

ABO discrepancy #5 Case Study by Jim Perkins MD (©, 2009)

History: This patient is a 65 year old woman admitted for repeat spinal surgery after a failed lumbar fusion. A type-and-screen was ordered. Previous to this workup ABO typing typically yielded a very weak + result with reagent anti-A.

ABO and Rh Typing

<A	<B	A1 cells	B cells	6% alb	<D	<D/AHG	CCC	Interp
0	0	0	2+		0*			?, neg

Antibody Screen

	Gel
OI	0
OII	0

Direct Antiglobulin Test

	Poly	IgG	<C3
AHG	0		
CCC	2+		

*Weak D testing had previously been performed

Untreated. pt. cells	<A	<B					
IS	0	0					
RT	vw+	0		Patient serum			
Enzyme tx'd pt. cells	<A	<B	<A,B	A1 cells	A2 cells	B cells	OI
IS	vw+	0	vw+	0	0	2+	0
RT	w+ ^{MF}	0	w+ ^{MF}	0	0	3+	
4°C	1+ ^{MF}	0	1+ ^{MF}	0	0	3+	
<A adsorbed onto and eluted from patient RBCs							
	15", RT	60", 4°C	60", 4°C	AHG			
A1 cells, lot #1	w+	w+	1+	2+			
A1 cells, lot #2	0	w+	w+	2+			
A1 cells, lot #3	0	w+	w+	2+			
OI cells	0	0	0	0			
OII cells	0	0	0	0			
Control: <A adsorbed onto and eluted from group O RBCs							
A1 cells, lot #1	0	0	0	0	(Last wash negative, results not shown)		
OI cells	0	0	0	0			
OII cells	0	0	0	0			
<A,B adsorbed onto and eluted from patient RBCs							
	15", RT	60", 4°C	60", 4°C	AHG			
A1 cells, lot #1	w+	w+	1+	2+			
A1 cells, lot #2	0	vw+	w+	2+			
A1 cells, lot #3	0	vw+	w+	2+			
OI cells	0	0	0	0			
OII cells	0	0	0	0			
Control: <A,B adsorbed onto and eluted from group O RBCs							
A1 cells, lot #1	0	0	0	0	(Last wash negative, results not shown)		
OI cells	0	0	0	0			
OII cells	0	0	0	0			
Phenotype	<H		A1 lectin				
Patient	4+	Patient	0				
A1 cells		A1 cells	4+				
O cells		A2 cells	0				

ABO Discrepancy #5

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 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?
4. What is the most likely diagnosis?
5. What further tests would you like to do?

