

ABO discrepancy #4

Case study by Jim Perkins, M.D. (© 2009)



A "type-and-screen" is received from a pediatrician. The patient is a two year old male with a history of recurrent otitis media. The following reactions are obtained on initial testing.

ABO and Rh Typing

<A	<B	A1 cells	B cells	6% alb	<D	<D/AHG	CCC	Interp
3+	0	0	0		4+			

Antibody Screen (LISS/tube method)

	IS	30', 37o	AHG	CC
SCI	0	0	0	2+
SCH	0	0	0	2+
SCIII	0	0	0	2+
AC	0	0	0	2+

The patient's serum was tested with additional reagent RBCs from different lots and manufacturers as follows:

RBC type	Lot #	IS	RT	15°C	4°C	37°C	AHG	CC
A ₁	1	0	0	0	0	0	0	2+
A ₁	2	0	0	0	0	0	0	2+
A ₁	3	0	0	0	0	0	0	2+
A ₂	1	0	0	0	0	0	0	2+
A ₂	2	0	0	0	0	0	0	2+
A ₂	3	0	0	0	0	0	0	2+
B	1	0	0	0	0	0	0	2+
B	2	0	0	0	0	0	0	2+
B	3	0	0	0	0	0	0	2+
Auto		0	0	0	0	0	0	2+

The patient's RBCs were tested with additional samples of reagent anti-B from different lots and manufacturers as follows:

Antibody	Lot #	IS	RT	15°C	4°C
Anti-B	1	0	0	0	0
Anti-B	2	0	0	0	0
Anti-B	3	0	0	0	0

ABO Discrepancy #4:

Questions

1. What is the forward ABO type? If that is correct, what anomaly must one explain?
2. What is the reverse ABO type? If that is correct, what anomaly must one explain?
3. Which of these two possibilities did the technologist investigate? What information in the history and type-and-screen results prompted him or her to do so? What other testing might have been done easily? What is the cause of this ABO discrepancy?
4. Given the clinical information, what is a possible diagnosis?
5. What further clinical laboratory tests would you like to order?
6. What other patients might present with weaker than expected reverse grouping tests?