Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Response Letter: Treatment for emerging viruses: Convalescent plasma and COVID-19

We appreciate the comments of Dr. Pawitan on our paper on Convalescent plasms and COVID – 19. We highlighted three case series from China in which severe or critically ill COVID-19 patients were treated with convalescent plasma early in the pandemic [1–3]. The letter of Dr. Pawitan to the editor has 3 main comments: 1) the information in the text and Table was inconsistent for these 3 case series, 2) the data to date should be interpreted with caution without robust randomized controlled trials to demonstrate efficacy of convalescent plasma, and 3) there are considerations around the safety profile of convalescent plasma.

1) The letter mentioned that the information in the text and Table was inconsistent for these 3 case series. It is correct that the Table and text both describe 3 case series of 19 COVID-19 patients who received convalescent plasma and includes publications with clinical data available at the time of this manuscript submission. These 3 reports include publications by Shen (ref 14), Duan (ref 16), and Zhang (ref 30) as described in the table. There were 2 additional references related to news releases about convalescent plasma therapy for additional patients (ref 26 and 27) which are referenced in the text related to clinical use of convalescent plasma for COVID-19, but not referenced in the table since the details were not published in the peer-reviewed literature and more detailed information is not described in the news released. The authors acknowledge that the statement "There have been 3 case series from China for the use of convalescent plasma to treat COVID-19 (19 total patients, Table 1, ref 16, 26, and 27)" should instead have referenced ref 14, 16, and 30 since ref 26 and 27 are news releases referring to additional COVID-19 patients who had been treated with convalescent plasma. References 14 (n = 5) and 30 (n = 4) involved critically ill patients, as described in the table and are not described in detail in the text. The focus of the text is the larger case series by Duan et al. (ref 16). The authors also acknowledge that the number of patients in this report (Duan et al., ref 16) should have referenced 10 patients (10 patients are referenced in the table and 9 were referenced in the text) and the content in the text and table related to this report is otherwise accurate.
2) Dr. Pawitan mentions that although the results seemed promising from these 3 case series, they need to be interpreted with caution because they are not randomized controlled trials. New data published since this article by Valk et al. was also cited in the letter [4]. We strongly agree that more robust data from randomized controlled trials are needed to understand the efficacy of convalescent plasma. We also agree that data on this topic is being rapidly generated and reported. Our report only includes the 3 case series published for convalescent plasma used to treat COVID-19 at the time of submission. Results from more randomized controlled trials currently investigating convalescent plasma as a therapy for treatment of COVID-19 are needed. Specifically, considerations will need to be made for antibody titers in the convalescent plasma, volume infused, timing of treatment (for example, days since symptom onset or prophylaxis), confounding variables in the patient population such as age, comorbidities, concomitant treatments, and disease severity. Convalescent plasma is a biologic with variability and protocols for treatment with this biologic may vary study to study, according to protocols published on clinicaltrials.gov. Additionally, COVID-19 case presentation and progression varies greatly based on some variables that have already been identified such as age of the patient and select comorbidities; however, there are many variables that are not yet well understood which may impact clinical outcomes from convalescent COVID 19 plasma and other therapies.
3) The manuscript mentions that TRALI and Antibody Dependent Enhancement may be a risk of convalescent plasma transfusion and suggests that this should be a consideration in the risk-benefit assessment for use of convalescent plasma. Dr. Pawitan also cites reports by Valk et al. (May 2020) and Soner et al. (June 2020), which were published after our manuscript was submitted (April 2020), which describe additional adverse reactions to convalescent plasma including anaphylactic shock, transfusion, TACO, complete immunoglobulin A deficit, and contraindication of convalescent plasma therapy after cytokine storm. We agree that more data on the safety and efficacy of convalescent plasma is rapidly being generated and will need to be considered in the risk-benefit assessment for this therapy. The intent of our summary of the 3 case series using treatment of COVID-19 with convalescent plasma was to include a current information at the time of submission, understanding that the body of evidence would rapidly grow. Additionally, the current safety profile of convalescent plasma for treatment of COVID-19 is favorable and efficacy of this therapy is currently being extensively investigated in larger clinical trials.

Declaration of Competing Interest

The authors report no declarations of interest.

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