Abstract

iMedPub Journals
http://www.imedpub.com

Journal of Medical Microbiology and Immunology Research

2022
Vol 8. No. S2

Upamostat, a Serine Protease Inhibitor, for Outpatient Treatment of COVID-19: a Placebo-controlled, Randomized Pilot Study

Terry Plasse
Red Hill Biopharma, Israel

Abstract

SARS-CoV-2 requires processing by cell surface proteases to infect host cells. Upamostat is a serine protease inhibitor activated intracellularly. It inhibits SARS-CoV-2 in vitro. In preparation for a pivotal study, we performed a pilot study in outpatients with symptomatic COVID-19.

Methods: Virologically diagnosed SARS-CoV-2 patients with ≥2 moderate to severe symptoms (from a list of 17 common COVID-19 symptoms), onset ≤5 days prior to study enrollment were eligible. Patients could be of any risk level, have received prior COVID-19 vaccination and receive anti-SARS-CoV-2 monoclonal antibody. Patients were randomized to oral upamostat 200 or 400 mg or matching placebo daily x14 and followed for an additional 6 weeks. Patients completed a COVID-19 symptom questionnaire daily x28 then thrice weekly x4 weeks, measured temperatures and oxygen saturation with study-provided equipment, and were examined with nasal swabbing for virology, and safety and disease marker blood sampling periodically throughout study.

Results: 61 patients were entered: 20 each received placebo or upamostat 200 mg daily; 21 received upamostat 400 mg daily. Median age was 49; 44% were male, 59% had ≥1 factor associated with high risk for disease progression; 48% had ≥1 severe baseline symptom. Most patients were accrued when delta was the predominant variant. Groups were well balanced. Treatment was well tolerated; only one patient (upamostat 400) reported an adverse event related to study medication, a mild, transient skin rash.

Median (interquartile) time to sustained symptomatic recovery was 38 (15.5-57) days for placebo, 29.5 (18.5-57) days for upamostat 200 and 38 (16-57) days for upamostat 400. However, incidence of severe new symptoms was 20% in the placebo group versus 5% and 0% in the upamostat 200 and 400 groups respectively (p=0.036, Fisher's exact test for comparison between placebo and combined upamostat group). Three placebo patients (15%) versus no patients in either upamostat group were hospitalized for worsening COVID (p=0.03). Mean D-dimer level remained constant in placebo patients but decreased by 37% and 49% over the study in upamostat 200 and 400 patients, respectively (p=0.076 for comparison between placebo and upamostat 400 mg groups).

Conclusions: Upamostat was well tolerated. Entering patients based on symptomatology selected an outpatient population with a higher probability of hospitalization than studies not requiring minimal symptomatology. Despite small group sizes, this pilot study showed that oral upamostat was safe and effective in decreasing incidence of new severe symptoms and hospitalization for COVID-19, as well as decreasing D-dimer levels.

Received: July 05, 2022; **Accepted**: July 13, 2022; **Published**: July 20, 2022

Biography:

Terry Plasse is currently working at Red Hill Biopharma, Ltd, Tel Aviv, Israel.