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## Effectiveness and Safety of Convalescent (Immune) Plasma Therapy in COVID-19

Öner Özdemir

Dear Editor,

We are very thankful to Dr. Wiwanitkit for the interest and the comment on our article (1). In the comment on our article (2) written by Dr. Wiwanitkit, who raised a couple of concerns for convalescent immune plasma (CIP) therapy.

**i-)** Therapeutic effectiveness of CIP: Every day, there are an increasing number of reports in the literature worldwide showing effectiveness of CIP, if the CIP is used at the correct time and dose (1, 3). Also, a recent systematic review has shown that CIP treatment in COVID-19 is safe, clinically successful, and decreases fatality (4).

**ii-)** Repeated infection (re-infection) of SARS-CoV-2 itself and /or by any chance of remained virus in CIP? The patients with retest positive up to 16.7% for SARS-CoV-2 have been demonstrated in a study (5), but they are shown not to be infectious in different reports from China and other countries (6). Also, the positive result of virus RNA in the laboratory tests may be coming from the persisting “dead” viruses or virus RNA remains without having the capacity of active viral replication in the body (6). The researchers did not accomplish to grow SARS-CoV-2 in cell culture from retest positive patients (6). Moreover, SARS-CoV-2-infected monkeys did not develop re-infection from successive re-exposures (7).

Although the reasons for re-infection are uncertain, there are many explanations why the improved COVID-19 patients turn out to be positively retested. First, inaccurate test results: a patient might have become a false negative in the beginning or while re-infected, might have had a false-positive test result. Second: Certain COVID-19 cases did not fully meet the discharge conditions. Hiatus between the virus RNA tests and the actual discharge could be too long. Third: Viral clearance may differ from patient to patient with underlying co-morbidities, steroid-using and being elderly. There always may be a chance of reactivation of the virus or a patient had not fully recovered from the disease. Fourth: Remaining the “dead” viruses or viral gene fragments in the body. Fifth: certain patients even may be associated with re-infection (patient engaged in new or repeated contact) (6). As a result, the real re-infection chance seems to be very low.

**iii-)** Its safety due to the chance of acquiring remaining virus RNA from CIP: This possibility has never reported so far from different CIP trials and seems to be unlikely. As mentioned above, retest positivity mostly seemed to be happening due to the “dead” remaining viruses or viral gene fragments (6). To our knowledge, no new cases have been reported after contact with these patients or live viruses isolated in cell cultures (6). There are surely other well-known safety concerns owing to being a blood product and transfusion complications.

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