ABO Discrepancy #4

1. What is the forward ABO group? If that is correct, what anomaly must one explain?

   *The forward group is A. If that is correct, one must explain the lack of the expected anti-B.*

2. What is the reverse ABO group? If that is correct, what anomaly must one explain?

   *The reverse forward group is AB. If that is correct, one must explain why the reagent anti-B failed to react with the patient’s RBCs.*

3. Which of these two hypotheses did the technologist investigate? What information in the history and type-and-screen results prompted him or her to do so? What is the cause of this ABO discrepancy?

   *The technologist investigated both possibilities. A weak anti-B was sought by incubating the patient’s serum with reverse typing cells at lower temperatures, as well as by testing for anti-B in an indirect antiglobulin test. A weak B antigen was sought by using similar maneuvers with the patient’s cell and reagent anti-B.*

4. Why were the patient’s cells run against multiple anti-B reagents?

   *Monoclonal antisera may have different patterns of reactivity for different forms of an antigen. Multiple anti-B reagents were tried in an attempt to find one that would react with the patient’s RBCs and demonstrate that he was indeed group AB with a weak B subgroup.*

5. Given the clinical information, what is a possible diagnosis?

   *The patient has had multiple infections suggesting that he might be immunodeficient. Brutons agammaglobulinemia or some other severe form of humoral immunodeficiency could cause absence of the anti-B that we expect a group A individual to make.*

6. What further clinical laboratory tests would you like to order?

   *Agammaglobulinemia could be substantiated by determining his immunoglobulin levels. A serum protein electrophoresis could be done but probably would not obviate quantitating immunoglobulin levels.*

7. What other patients might present with weaker than expected reverse grouping tests?

   *Infants and elderly individuals may have weak or absent ABO agglutinins, but these findings are probably seen most commonly in patients with multiple myeloma.*