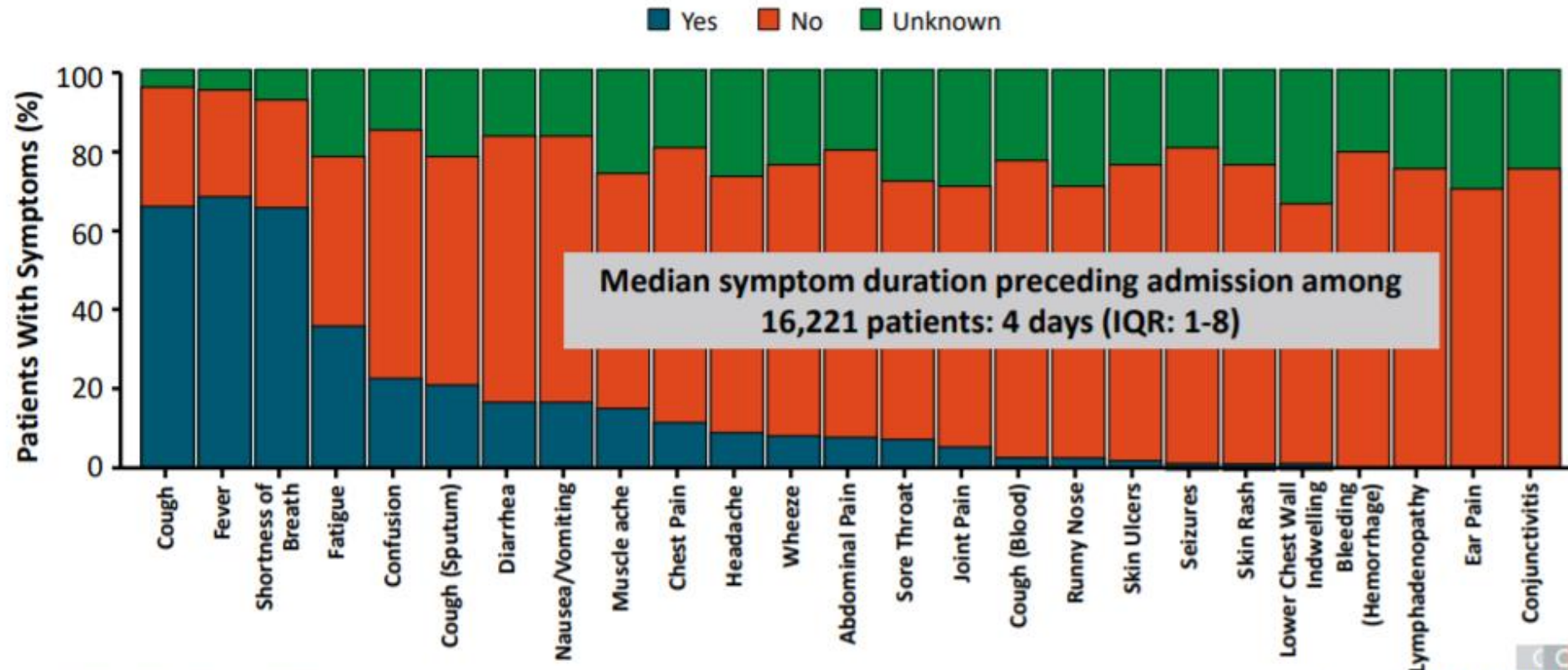
CUADRO CLINICO

Periodo de incubación
de 1 a 14 días.

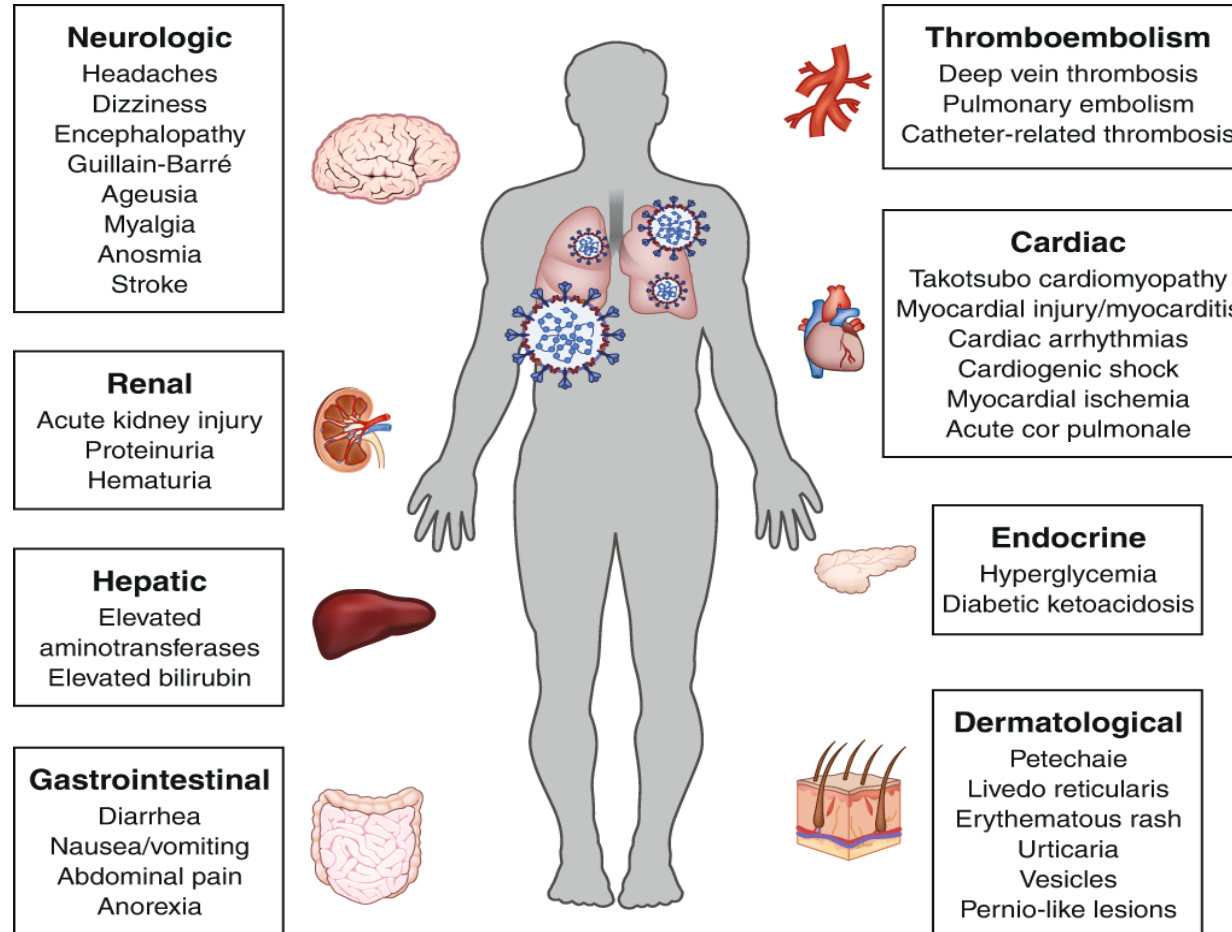
Generalmente al 5 día
aparecen los síntomas



Frecuencia de síntomas: Reino Unido



Manifestaciones extrapulmonares



Diagnóstico

En los momentos actuales todo paciente con fiebre, cefalea, tos, diarrea, pérdida del olfato, del gusto, odinofagia, malestar general debe de considerarse como COVID hasta que no se demuestre lo contrario.

Diagnóstico

PCR HISOPADO TRACTO RESPIRATORIO

BAL O ESPUTO 2 AL 3 DIA

HECES 10 DIA

PRUEBAS RAPIDAS 2 A 3 SEMANA

INMUNOGOBLINAS CUANTITATIVAS 2 A LA 3 SEMANA

EXAMENES DE LABORATORIO

❖ HEMOGRAMA

❖ PCR

❖ HEPATOGRAMA

❖ LDH

❖ UREA CREATININA

❖ IONOGRAMA

❖ DIMERO D

❖ FERRITINA

❖ IL6

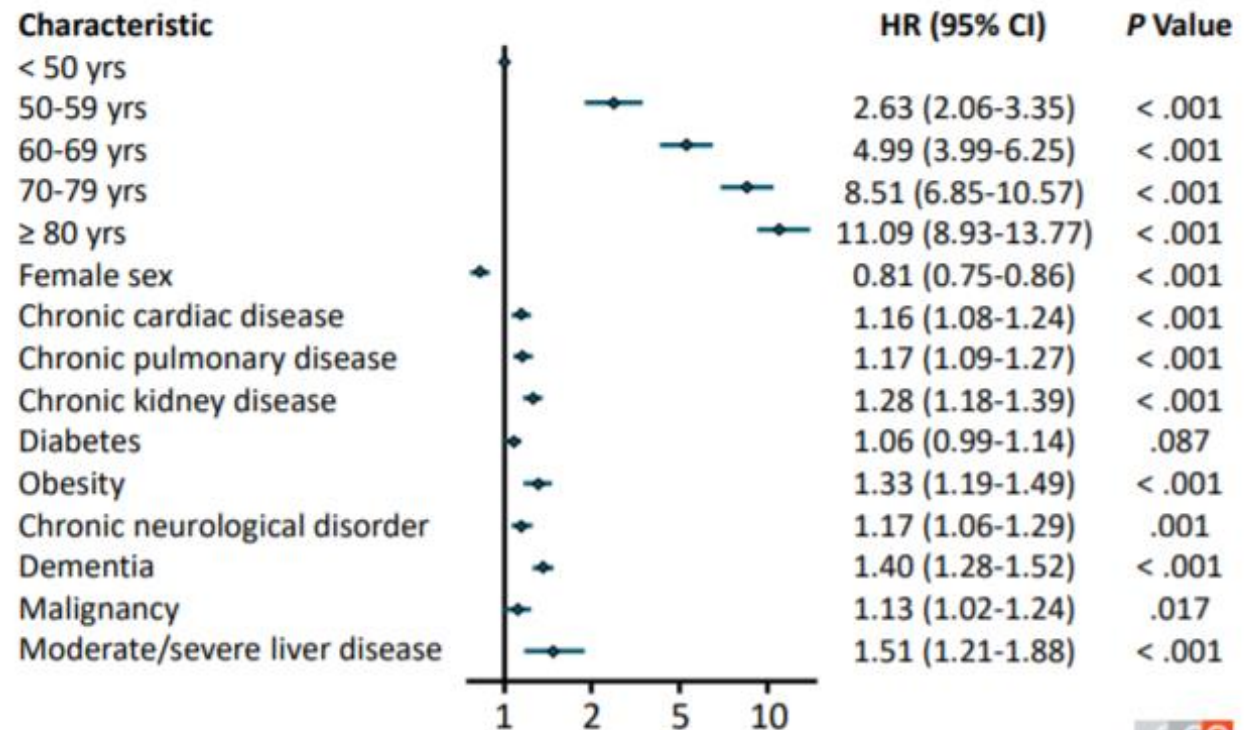
Predicción de enfermedad severa

- ❖ Contaje de linfocitos, menor a 1000
- ❖ PCR
- ❖ IL6
- ❖ IL8

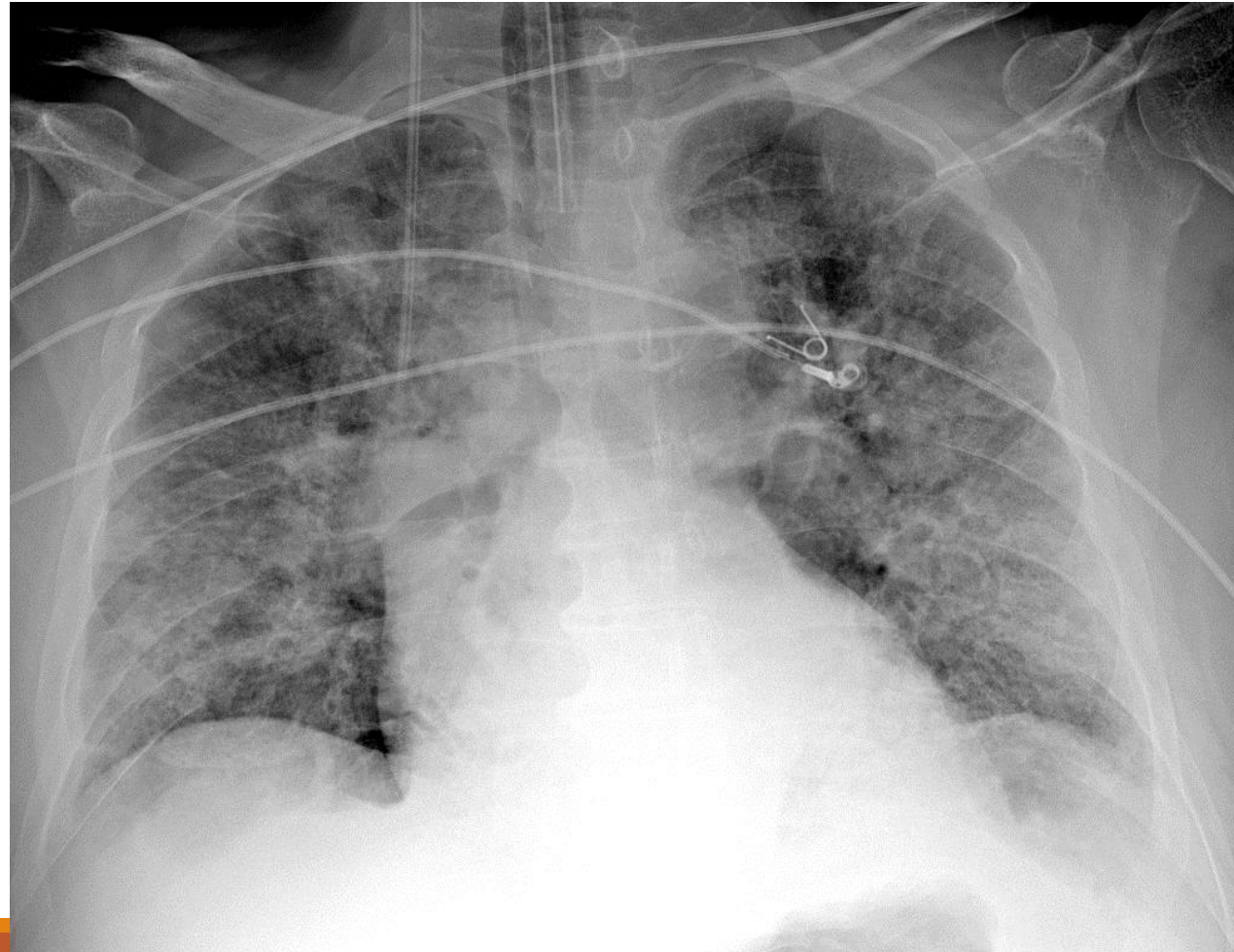
Factores de riesgo de mortalidad en Reino Unido

- Prospective observational cohort study of hospital admissions in England, Wales, and Scotland during February 6 - April 19, 2020 (N = 20,133)
 - Significantly increased risk of mortality among **older patients, men, and those with chronic comorbidities**

Multivariate Survival Analysis



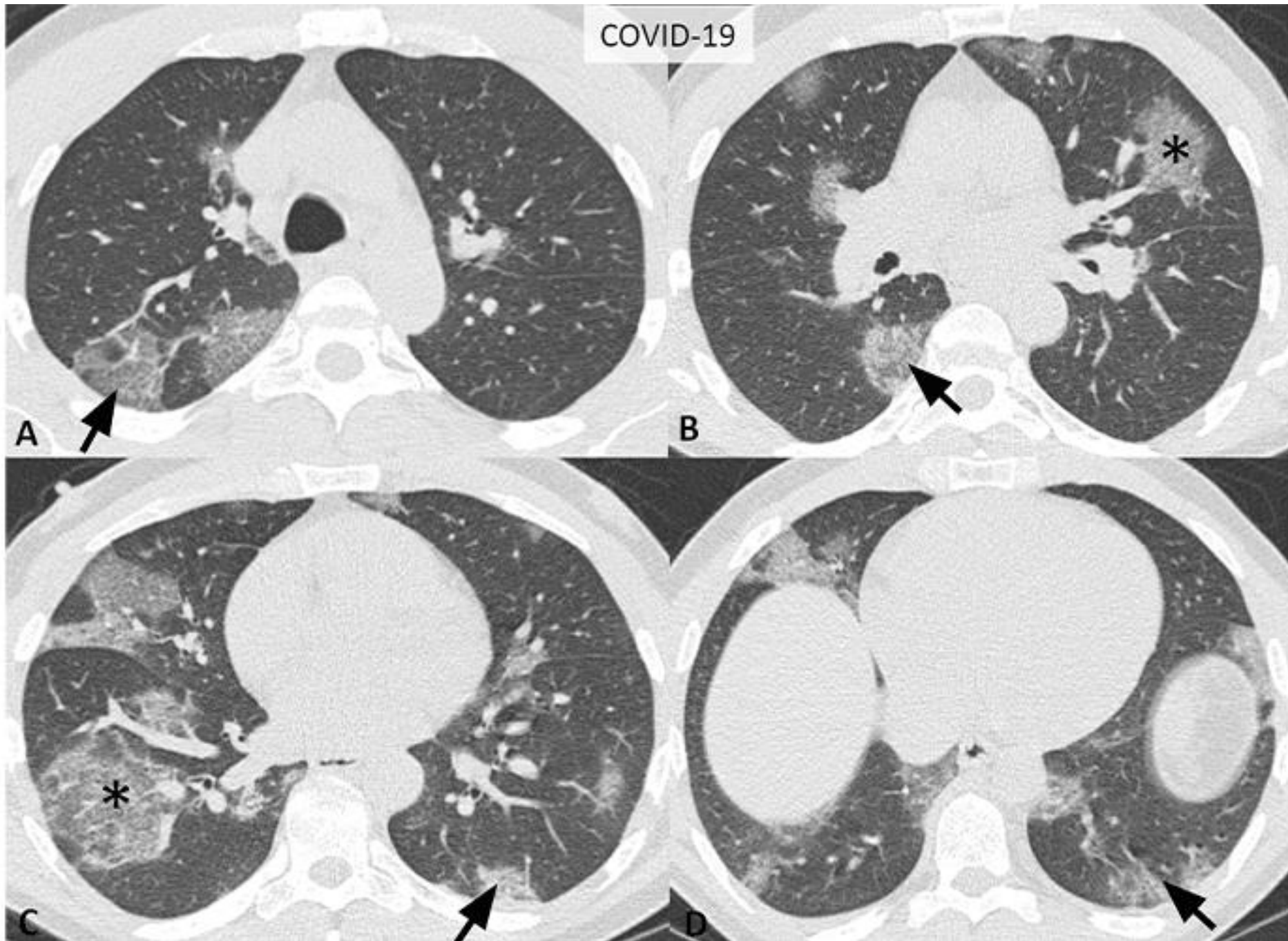
RADIOGRAFIA DE TORAX



TOMOGRAFIA DE TORAX

- ❖ Opacidades bilaterales periféricas en vidrio esmerilado
- ❖ Consolidaciones
- ❖ Patrón en empedrado
- ❖ Derrame pleural
- ❖ Adenopatías
- ❖ Derrame pericárdico
- ❖ Neumotórax
- ❖ Neumomediastino
- ❖ En **60** al **93** por ciento hay lesiones evidenciadas x tac
- ❖ **Es diagnostico es más precoz que la PCR**

COVID-19



Inicios de la pandemia: Manejo en Fase Virémica

❖ Manejo Sintomático

- Control de Temperatura: Paracetamol
- Hidratación Oral

❖ Hidroxicloroquina

❖ Ivermectina

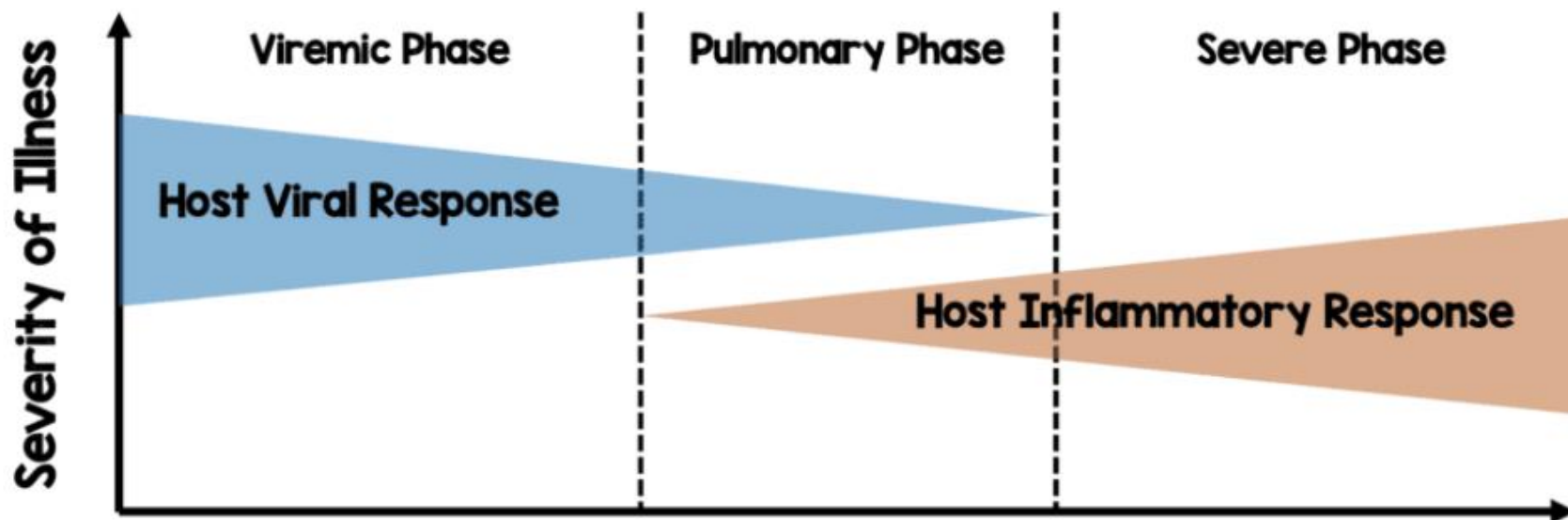
❖ Nitazoxanida

❖ Antivirales

- Lopinavir / Ritonavir

Inicios de la pandemia: Manejo Fase Pulmonar e Hiperinflamatoria

- ❖ Oxigenoterapia
- ❖ Corticoides
- ❖ Tocilizumab
- ❖ Metotrexato
- ❖ Remdesivir
- ❖ Interferón
- ❖ Plasmaféresis



Time Course

Antivirals	Antivirals, Corticosteroids, Anticoagulation, Convalescent Plasma	Corticosteroids, Anticoagulation, IL-6 Inhibitors, JAK Inhibitors
Reduce duration of symptoms, minimize contagiousness, & potentially reduce progression of disease	Anti-inflammatory therapy	Anti-inflammatory and immunomodulatory therapy

Tratamiento de COVID leve

- ❖ Aislamiento
- ❖ Paracetamol
- ❖ Hidratación
- ❖ Nutrición
- ❖ No exámenes de laboratorio
- ❖ No AAS
- ❖ Domiciliario

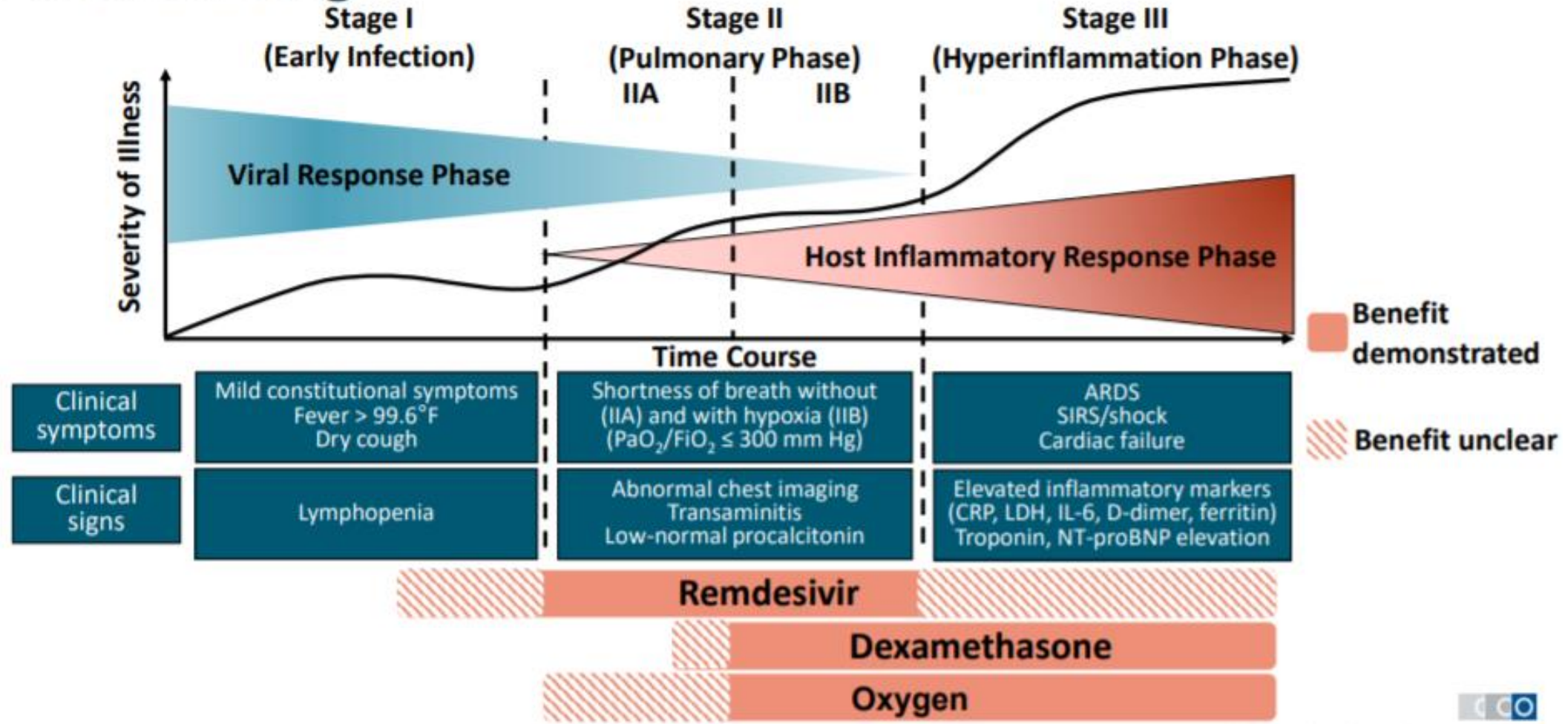
Tartamiento de COVID moderado

- ❖ Monitoreo estricto
- ❖ Alto riesgo de deterioro
- ❖ Ante la sospecha de sepsis, ATB empírico
- ❖ Rx o Tac y EKG
- ❖ Medidas de prevención de infecciones
- ❖ Aislado en casa u hospitalizado

NIH COVID 19 Treartment Guidelines

WHO Interirn Guidance.Clinical management of Covi19 mayo21,2020

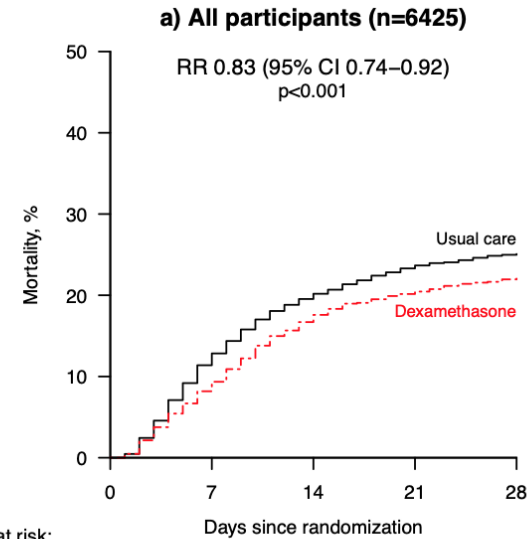
COVID-19 Therapies Predicted to Provide Benefit at Different Stages



RECOVERY

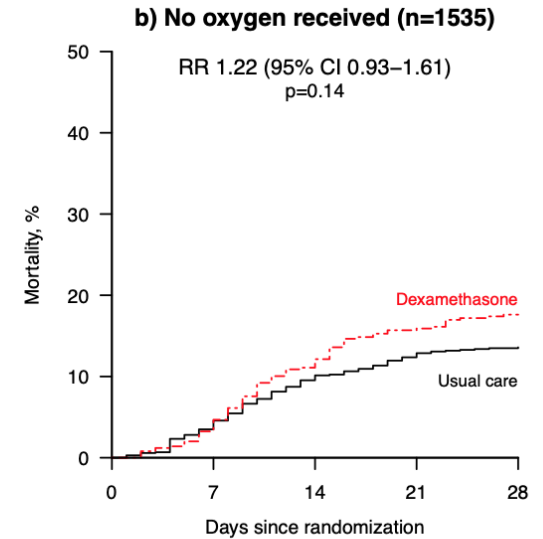
Randomised Evaluation of COVID-19 Therapy

Dexamethasone reduced deaths by one-third in ventilated patients (rate ratio 0.65 [95% confidence interval 0.48 to 0.88]; $p=0.0003$) and by one fifth in other patients receiving oxygen only (0.80 [0.67 to 0.96]; $p=0.0021$). There was no benefit among those patients who did not require respiratory support (1.22 [0.86 to 1.75; $p=0.14$).

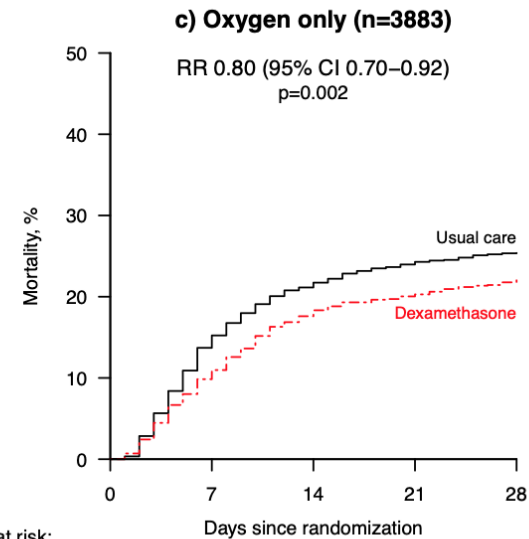


Number at risk:

Dexamethasone	2104	1860	1670	1595	1547
Usual care	4321	3700	3329	3154	3053

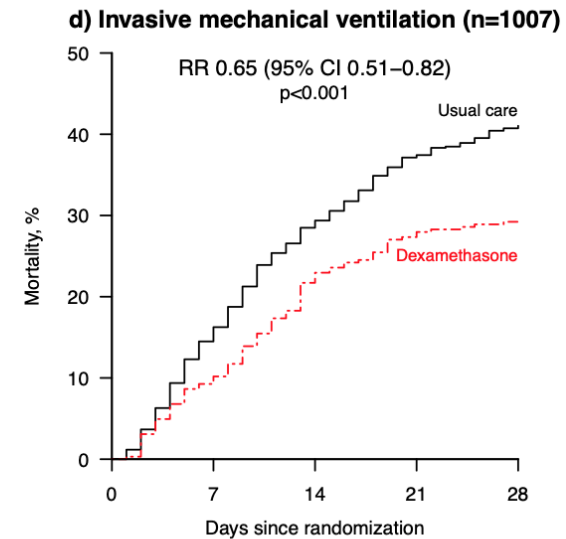


Dexamethasone	501	463	420	394	383
Usual care	1034	969	890	856	832



Number at risk:

Dexamethasone	1279	1107	1004	971	940
Usual care	2604	2162	1965	1880	1832



Dexamethasone	324	290	246	230	224
Usual care	683	569	474	418	389

Remdesivir for the Treatment of Covid-19 — Preliminary 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*


METHODS

We conducted a double-blind, randomized, placebo-controlled trial of intravenous remdesivir in adults hospitalized with Covid-19 with evidence of lower respiratory tract involvement. Patients were randomly assigned to receive either remdesivir (200 mg loading dose on day 1, followed by 100 mg daily for up to 9 additional days) or placebo for up to 10 days. The primary outcome was the time to recovery, defined by either discharge from the hospital or hospitalization for infection-control purposes only.

RESULTS

A total of 1063 patients underwent randomization. The data and safety monitoring board recommended early unblinding of the results on the basis of findings from an analysis that showed shortened time to recovery in the remdesivir group. Preliminary results from the 1059 patients (538 assigned to remdesivir and 521 to placebo) with data available after randomization indicated that those who received remdesivir had a median recovery time of 11 days (95% confidence interval [CI], 9 to 12), as compared with 15 days (95% CI, 13 to 19) in those who received placebo (rate ratio for recovery, 1.32; 95% CI, 1.12 to 1.55; $P < 0.001$). The Kaplan-Meier estimates of mortality by 14 days were 7.1% with remdesivir and 11.9% with placebo (hazard ratio for death, 0.70; 95% CI, 0.47 to 1.04). Serious adverse events were reported for 114 of the 541 patients in the remdesivir group who underwent randomization (21.1%) and 141 of the 522 patients in the placebo group who underwent randomization (27.0%).

Surviving Sepsis Campaign: Guidelines on the Management of Critically Ill Adults with Coronavirus Disease 2019 (COVID-19)

Alhazzani, Waleed^{1,2}; Møller, Morten Hylander^{3,4}; Arabi, Yaseen M.⁵; Loeb, Mark^{1,2}; Gong, Michelle Ng⁶; Fan, Eddy⁷; Oczkowski, Simon^{1,2}; Levy, Mitchell M.^{8,9}; Derde, Lennie^{10,11}; Dzierba, Amy¹²; Du, Bin¹³; Aboodi, Michael⁶; Wunsch, Hannah^{14,15}; Cecconi, Maurizio^{16,17}; Koh, Younsuck¹⁸; Chertow, Daniel S.¹⁹; Maitland, Kathryn²⁰; Alshamsi, Fayez²¹; Belley-Cote, Emilie^{1,22}; Greco, Massimiliano^{16,17}; Laundry, Matthew²³; Morgan, Jill S.²⁴; Kesecioglu, Jozef¹⁰; McGeer, Allison²⁵; Mermel, Leonard⁸; Mammen, Manoj J.²⁶; Alexander, Paul E.^{2,27}; Arrington, Amy²⁸; Centofanti, John E.²⁹; Citerio, Giuseppe^{30,31}; Baw, Bandar^{1,32}; Memish, Ziad A.³³; Hammond, Naomi^{34,35}; Hayden, Frederick G.³⁶; Evans, Laura³⁷; Rhodes, Andrew³⁸ [Author Information](#) 

Critical Care Medicine: June 2020 - Volume 48 - Issue 6 - p e440-e469

doi: 10.1097/CCM.0000000000004363

COVID-19: Interim Guidance on Management Pending Empirical Evidence. *From an American Thoracic Society-led International Task Force*

*Kevin C. Wilson^{1,2}, Sanjay H. Chotirmall³, Chunxue Bai⁴, and Jordi Rello⁵ on behalf of the International Task Force on COVID-19

¹ Department of Medicine, Boston University School of Medicine, Boston, Massachusetts, USA; ² American Thoracic Society, New York, New York, USA; ³ Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore; ⁴ Zhongshan Hospital, Fudan University, Shanghai Respiratory Research Institute, Shanghai, China; ⁵ Clinical Research/Epidemiology in Pneumonia and Sepsis (CRIPS), Vall d'Hebron Institut of Research (VHIR), Barcelona, Spain.

Infectious Diseases Society of America Guidelines on the Treatment and Management of Patients with COVID-19

Published by IDSA, 4/11/2020

[COVID-19 Guideline, Part 2: Infection Prevention](#)

[COVID-19 Guideline, Part 3: Diagnostics](#)

Adarsh Bhimraj*, Rebecca L. Morgan**, Amy Hirsch Shumaker, Valery Lavergne**, Lindsey Baden, Vincent Chi-Chung Cheng, Kathryn M. Edwards, Rajesh Gandhi, Jason Gallagher, William J. Muller, John C. O'Horo, Shmuel Shoham, M. Hassan Murad**, Reem A. Mustafa**, Shahnaz Sultan**, Yngve Falck-Ytter**

*Corresponding Author **Methodologist

UPDATE (6/25/20): [Recommendations on corticosteroids](#) have been revised.

No emiten recomendaciones



SETH

Sociedad Española de Trombosis y Hemostasia

RECOMENDACIONES DE TROMBOPROFILAXIS Y TRATAMIENTO ANTITROMBÓTICO EN PACIENTES CON COVID-19

Received: 20 March 2020

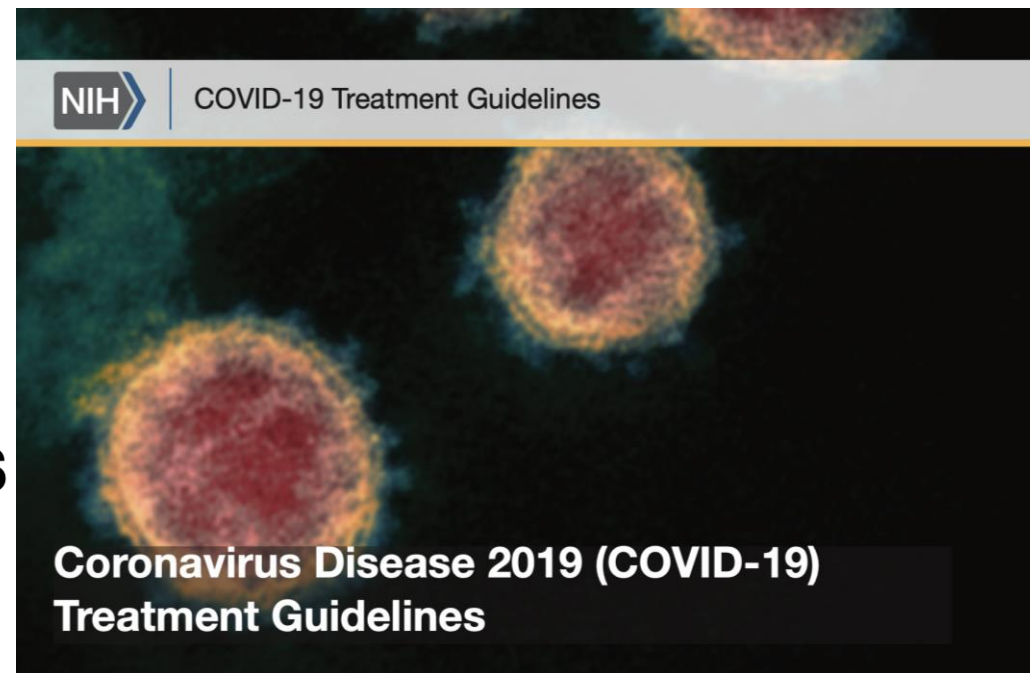
Accepted: 21 March 2020

DOI: 10.1111/jth.14810

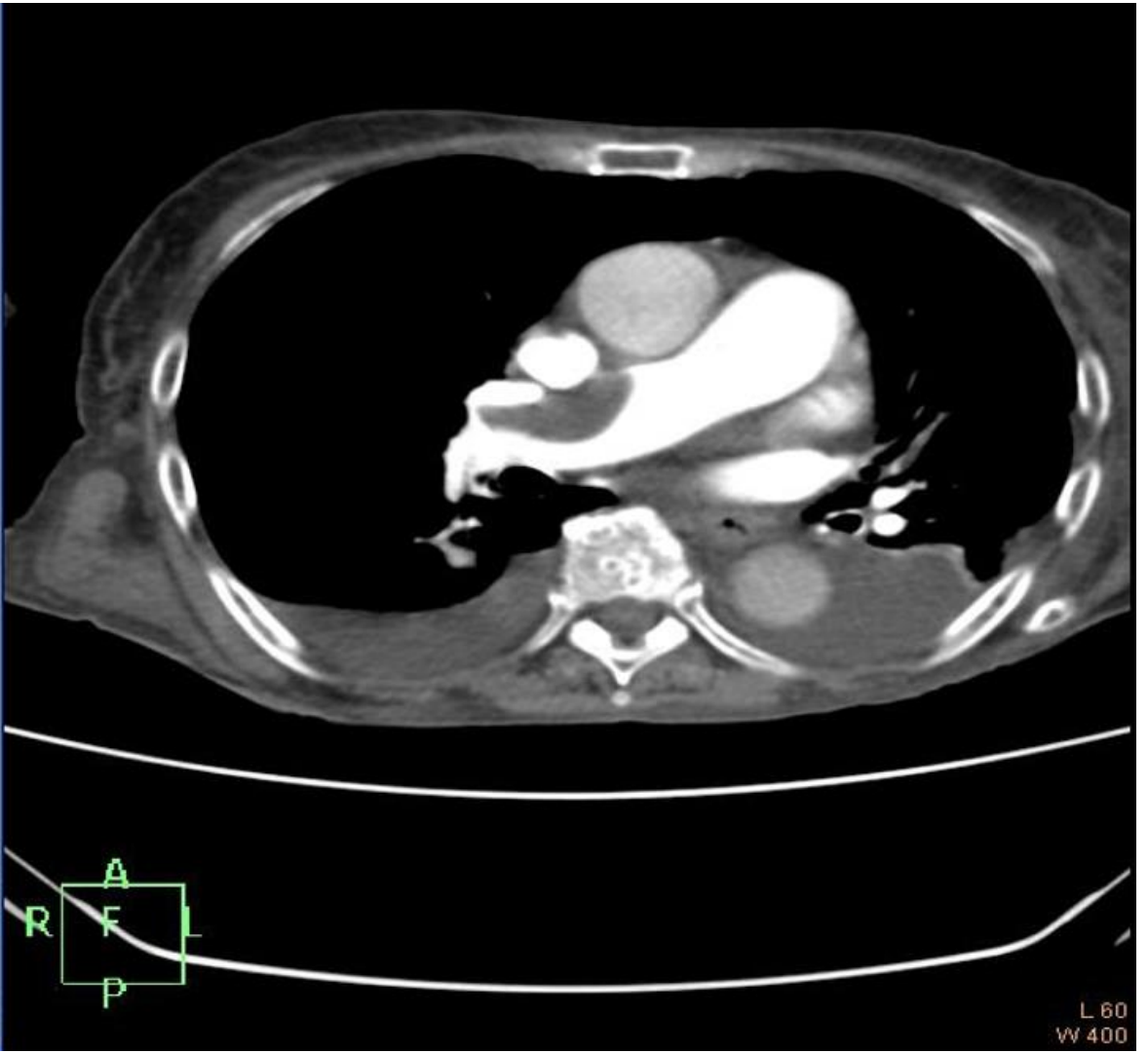
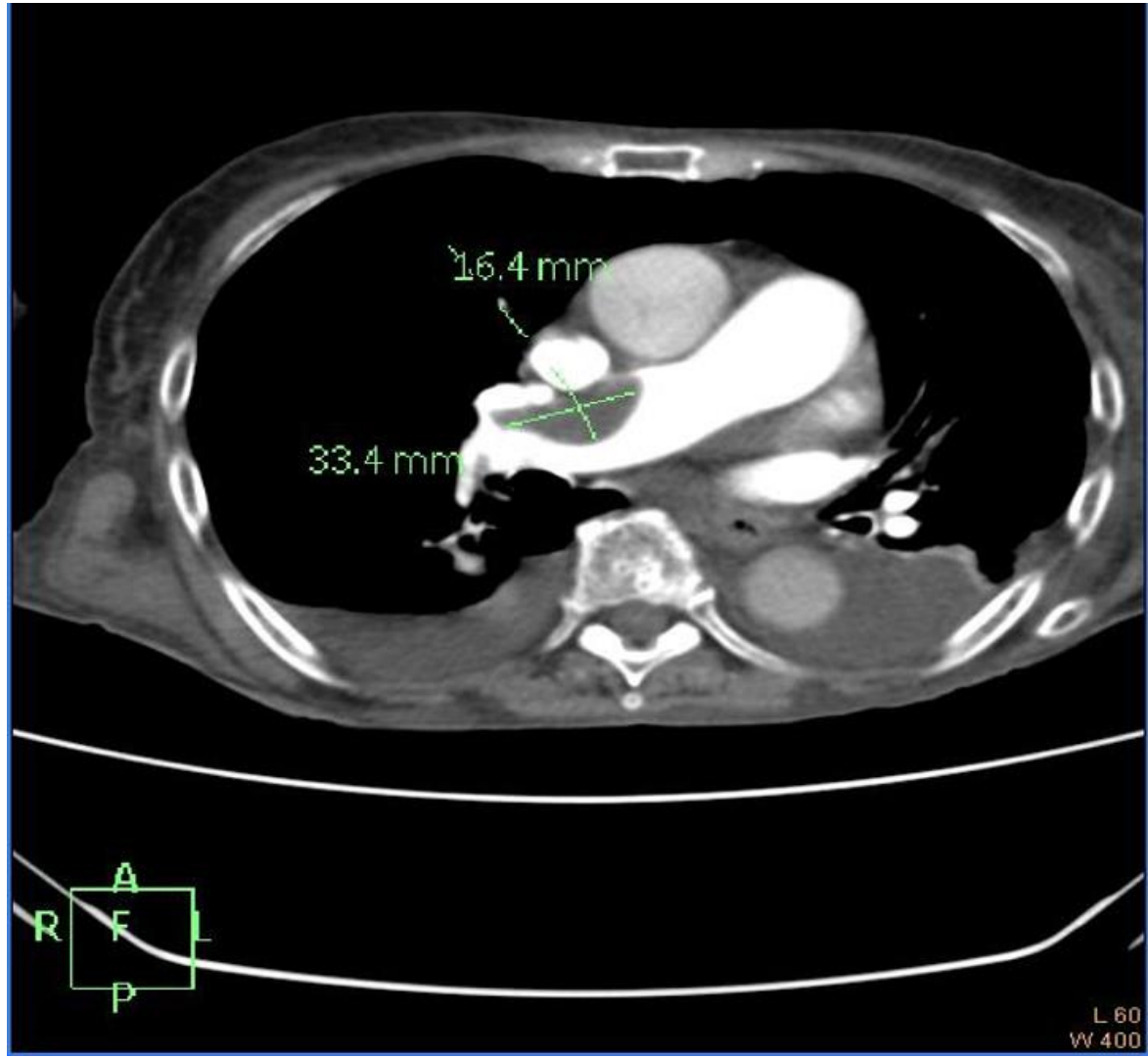
RECOMMENDATIONS AND GUIDELINES

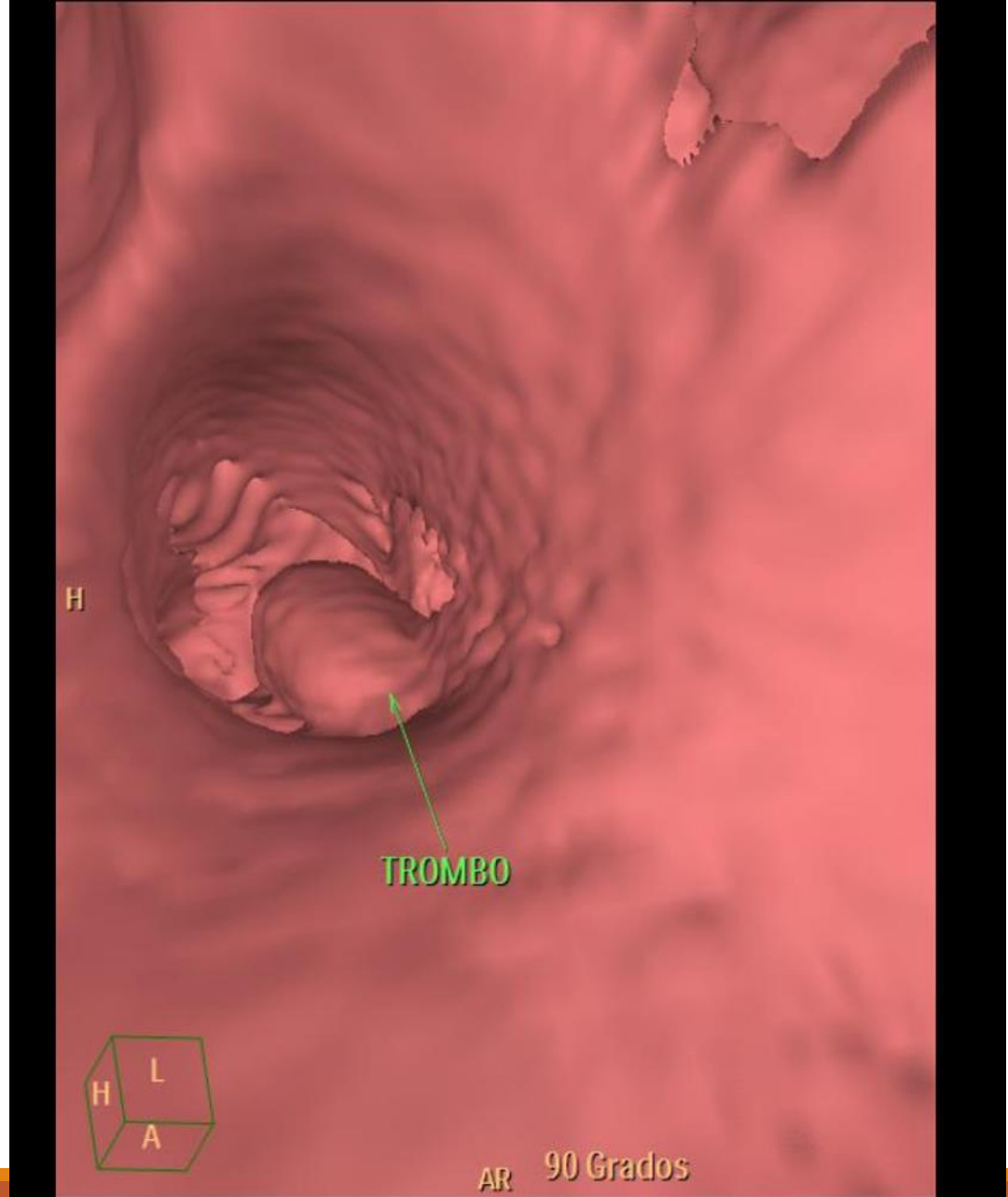
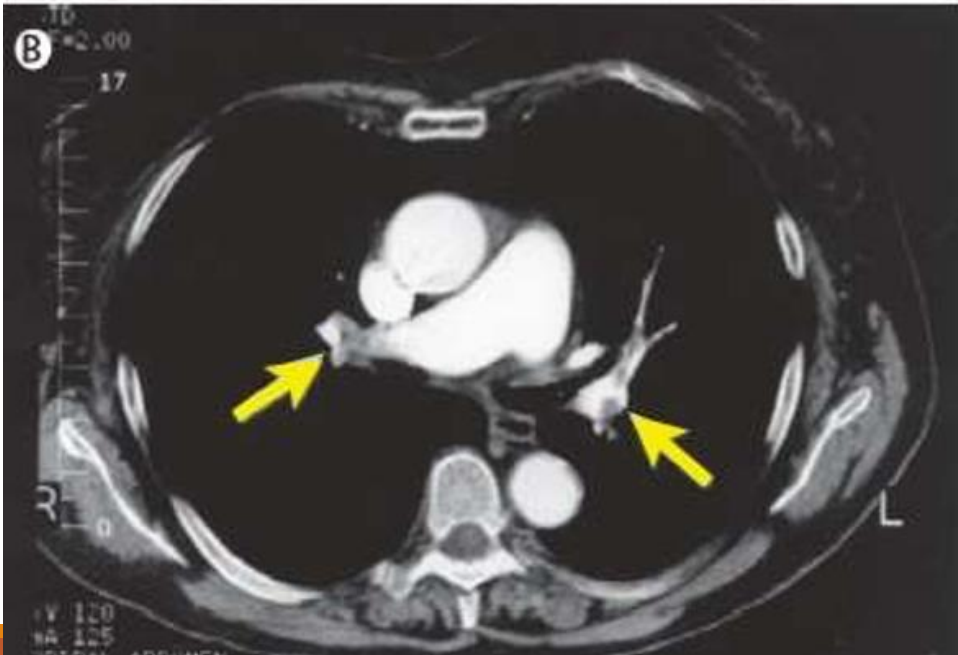
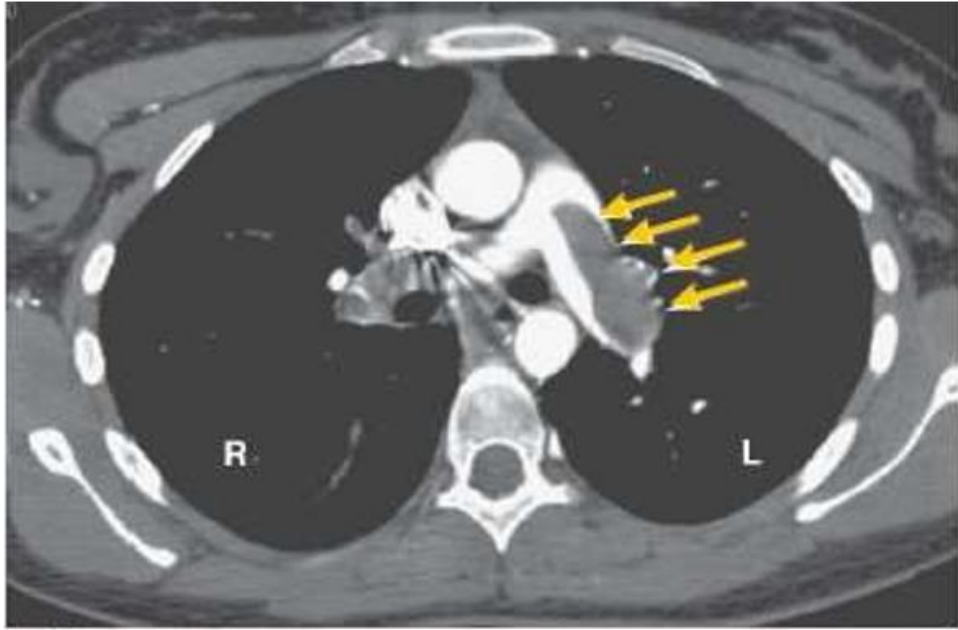
ISTH interim guidance on recognition and management of coagulopathy in COVID-19

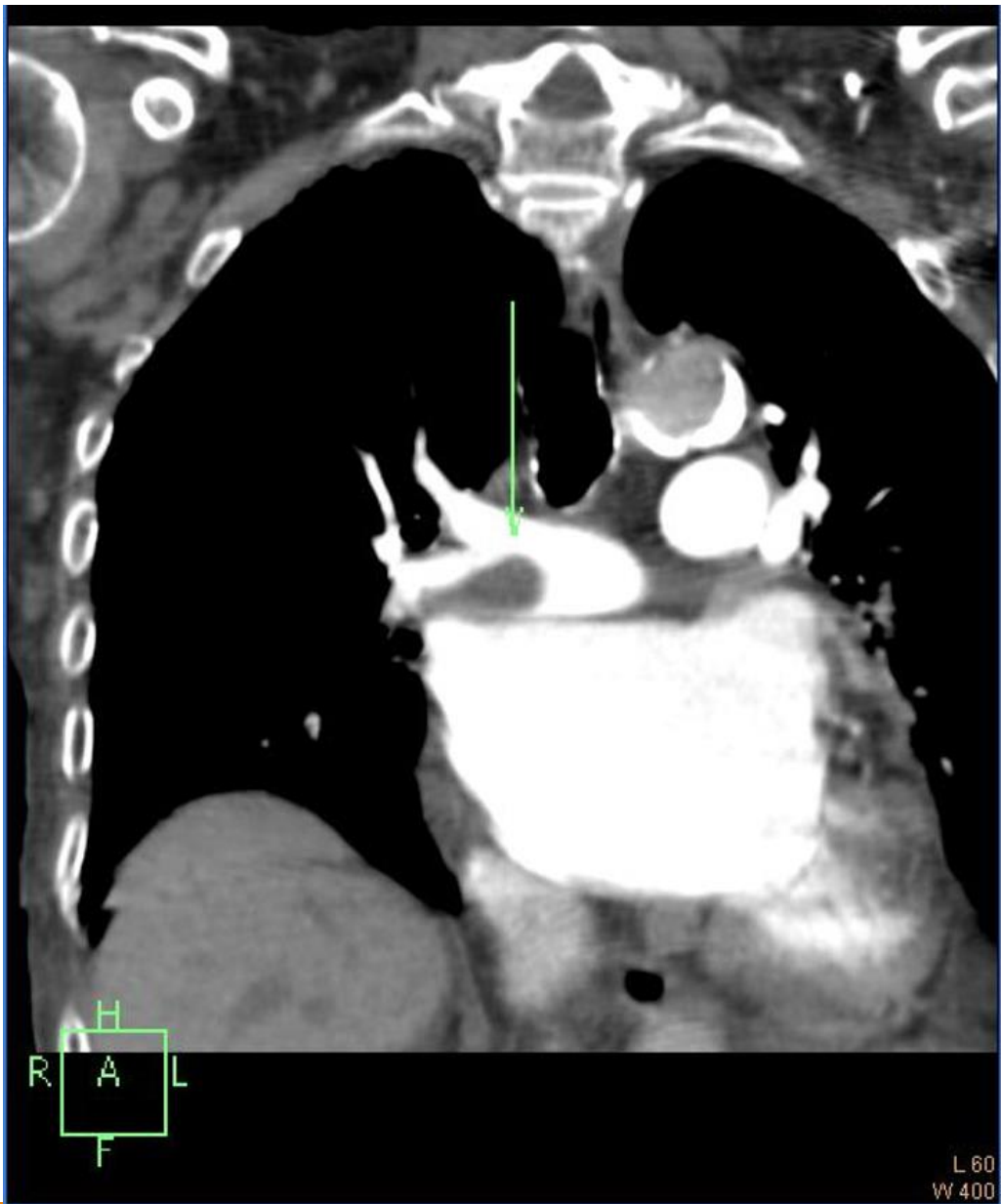
Jecko Thachil¹ | Ning Tang² | Satoshi Gando³  | Anna Falanga^{4,5} | Marco Cattaneo⁶ | Marcel Levi⁷ | Cary Clark⁸ | Toshiaki Iba⁹



jth







ANTICOAGULACION

Se sospecha enfermedad tromboembolica en las siguientes situaciones clínicas

- Hipoxemia brusca con $PO_2 < a 90\%$ o mas de 100 ppmin o Hipotensión, o clínica de TVP
- Marcadores elevados de sobrecarga ventricular (NT- proBNP, troponina)
- Signos de sobrecarga ventricular derecha o de hipertensión pulmonar por ecocardio
- Dimero D persistentemente elevado ($> 3000\text{ng/ml}$) en disociación con los otros reactantes de fase aguda (PCR – FERRITINA)
- Ante la sospecha de TEP realizar AngioTC pulmonar para confirmar diagnostico

ENFERMEDAD TROMBOEMBOLICA

Factores de riesgo mayor trombótico:

- 2.-Dimero D mas de 3000ng/ml
- 3.-Antecedentes personales o familiares de ETV
- 4.-Antecedentes personales de ETA
- 5.- Trombofilia biológica conocida
- 6.- Cirugía reciente
- 7.- Embarazo
- 8.- Terapia Hormonal Sustitutiva

TRATAMIENTO DE ANTICOAGULACIÓN

Medicamento	Aclaramiento >30ml/min	Aclaramiento <30ml/min
Enoxaparina	1mg/Kg/ c 12 hrs / sc	1 mg/Kg/día sc
Nadroparina	86 UI/Kg/ c12hrs/sc Si ClCr < 50ml/min reducir de 25 a 33% la dosis	Contraindicado
Dalteparina	100 UI/Kg/c 12hrs/sc	



Experiencia

- v Experiencia HCKA en la crisis por COVID-19
- v Marzo - Abril
- v 36 pacientes llegaron al final de su curso hospitalario
- v 6 pacientes aún hospitalizados

	Total N= 36
Edad	54.36 (+/- 16.49)
Días desde inicio cuadro clínico hasta admisión	6.97 (+/- 3.46)
Estancia hospitalaria (días)	6.5 (RIQ 4-12)



Ingreso a Emergencia

- ❖ Saturación < 90%
- ❖ Frecuencia Respiratoria >24
- ❖ TAC con Neumonía Moderada
- ❖ Pacientes con factores de riesgo + Saturación < 94%

La presencia de 1 solo parámetro se considera como un criterio de ingreso



Signos Clínicos de Hospitalización

- ❖ Vómitos incontrolables
- ❖ Hemoptisis o Hematemesis
- ❖ Diarrea + Deshidratación
- ❖ Confusión o Somnolencia
- ❖ Piel fría o Marmórea
- ❖ Oliguria



Destino del Paciente

Ingreso Hospitalario en Sala

- Saturación de Oxígeno MENOR 94%
- Con aporte de Oxígeno MAYOR 90% de FiO₂ con máscara de no reinhalación

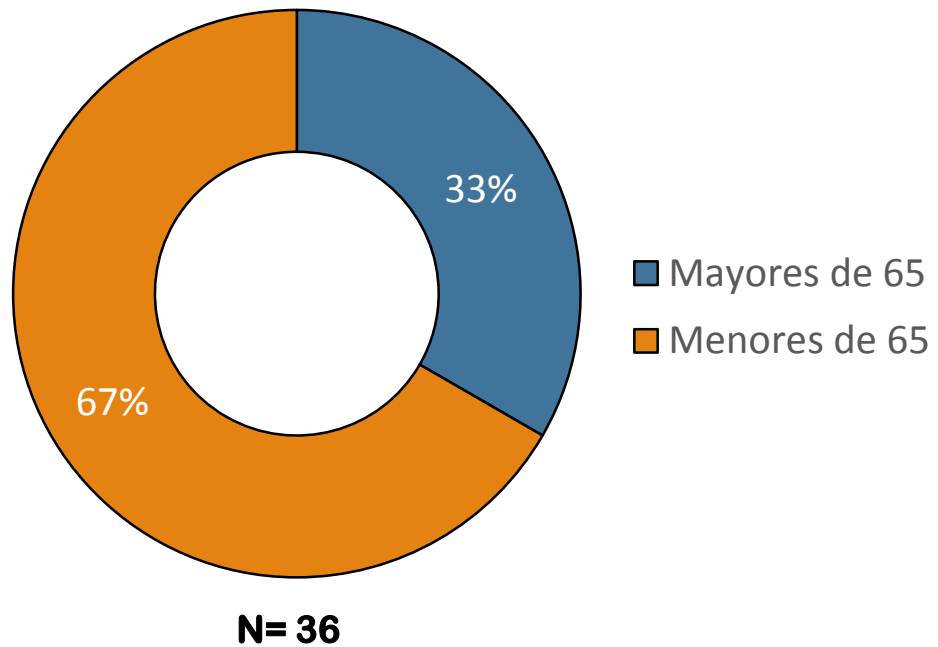
Ingreso en Unidad de Cuidados Intensivos (UCI)

- Inestabilidad hemodinámica
- Insuficiencia respiratoria que requiere aporte de oxígeno para alcanzar saturación > 94%
- FiO₂ de 90%
- Pacientes con insuficiencia respiratoria que requieran intubación y ARM

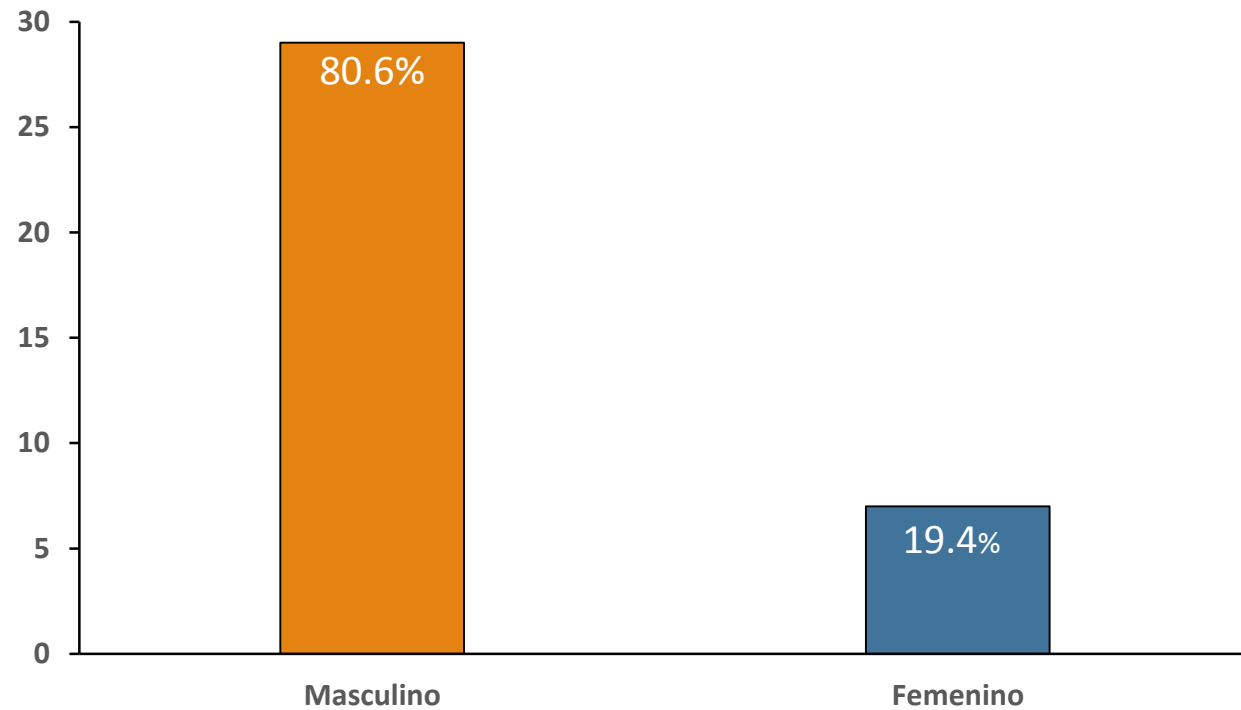


Demográficos

Grupo Etario



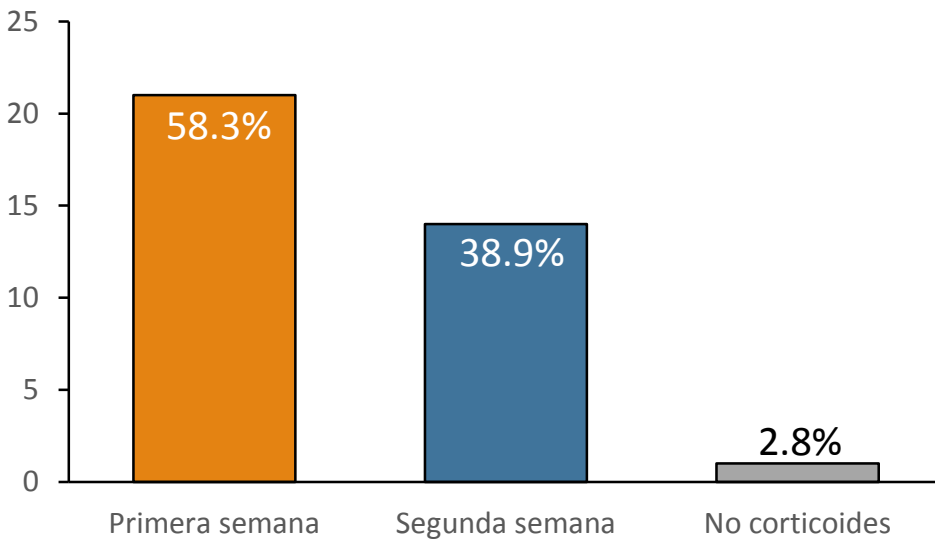
Género



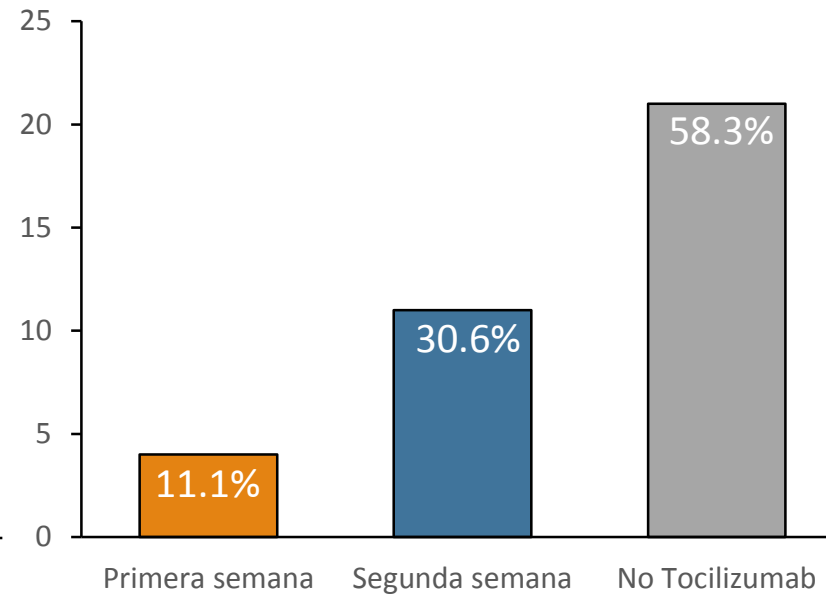


Inmunomodulación

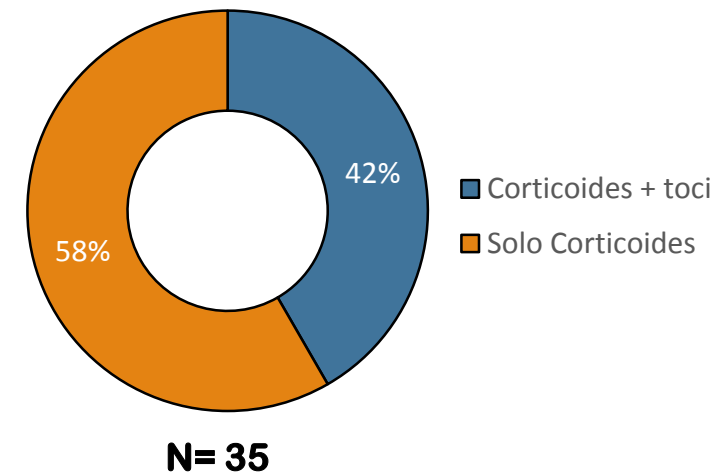
Tratamiento con Corticoesteroides



Tratamiento con Tocilizumab



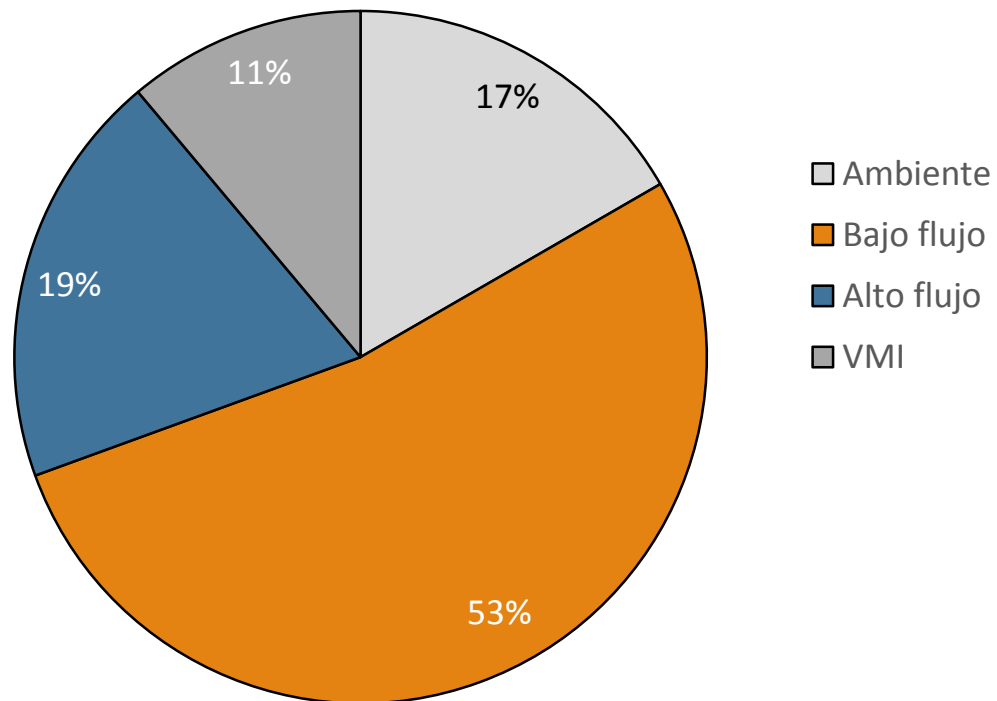
Combinación





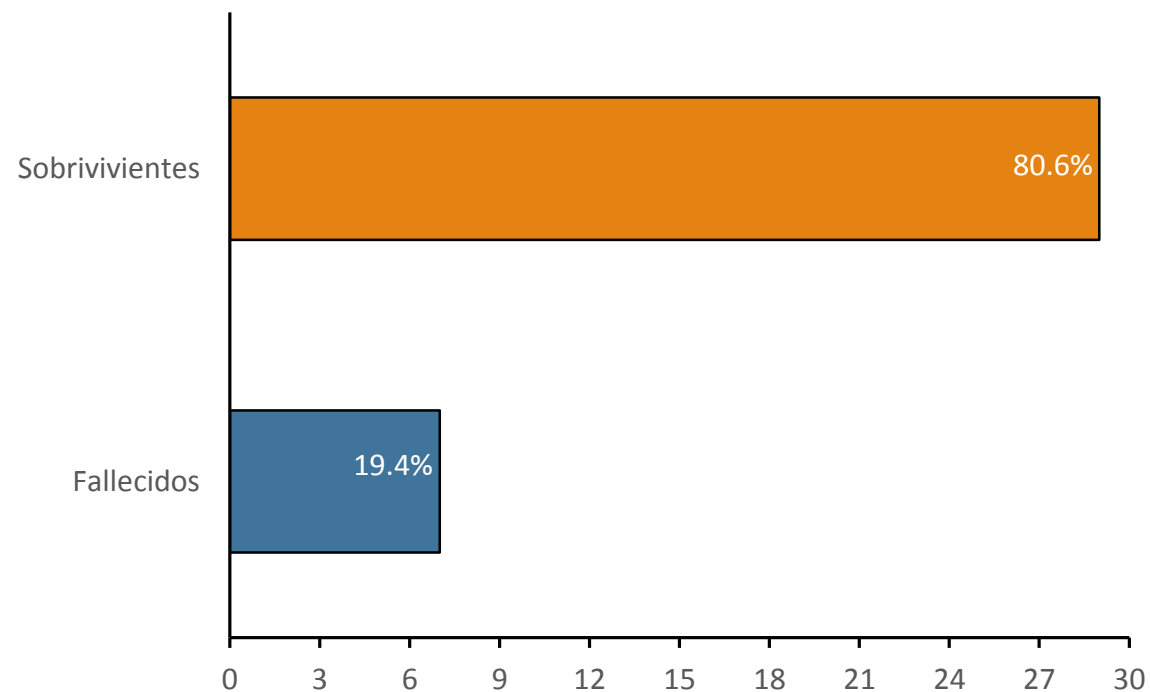
Desenlaces

Oxigenoterapia



N= 36

Mortalidad



Más que defensa...



Primera línea
de **ATAQUE!**