Lopinavir ritonavir+interferon alfa vs Ribavirin +Interferon alfa for COVID-19

Author(s): Cruciani F, De Crescenzo F, Vecchi S, Saulle R, Mitrova Z, Amato L, Davoli M.
Question: Should Lopinavir/ritonavir+interferon alfa compared to Ribavirin +Interferon alfa for COVID-19
Setting: inpatient

Certainty assessment							№ of patients		Effect		Certainty
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Lopinavir/ritonavir+interferon alfa	Ribavirin +Interferon alfa	Relative (95% CI)	Absolute (95% CI)	
All-cause mortality											
1 [1]	randomised trials	serious [a]	not serious	not serious	serious [b]	none	No death reported				⊕⊕◯◯ LOW
SARS-CoV-2 clearance											
1 [1]	randomised trials	serious [a]	not serious	not serious	serious [b]	none	22/36 (61.1%)	17/33 (51.5%)	**RR 1.19** (0.78 to 1.81)	**98 more per 1.000** (from 113 fewer to 417 more)	⊕⊕◯◯ LOW
Progression of COVID-19 disease											
1 [1]	randomised trials	serious [a]	not serious	not serious	serious [b]	none	2/36 (5.6%)	1/33 (3.0%)	**RR 1.83** (0.17 to 19.29)	**25 more per 1.000** (from 25 fewer to 554 more)	⊕⊕◯◯ LOW
Number of patients with any adverse event											
1 [1]	randomised trials	serious [a]	not serious	not serious	serious [b]	none	26/36 (72.2%)	23/33 (69.7%)	**RR 1.04** (0.77 to 1.40)	**28 more per 1.000** (from 160 fewer to 279 more)	⊕⊕◯◯ LOW
Number of patients with serious adverse events											
1 [1]	randomised trials	serious [a]	not serious	not serious	serious [b]	none	No serious adverse event reported				⊕⊕◯◯ LOW

Certainty assessment							№ of patients		Effect		Certainty
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Lopinavir/ritonavir+interferon alfa	Ribavirin +Interferon alfa	Relative (95% CI)	Absolute (95% CI)	
Time to SARS-CoV 2 clearance											
1 [1]	randomised trials	serious [a]	not serious	not serious	serious [b]	none	The study reports that the negative conversion time (SARS-CoV-2 clearance) from baseline to follow-up did not differ between the two HR groups: 1.50 (95% CI 0.89,2.53)				

Explanations

a. Downgraded of one level for high risk of performance bias

b. Downgraded of one level for small sample size

References

1. Huang YQ, Tang SQ, Xu XL, et al. No Statistically Apparent Difference in Antiviral Effectiveness Observed Among Ribavirin Plus Interferon-Alpha, Lopinavir/Ritonavir Plus Interferon-Alpha, and Ribavirin Plus Lopinavir/Ritonavir Plus Interferon-Alpha in Patients With Mild to Moderate Coronavirus Disease 2019: Results of a Randomized, Open-Labeled Prospective Study. Front Pharmacol. 2020;11:1071. Published 2020 Jul 14. doi:10.3389/fphar.2020.01071