

## ABO discrepancy #5

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



**History:** This patient is a 65 year old woman admitted for lumbar fusion. A type-and-screen was ordered.

### ABO and Rh Typing

anti-A	anti-B	A1 cells	B cells	6% alb	<D	<D/AHG	CCC	Interp
0	0	0	3+		0	0	2+	

### Antibody Screen

	Gel
SCI	0
SCII	0

### Direct Antiglobulin Test (tube method)

	Poly	IgG	<C3
AHG	0		
CCC	2+		

### Repeat forward type

	anti-A	anti-B	anti-A,B	auto		anti-H
IS	vw+ <sup>mf</sup>	0	vw+ <sup>mf</sup>	0		
RT	vw+ <sup>mf</sup>	0	vw+ <sup>mf</sup>	0		4+
					A1 cells	0
					A2 cells	1+
					O cells	4+

### Eluate from patient RBCs adsorbed with polyclonal anti-A

Test cells	15", RT	60", 37°C	AHG	Last wash	15", RT	60", 37°C	AHG
A1 donor cells	4+	4+	4+		0	0	0 <sup>v</sup>
A1 reagent cells	4+	4+	4+				
B donor cells	0	0	0 <sup>v</sup>				
B reagent cells	0	0	0 <sup>v</sup>				
SCI cells (grp O)	0	0	0 <sup>v</sup>				
SCII cells (grp O)	0	0	0 <sup>v</sup>				

### Eluate from donor group A RBCs adsorbed with polyclonal anti-A

Test cells	15", RT	60", 37°C	AHG	Last wash	15", RT	60", 37°C	AHG
A1 donor cells	4+	4+	4+		0	0	0 <sup>v</sup>
A1 reagent cells	4+	4+	4+				
B donor cells	0	0	0 <sup>v</sup>				
B reagent cells	0	0	0 <sup>v</sup>				
SCI cells (grp O)	0	0	0 <sup>v</sup>				
SCII cells (grp O)	0	0	0 <sup>v</sup>				

The patient returned 2 years later before repeat lumbar surgery. The type-and-screen results were similar as were the results of a repeat adsorption/elution study. In addition a forward ABO type was performed using ficin treated patient cells with the following results.

	Treated patient RBCs			Untreated patient RBCs	
	Anti-A	Anti-B	Anti-A,B	Anti-A	Anti-A,B
IS	vw+	0	vw+	0	0
30',RT	w+ <sup>mf</sup>	0	w+ <sup>mf</sup>	vw+	vw+
30',4°	1+ <sup>mf</sup>	0	1+ <sup>mf</sup>		

**ABO Discrepancy #5**

**Questions:**

1. What is the forward ABO type (initial test)? 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 might you do?