



CASCADE FILTRATION AS A RESCUE THERAPY FOR AUTOIMMUNE HEMOLYTIC ANEMIA: A CASE REPORT



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Background

Anemia is a condition in which hemoglobin (Hb) concentration and red blood cell (RBC) numbers in the blood are lower than normal and insufficient to provide adequate oxygenation to the body's tissues. The causes of anemia may be classified as impaired red blood cell (RBC) production; increased RBC destruction or blood loss and fluid overload. Autoimmune hemolytic anemia (AIHA) is an acquired heterogeneous autoimmune disorder characterized by the development of antibodies directed against antigens on autologous erythrocytes.

Case presentation

We present the case of a 63-year-old man with AIHA (positive direct Coombs test: IgG antibody), dyserythropoiesis and piasrinopenia with a blood count of 8.6 g/d Hb, 8530/mmc RBC and 18000/mmc platelets. Steroid therapy was started, but with poor tolerability; so the patient underwent splenectomy with subsequent recovery of platelet count, but no response in increasing Hb. Then cyclosporine and erythropoietin therapy were started, but he underwent a new hospitalization for worsening anaemia with 4,8 g/d Hb and 19920/mmc RBC. He was treated with immunoglobulin infusion and weekly rituximab therapy. Following rituximab therapy, a slight improvement in blood crashes was noted, but with persistence moderate anaemia: 8 g/d Hb. Afterwards worsening of anaemia he was treated with Urbason; then following no therapeutic effect, with Endoxan and cyclosporine. He was also subjected to Intravenous immunoglobulin (IVIg). Subsequently the lack of response to all pharmacological treatments and the consequent worsening of the clinical picture (Hb 4.1 g/d, RBC 16700 /mmc), it was decided to perform therapeutic plasmapheresis cycles, as a rescue therapy, for a total of 5 cycle of Cascade Filtration (CF) with the automatic system Plasmapher/Apherlungs and the fractionator filter Evaflex 3A20 (Aferetica, Italy).

Results

In the first week was performed 2 treatments of CF, 1 volume of plasma was processed in each one. Subsequently, one procedure per week was performed with the treatment always of 1 plasma volume. A final maintenance session was done more than one month later. After the last cycle of plasmapheresis an improvement in blood crisis values was found with 14,3 g/d Hb and 14150 mmc RBC.



Figure 1:HB Trend

Conclusion

CF can be effective in immune-mediated diseases by clearing circulating immune complexes and other disease mediators that may potentially be responsible for physiopathology. In this case CF was the only therapy shown to be effective in recovering hemoglobin values and consequently discharging the patient, improving the quality of life. These results suggest that timely plasmapheresis can be an effective rescue option in severe case of AIHA refractory at every line of therapy.