

ABID CASE #21

1. What is the probable identity of this antibody? (Hint: look up the use of HPC.)

Anti-Bg (anti-HLA). Platelets, and thus HPC, express class I HLA antigens. Since "anti-Bg" represents the red cell equivalent of anti-HLA, it is adsorbed onto the HPC.

2. Is any further workup needed to prove it? Are there any other methods that could have been used other than HPC neutralization of the antiserum?

All of the common, clinically significant blood group antibodies that must be ruled out in a routine workup have been, and the neutralization of the reactions demonstrates the antibody's specificity. Other methods that would support the identification of HLA antibodies include elimination of the reactions by chloroquine diphosphate or glycine EDTA.

3. What is the probable source of the immunizing stimulus in this case?

The most common source of immunization to human leukocyte antigens is pregnancy. A male patient with these antibodies would presumably have been transfused, and transfusion was common in patients with chronic renal failure prior to the advent of erythropoietin.

4. Does this antibody cause hemolytic transfusion reactions? Hemolytic disease of the newborn?

Anti-Bg is typically considered to be clinically insignificant with respect to transfusion, although hemolysis is documented in a few cases. HDN does not occur.

5. Are there any other transfusion-related problems for which this patient might be at risk?

Anti-HLA antibodies or were originally demonstrated by Dausset in a multiply transfused, mostly thalassemic population of patients with frequent febrile reactions to transfusion, so patients with anti-Bg are presumed to have a higher risk of these reactions. Anti-HLA antibodies are also responsible for most cases of immune mediated refractoriness to platelet transfusion.

6. How would we select compatible blood for this patient?

We would issue RBCs that were compatible by a crossmatch using an IAT method.

7. What is the biochemical nature of the antigen?

HLA antigens are complex glycoproteins involved in "presenting" antigen to various cells of the immune system. HLA class I antigens are generally considered to be present on all cells EXCEPT RBCs, but are variably expressed on the RBCs of certain individuals.