

Testing of convalescent plasma in severely ill COVID-19 patients to begin

The FDA has approved the emergency use of investigational COVID-19 convalescent plasma to treat severely ill COVID-19 patients (1). While it will take months to years to develop an effective vaccine, convalescent plasma from recovered COVID-19 patients rich in antibodies may be soon available to boost immunity against the virus, reducing viral load and lowering mortality.

An ELISA test was recently developed that can detect and quantify antibodies to SARS-CoV-2 in the blood of potential donors and identify newly recovered patients with high antibody titers who can donate convalescent plasma to patients with severe COVID-19 illness (2,3). In addition, serological testing can identify healthcare providers with immunity to SARS-CoV-2 who may care for COVID-19 patients with decreased risk of reinfection (4).

Testing will be initially limited to identify potential plasma donors. COVID-19 convalescent plasma will be collected from recovered individuals with (1) prior diagnosis of COVID-19, (2) complete resolution of symptoms at least 14 days prior to donation, (3) a negative PCR result for COVID-19, and (4) defined SARS-CoV-2 neutralizing antibody titers (optimally >1:320) (1). Following an initial strong response to a call for potential convalescent plasma donors, the New York Blood Center has started collecting, testing and will soon distribute plasma to participating institutions. Mount Sinai and Albert Einstein College of Medicine in New York plan to start administering convalescent plasma to patients within the next 1-2 weeks.

At Mount Sinai Hospital, convalescent plasma will be preferentially administered as a treatment for hospitalized COVID-19 patients with moderately severe disease. This is based on preliminary data from China where a small cohort of critically ill COVID-19 patients treated with convalescent plasma demonstrated good viral clearance but lack of clinical improvement, likely due to the advanced stage of their illness (5). Among other institutions, Johns Hopkins, Mayo Clinic and Washington University are conducting similar studies. Additional protocols for placebo-controlled trials of convalescent plasma for treatment of COVID-19 positive patients at all stages of disease progression and prevention of infection after high-risk exposure, are pending FDA approval (6).

As these trials progress, anticipate receiving locoregional requests for individuals who have recently recovered from COVID-19 to volunteer to get tested for SARS-CoV-2 neutralizing antibodies and serve as plasma donors.