Thrombotic thrombocytopenic purpura: optimal management of plasma exchange, platelets and infection prevention

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Dear Sir,

We would like to offer some reflections on the recently published article in your journal, "Diagnosis and clinical management of thrombotic thrombocytopenic purpura (TTP): a consensus statement from the TTP Catalan group"[1].

Replacement solutions in therapeutic plasma exchanges (TPE) should not be used interchangeably. There is extensive literature that has shown that TPE with methylene blue inactivated plasma (MBIP) has worse results compared to fresh frozen quarantined plasma (FFQC), such as greater risk of mortality due to progression and recurrence of thrombotic thrombocytopenic purpura (TTP), lower probability of maintaining the response beyond 8-9 days[2-3], as well as the need for a greater number of sessions and a greater volume of plasma to achieve remission[3]. Further, Pereira *et al.*[4] describe increased demand for plasma and plasma derivatives in cases treated with MBIP, probably to compensate its poor hemostatic capacity and worse outcomes and higher transfusion rates in trauma patients with massive hemorrhage. For all these reasons, they conclude that the premise of savings with the use of MBIP is a conclusion based on an incomplete evaluation of the available data.

Furthermore, we would like to point out that prophylactic platelet transfusion –as indicated in the guide of the Spanish Society of Blood Transfusion and Cellular Therapy– is relatively contraindicated in patients affected by TTP due to the potential risk of contributing to the appearance of thrombotic phenomena. It should be reserved for those situations in which there is life-threatening bleeding. However, in patients with TTP, and after the administration of fresh plasma, it seems that this thrombotic risk is minimized. It can be transfused prophylactically before surgical intervention or invasive techniques.

Finally, we would like to remind the Readers that the use of anti-CD20 monoclonal antibody (MA) in patients with TTP is off-label and also that, according to the technical data sheet, prophylaxis for pneumonia due to *Pneumocystis jirovecii* during and after treatment with anti-CD20 MA is recommended. In addition to prophylaxis in patients with past hepatitis B virus[1], the vaccination status of patients should be examined, ensuring immunization according to current guidelines before starting treatment with anti-CD20 MA, especially against viruses and bacteria that cause respiratory infections, such as influenza, COVID-19, and pneumococcus, as well as against herpes zoster and hepatitis B in seronegative patients[5,6]. Ideally, vaccination should have been completed at least fifteen days before starting treatment with anti-CD20 MA, whenever

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possible. Given that the initiation of treatment is usually urgent, considering the extreme severity of potential infections and that lower immunogenicity may occur with inactivated vaccines, when administered once treatment with anti-CD20 MA has begun, other prophylactic tools –complementary to vaccination– could be considered, such as passive immunization[6].

DISCLOSURE OF CONFLICTS OF INTEREST

The Authors declare that they have no conflict of interest. JRG has been a member of advisory boards for Pfizer and GSK and has given talks for continuing medical education for Pfizer, GSK, and Sanofi-Genzyme. This work has not received any funding. No patient data have been used.

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