

SUPPLEMENT**A STUDY PROTOCOL FOR A MULTICENTER, PROSPECTIVE COHORT STUDY
OF THE ASSOCIATION OF ANGIOTENSIN II TYPE 1 RECEPTOR BLOCKERS ON
OUTCOMES OF CORONAVIRUS INFECTION**

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Amendment

Rather than just measuring plasma angiotensin II levels at baseline, we will measure plasma angiotensin I, 1-7, II and angiotensin converting enzyme (ACE) and ACE2 levels at baseline and days 2,4 7, and 14.

We will also evaluate use of angiotensin converting enzyme inhibitors (ACEis) using the same statistical methods as per the evaluation of ARBs.

Clinical characteristics of hospitalized COVID-19 to date

The sample size calculation and primary endpoint require adequate understanding of the severity of disease and complications of patients hospitalized for COVID-19. COVID-19 causes septic shock, ARDS and AKI. To date, three peer-reviewed publications described clinical characteristics of hospitalized COVID-19 patients(2-4). In 99 hospitalized cases of COVID-19 17% had ARDS, 8% had acute respiratory injury, 3% had acute kidney injury, and 4% had septic shock. For treatment, 13% had non-invasive ventilation, 4% were intubated and ventilated, 9% had renal replacement therapy (RRT), 3% had extra-corporeal membrane oxygenation (ECMO) and 11% died(2). In the second report(3) of 42 hospitalized COVID-19 patients, 29% had ARDS, 7% had acute kidney injury, and 7% had septic shock; 24% had high flow oxygen or non-invasive ventilation, 10% were intubated and ventilated, 7% had RRT, 5% had ECMO and 15% died(2). Of 138 hospitalized COVID-19 patients in a third publication(4), 20% had ARDS, 9% had septic shock; 14% had high flow oxygen or non-invasive ventilation, 12% were intubated and ventilated, 1% had RRT, 3% had ECMO and 4% died(2).