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.