

Hemophilia associations should be recommended for educational programs for patients and caregivers. Hematologists and nongovernmental organizations can work together for lifelong educational programs. Finally, we recommend holding patient workshops twice a year as well as publishing simple books or brochures in each local language to improve the knowledge and therefore the quality of life of these patients.

Keywords: Knowledge, Hemophilia, Treatment, Disease

Anahtar Sözcükler: Bilgi, Hemofili, Tedavi, Hastalık

Ethics

Ethics Committee Approval: This study was approved by the Ethics Committee of Shiraz University of Medical Sciences.

Authorship Contributions

Concept: Mehran Karimi; Design: Mehran Karimi; Editing the Manuscript: Mehran Karimi; Data Collection or Processing: Zohreh Zahedi; Analysis or Interpretation: Sezaneh Haghpanah; Literature Search: Tahereh Zarei; Writing: Tahereh Zarei.

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Therapeutic Plasma Exchange Ameliorates Incompatible Crossmatches

Çapraz Karşılaştırma Uyumsuzluklarını Ortadan Kaldıran Tedavi Edici Plazma Değişimi

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To the Editor,

Red blood cell (RBC) transfusion is a risk factor for mortality and morbidity in coronary artery bypass graft (CABG) surgery, and transfusion-related adverse effects may be catastrophic in these patients [1,2,3,4]. Unfortunately, there are no recommendations for these patients regarding how to proceed in the case of incompatible crossmatch tests against donors' blood. To our

knowledge, there is no report about the role of therapeutic plasma exchange (TPE) in resolving incompatible crossmatches.

A 73-year-old man was admitted to our hospital because of chest pain. He had no previous medical history of coronary artery disease or any other diseases, including hemolytic disease and recent infection. In addition, he used no medication and had not received blood transfusions. After coronary angiography, a

CABG was planned for the patient. Because of critical coronary artery lesions, he had to undergo the operation as soon as possible. His laboratory tests revealed mild normocytic anemia with hemoglobin of 12.8 g/dL, mean corpuscular volume of 82.2 fL, white blood cell count of 9200/ μ L, and platelet count of 281,000/ μ L. His biochemical results were normal for renal and liver function tests. The patient's blood group was B Rh D positive based on forward and reverse grouping. Whole blood transfusion was planned for the CABG procedure by the surgeons as a part of their conventional approach. However, cross match results revealed 3+ reactions against B Rh D positive donors' whole blood and other B Rh D positive RBCs in the blood bank (Figure 1A). Direct Coombs test results were 2+ AHG and IgG (Figure 1B). Due to the urgency of the planned CABG, we did not wait for detailed antibody screening test results, and TPE (Infomed, Geneva, Switzerland) was performed. Total body plasma was exchanged with fresh frozen plasma within 2 h. After one TPE procedure, the cross-reaction to donors' whole blood was 2+. TPE was performed again 1 day later, and after the second TPE, the crossmatches were compatible (Figures 1C and 1D). There was no adverse effect due to TPE. We operated after the second TPE, used a regular erythrocyte suspension and whole blood, administered 40 mg/day intravenous methylprednisolone for 4 days, and discharged the patient 1 week after the operation. Two weeks after the operation, he had no hematological or antibody-related disease and he had a normal complete blood count with compatible crossmatches. He also had no antibodies related to incompatible crossmatches.

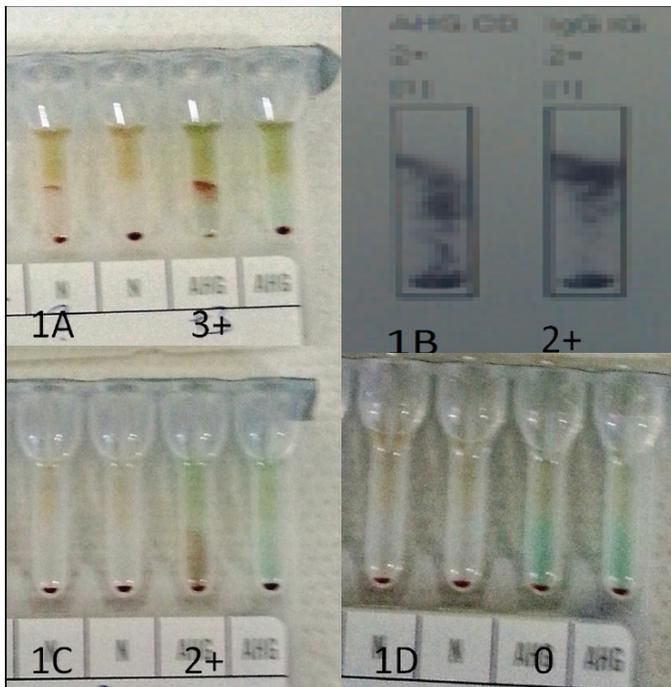


Figure 1. A) Crossmatch before therapeutic plasma exchange (TPE), B) direct Coombs test before TPE, C) crossmatch after one TPE, D) crossmatch after two TPEs. All tests were performed with DG gel cards (Grifols) and used the Wadiana automated blood bank (Grifols, SantCugat del Valles, Barcelona, Spain).

In a patient undergoing CABG, an incompatible blood transfusion can lead to perioperative hemolysis and increased mortality [5,6]. Defining the antibodies and finding compatible blood for a patient with incompatible crossmatches can be a challenging and time-consuming problem [5,7].

TPE is an important treatment modality for many autoimmune conditions and helps by removing autoantibodies [8]. Our patient did not have time to wait and needed CABG urgently. Therefore, we assumed that the patient had antibody-related autoimmune hemolytic anemia and treated him with TPE. We report that this approach may be efficient for patients with incompatible crossmatch results even if they do not have autoimmune hemolytic anemia. Therefore, TPE might be reserved for urgent conditions or when identification of antibodies is inconclusive.

Keywords: Cardiac surgery, Apheresis, Crossmatch, Transfusion medicine

Anahtar Sözcükler: Kalp cerrahisi, Aferez, Çapraz karşılaştırma, Transfüzyon tıbbi

Authorship Contributions

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Megaloblastic Anemia with Ring Sideroblasts is not Always Myelodysplastic Syndrome

Halka Sideroblastlı Megaloblastik Anemi Her Zaman Miyelodisplastik Sendrom Olmayabilir

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To the Editor,

Ring sideroblasts are morphological hallmarks of hereditary and acquired sideroblastic anemias [1]. The International Working Group on Morphology of Myelodysplastic syndrome (MDS) defined ring sideroblasts as erythroblasts in which a minimum of five siderotic granules cover at least one-third of the circumference of the nucleus.

We present the case of an 18-year-old female who had low-grade fever, jaundice, nausea, vomiting, and shortness of breath for 25 days. The patient was not an alcoholic and not on any drugs. On examination she appeared pale and icteric; however, no hepatosplenomegaly was noted. A complete blood count (CBC) and bone marrow examination were performed. The CBC revealed Hb: 75 g/L, PCV: 0.232%, RBC: $2.15 \times 10^{12}/L$, MCV: 108 fL, MCH: 34.8 pg, MCHC: 32.2 g/dL, total leukocyte count: $2.6 \times 10^9/L$, platelet count: $87 \times 10^9/L$, reticulocyte count: 0.8%, and differential leukocyte count: N74 L26. A peripheral smear revealed pancytopenia with dimorphic anemia. No coarse basophilic stippling was noted (as seen in lead poisoning). Bone marrow aspirate was particulate and hypercellular for age with erythroid hyperplasia, showing megaloblastic maturation and dyserythropoiesis (Figure 1). Giant myeloid forms were seen. Megakaryocytes appeared adequate and were normal in morphology. Bone marrow iron was increased (grade 3) and showed 6%-7% ring sideroblasts (Figure 2). A final diagnosis

of megaloblastic anemia with ring sideroblasts was made after excluding various other causes of the same symptoms. The patient was put on a therapeutic trial of hematinics (vitamin B12, folic acid, and pyridoxine) and showed improvement. After therapy, a CBC revealed Hb: 122 g/L, PCV: 0.432%, RBC: $4.15 \times 10^{12}/L$, MCV: 85 fL, MCH: 30.8 pg, MCHC: 31.2 g/dL, total leukocyte count: $5.6 \times 10^9/L$, and platelet count: $177 \times 10^9/L$. However, a repeat bone marrow examination could not be performed as the patient did not comply.

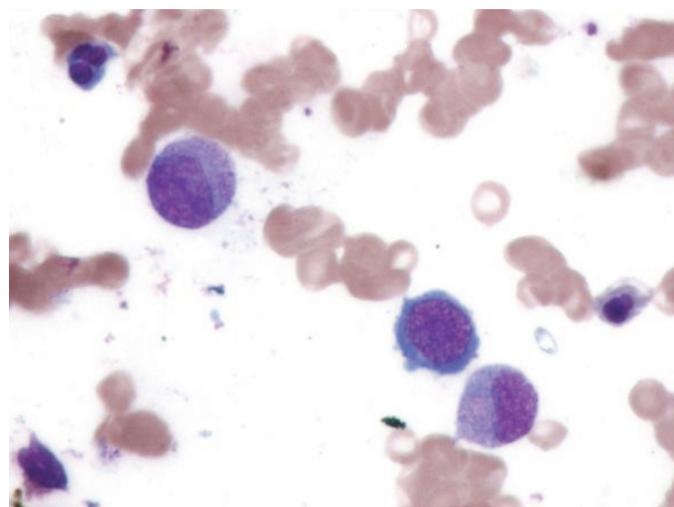


Figure 1. Bone marrow aspiration: megaloblastic maturation with dyserythropoiesis and giant myelocyte (1000X).