**ABID CASE #19**

1. What antibody/ies do you think is/are present? Are these allo- or auyoantibodies? (Hints: Why is Rabbitt Erythrocyte Stroma used? Why is the DAT positive?)

   *The raw plasma reacts with all cells in the gel system and at 14°C in a saline/tube panel, but this reactivity is removed by rabbit erythrocyte stroma which adsorbs cold autoantibodies. In the saline panel the plasma reacts more strongly with adult group O and group A RBCs suggesting anti-I specificity. Finally the DAT is weakly positive with anti-complement. All of these findings are characteristic of a cold autoantibody.*

   *However, testing of the plasma in the standard phases of the saline/tube system, 'immediate spin' (IS), 37° incubation (for 30 minutes in this case), and at the anti-human globulin phase with anti-IgG shows reactivity that is consistent with anti-K plus anti-Fy$^a$. Tube testing with LISS additive also demonstrates the anti-K and anti-Fy$^a$ without the interference of the cold autoantibody.*

2. What does this workup illustrate about the sensitivity of the gel system? What other procedure could have been used to reveal the underlying alloantibodies?

   *The gel system is sensitive to cold-reactive autoantibodies, and in many cases to warm auto-antibodies as well. A cold-autoadsorption could have been done to reveal the underlying alloantibodies if REST were not available.*

3. How would one select compatible blood for this recipient? What percentage of donors are expected to be compatible?

   *We would select K-negative, Fy$^a$ negative group A or O RBCs and crossmatch them in our usual saline/tube test system, expecting them to be compatible at all phases of reactivity including IS. If a LISS-enhanced IAT were the laboratories standard crossmatch system, interference would again be avoided. If the plasma had been reacting at the IS phase, cold-autoadsorbed plasma could have been used to perform crossmatches. In the latter situation, a pre-warmed crossmatch might also have avoided the interference of the clinically insignificant cold autoantibody. Note however that we would not accept the fact that the cold-reactivity was eliminated by prewarmed testing as definitive evidence that the antibody was clinically insignificant. Prewarmed testing should only be used for crossmatching after the antibody has been identified, since pre-warming can eliminate clinically significant reactivity. Similarly, if the laboratory used the gel system to perform crossmatches, auto-adsorbed plasma could be used; REST adsorbed plasma cannot be used for crossmatching since the REST may adsorb ABO antibodies.*

   *Thirty per cent of Caucasion donors are K and Fy$^a$ negative; 87% of African-American donors would be expected to be compatible.*