[c] *Instituto de Imunogenética (IGEN), São Paulo, SP, Brasil*

Introdução: O sistema de Antígenos de Neutrófilos Humanos-3 (HNA-3) está localizado na proteína Transportadora de Colinta-2 (CTL2), e é codificado pelo gene SLC44A2 e possui duas variantes: HNA-3a (SLC44A2*01) e HNA-3b (SLC44A2*02). Os antígenos HNA-3 e são expressos em neutrófilos, células endoteliais microvasculares dos pulmões, células tubulares renais e diversos tecidos humanos. Os anticorpos direcionados contra esses antígenos podem ser formados após a gestação ou transfusão sanguínea e têm sido associados à complicações como neutropenias aloimunes neonatais e reações transfusionais graves. A formação desses anticorpos após o transplante renal e sua relação com a rejeição e perda do enxerto são pouco compreendidas. **Relato de caso:** paciente do sexo masculino, 22 anos, DRC de etiologia indeterminada, sem histórico de transfusão sanguínea e com histórico de perda do transplante renal por rejeição aguda celular tardia. As amostras testadas foram coletadas antes da realização do segundo transplante renal e, a pesquisa de anticorpos anti-HNA-3 foi realizada através das seguintes técnicas: Teste de Aglutinação de Granulócitos (GAT), teste de Imunofluorescência de Granulócitos (Flow-GIFT) e técnica baseada em microesferas (kit LABSCreen Multi, One Lambda). A genotipagem HNA-3 dos receptores e dos doadores do transplante renal foi realizada pela técnica de polimorfismo de fragmentos de restrição utilizando a reação em cadeia da polimerase (PCR–RFLP). Testes laboratoriais realizados após a perda do primeiro transplante revelaram a presença de anticorpos anti-HLA específicos contra o doador (DSA) de especificidade DPB1*13 e *17, além de revelarem a presença de anticorpos anit-HNA-3b. A análise molecular demonstrou que o doador do transplante apresentava a genotipagem SLC44A2*01/SLC44A2*02 (HNA-3ab), enquanto o paciente apresentava genotipagem SLC44A2*01/SLC44A2*01 (HNA-3aa), corroborando a possível aloimunização induzida pelo transplante renal. **Conclusão:** Esse caso clínico sugere que a formação de anticorpos anti-HNA-3 pode ser induzida pelo transplante renal. A presença desse anticorpo em sinergia com anticorpos anti-HLA, pode ter contribuído ou exacerbado a rejeição do transplante. A compreensão dos mecanismos subjacentes a formação desse anticorpo e a sua determinação sistemática podem auxiliar na estratificação de risco de perda do enxerto renal.

https://doi.org/10.1016/j.htct.2023.09.1148

A CASE OF ANTI PP1PK IN AN ELDERLY MAN FROM SOUTH BRAZIL

JG Bohatczuk [a], C Prochaska [b], FL Guimaraes [c], K Cruz [c]

[a] *Hemocentro Regional de Guarapuava, Guarapuava, PR, Brazil*
[b] *Centro de Hematologia e Hemoterapia do Parana (Hemepar), Curitiba, PR, Brazil*
[c] *Bio-rad Latino America – Laboratório Central, Lagoa Santa, MG, Brazil*

The antigens in the P1PK blood group system including P, P1, and Pk are carbohydrate. More than 99.9% of the population worldwide has the P1 (P+P1+P*k*+) or P2 (P+P1-Pk+). Individuals in which P, P1, and Pk are absent are known as having the rare p or P-null phenotype with a rate of five in a group of one million people. As in the ABO system, naturally occurring antibodies of the immunoglobulin IgM or IgG class, against the missing carbohydrate structures, can be present in the sera of people lacking the corresponding antigen. Yet the behavior of different antibodies involved are not the same. While Anti-P1 is generally a weak and cold-reactive antibody not implicated in Hemolytic Transfusion Reaction (HTR) or hemolytic disease of the fetus and newborn, anti-PP1P*k* or the formerly known anti-Tja or anti p has the ability to cause immediate hemolytic transfusion reactions and recurrent miscarriages, mainly in the first half of pregnancy. Unlike to most articles dealing with anti-PP1P*k* that involve women of reproductive age, the present article deals with an old man. **Case:** In June 2023, a 70-year-old man was referred to Hospital from Guarapuava, Parana, South Brazil, for an orthopedic surgery having two Red Blood Cells (RBCs) concentrates as surgical reserve. Screening studies carried out at the hospital using tube method showed his blood type was group O+ with antibodies screening test positive and the cross-match not compatible for the RBCs tested. Patient related had no known history of transfusions. A whole blood sample was sent to Hemocentro Regional de Guarapuava for complementary tests. Phenotyping, antibody screening, ABO/D typing, Direct Antiglobulin Test (DAT), antibody identification tests and three cross-matches using patient's serum and RBCs from two others blood donors beyond a third using the own patient's blood were performed employing column agglutination method (Bio-Rad, Switzerland). **Results:** Tests confirmed patient O+, phenotype C+, c+, E-, e+, K-, k+, Kp(a-b+), Jk(a+b+),Le(a-b+), Lu(a-b+), P1-, M+, N+, S+, s+, Fy(a+b+), Di(a-b+). Antibody screening tests and crossmatches showed pan-agglutination of strength (3+) but Negative reactions to DAT and to the autologous RBCs were observed. In view of these inconclusive results was collected a new patient's whole blood sample and sent to Hemepar and Biorad Latin America Laboratory in Paraná and Minas Gerais states. Patient's blood tested with anti-PP1P*k* antibodies resulted negative. Also the patient's serum tested with known p[(Tj(a-)] RBCs resulted negative. **Discussion:** The case's patient fortunately didn't have any bleeding during his surgery and unfortunately died five days later due to other complications associated to his ilness. And also nobody of his family was invited to attend Hemocentro to investigate other P-null members. But if blood was really necessary it would be hard finding available P-null donors mainly at one saturday's evening when the surgery was done. **Conclusions:** The patient has p phenotype and antibodies with specificity anti-PP1P*k* in the serum. In general patients and donors with anti-PP1P*k* should be careful to avoid any situations in which could need blood transfusions. Women having planes for future pregnancies should consider the risks and the need of close monitoring during pregnancy.

https://doi.org/10.1016/j.htct.2023.09.1149