Risk profile tool provides clearer insight on hospitalized COVID-19 patients who benefit most from baricitinib treatment

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A post-hoc analysis of ACTT-2 (Adaptive COVID-19 Treatment Trial-2) found that the use of a risk profile may more precisely

characterize high-risk patients who may benefit from the use of baricitinib. The analysis is published in *Annals of Internal Medicine.*

ACTT was a series of large, double-blind, randomized, placebo-controlled trials, that were sponsored by the NIH. These trials evaluated treatments for adults hospitalized with COVID-19 and helped define the standard of care. Based on the findings of ACTT-1 and ACTT-2, society and government guidelines on COVID-19 management make the strongest recommendations for remdesivir use in patients requiring low-flow supplemental oxygen and for baricitinib use in patients requiring high-flow oxygen or noninvasive ventilation.

However, there may be patient-specific characteristics that, when added to oxygen requirement, more precisely define who may benefit from a particular COVID-19 therapeutic, such as baricitinib.

Researchers analyzed data from the ACTT-2 trial consisting of 999 adult participants who were hospitalized with COVID-19 and received either baricitinib+remdesivir or placebo+remdesivir. The authors analyzed outcomes related to mortality, progression to invasive mechanical ventilation (IMV) or death, and recovery within 28 days.

They found that patients with higher (absolute neutrophil count) ANC, lower (absolute lymphocyte count) ALC, and lower platelet count were at greatest risk for severe outcomes from COVID-19 and had a significantly improved time to recovery, lower mortality/IMV risk, and lower mortality when treated with baricitinib+remdesivir compared to those receiving placebo+remdesivir.

Additionally, baricitinib+ remdesivir treatment reversed trends in ALC and ANC associated with risk of severe outcomes. According to the authors, their findings suggest that a biomarker-based approach utilizing simple parameters found in a bedside complete blood count provides

complementary information on who might benefit from baricitinib treatment. They also note that 60 percent of patients within the high-risk quartile in ACTT-2 required no oxygen or low-flow oxygen at baseline, suggesting that baseline oxygen requirement is an incomplete proxy for COVID-19 severity and prediction of whom benefits from baricitinib.

More information: Catharine I. Paules et al, A Risk Profile Using Simple Hematologic Parameters to Assess Benefits From Baricitinib in Patients Hospitalized With COVID-19: A Post Hoc Analysis of the Adaptive COVID-19 Treatment Trial-2, *Annals of Internal Medicine* (2024). DOI: 10.7326/M23-2593