ABID CASE #13, ANSWERS

Case study by Jim Perkins, M.D. (© 2006)

Indian Immunohematology Initiative

1. What is the probable identity of this antibody(ies)?

   Alloanti-E and alloanti-K

2. Is any further workup needed to prove it? If additional cells need to be tested, what are their phenotypes?

   No further workup is needed. There are 3 reactive cells that are E+K- and 3 that are E-K+, and 3 (actually 7) E-K- cells that are non-reactive. Finally "everything else" is ruled out as required by typical criteria (anti-D, -C, -c, e, -k, Fy^a, -Fy^b, -Jk^a, -Jk^b, -Le^a, -Le^b, -M, -N, -S, -s, and -P1. Finally the patient has been shown to lack the E and K antigens.

   These are two of the most common antibodies encountered in our hospital populaiton, and this is one of the most common combinations of antibodies in our patients who are multi-immunized. That fact is not lost upon the cell panel manufacturers who typically will select antibody screening and identification panel cells such that additional cells need not be tested to prove both of these antibodies.

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

   Transfusion 17 years ago. Note how persistent these antibodies are. Perhaps the transfusion boosted immunization originally occurring in response to a pregnancy.

4. Is this patient at risk for hemolytic transfusion reactions?

   Both antibodies can cause both immediate and delayed hemolytic transfusion reactions.

5. How would we select compatible blood for this patient? What percent of donors is expected to be compatible with this recipient?

   We would select group B or O positive RBCs lacking both E and K antigens and then crossmatch them using an IAT method. Sixty five percent (65%) of Caucasian donors are expected to be compatible with both antibodies (0.71 x 0.91 = 0.65), but compatible donors would be more common in both African-American and South Asian donors due to lower prevalences of both antigens.