

AIHA CASE #2

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



History: The patient was a 63 year old man who came to the emergency room complaining of dark urine beginning 3 days earlier associated with fatigue. His past history was remarkable for adult onset diabetes, hypertension, kidney stones, and glaucoma, and he was on multiple medications including simvastatin (Lipitor), paroxetine (Paxil), enalapril (Vasotec), glyburide, pioglitazone (Actos), and aspirin.

Review of systems and physical examination were unremarkable.

Notable laboratory findings included:

- Hgb/hct = 11.6/33.6
- Reticulocytes = 2.8%
- Absolute reticulocytes = 94,000/mm³ (nml 15,000 – 127,000)
- Total/direct bilirubin = 6.7/0.6 mg/dL (nml 0.1 – 1.4/0 – 0.4)
- LDH = 461 IU/L (nml = 0 - 200)
- Haptoglobin = <5.8 mg/dL (nml = 36 - 195)

A direct antiglobulin test was ordered.

ABO and Rh Typing

<A	<B	A1 cells	B cells	6% alb	<D	<D/AHG	CCC	Interp
4+	0	0	4+		0	0	2+	

Antibody Screen

	Gel
SCI	0
SCII	0

Direct Antiglobulin Test (tube method)

	Poly	IgG	<C3
AHG	2+	2+	0
CCC			2+

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Eluate

Lot #44543		Rh system						Kell						Duffy		Kidd		Lewis		P	MNSs				Lutheran		Xg	Other Typings	Cell	Eluate AHG	CCC
Cell	Rh	D	C	c	E	e	V	K	k	Kp ^a	Kp ^b	Js ^a	Js ^b	Fy ^a	Fy ^b	JK ^a	JK ^b	Le ^a	Le ^b	P1	M	N	S	s	Lu ^a	Lu ^b	Xg ^a				
1	RzR1	+	+	0	+	+	0	0	+	0	+	0	+	+	0	0	+	0	+	+	+	0	+	+	0	+	+		1	4+	
2	R1wR1	+	+	0	0	+	0	+	+	0	+	0	+	0	+	+	+	0	+	+	0	+	0	+	0	+	+	C ^w	2	4+	
3	R2R2	+	0	+	+	0	0	0	+	0	+	0	+	+	0	+	0	0	+	0	+	+	+	+	0	+	+	Yt ^{b+}	3	4+	
4	Ror	+	0	+	0	+	+	0	+	0	+	0	+	+	0	+	0	0	+	+	0	+	+	+	0	+	+	He+	4	3+	
5	r'wr	0	+	+	0	+	0	0	+	0	+	0	+	+	+	+	0	0	+	0	+	0	0	+	0	+	+	C ^w	5	4+	
6	r"r	0	0	+	+	+	0	0	+	0	+	0	+	0	+	+	0	+	0	+	0	+	0	+	0	+	+		6	4+	
7	rr	0	0	+	0	+	0	+	+	0	+	0	+	0	+	0	+	0	+	+	0	+	+	+	0	+	0	Bg(a+)	7	4+	
8	rr	0	0	+	0	+	0	0	+	0	+	0	+	+	0	+	0	+	0	+	+	+	+	+	0	+	+		8	4+	
9	rr	0	0	+	0	+	0	0	+	+	+	0	+	0	+	+	0	+	0	0	+	0	0	+	0	+	0		9	3+	
10	rr	0	0	+	0	+	+	0	+	0	+	0	+	0	0	+	+	0	0	+	+	+	+	0	0	+	0		10	3+	
11	R2r	+	0	+	+	+	0	0	+	0	+	0	+	+	0	0	+	0	+	+	0	+	0	+	0	+	+	I-	11		
																											last wash	SCI	0	2+	
																												SCII	0	2+	

Questions:

1. What antibody(ies) is present? Is this an allo- or auto-antibody? Could it be due to one of the patient's medicines?
2. What is a "last wash" test? What is it meant to demonstrate? Does it do so in this case? How might you do it differently?
3. How would you explain the patient's normal reticulocyte count in spite of the fact other laboratory data suggests that the patient is hemolyzing?
4. How would we select blood for this patient?

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Subsequent disease course:

Additional testing was performed the following day, and the patient was started on prednisone, 60 mg/day.

The following relevant lab tests and a transfusion were done.

	Day 1 (above)	Day 2	Day 6	Day 7	Day 8	Day 9	Day 10	Day 13	Day 20
Hgb/hct	11.6/33.6	10.8/29.4	6.3/18.0	8.0/23.0	8.7/25.4	9.6/28.9	9.7/28.6	10.8/32.3	11.6/35.2
Absolute reticulocyte count	94,000			129,000					52,000
LDH		461							
Total/direct bilirubin	6.7/0.6	8.0		3.4/0.5	2.0/			1.6/0.3	0.8/0.2
Transfusion			1 U RBCs						

One hour after the transfusion on day 6 he developed a temperature of 101°F, having not been febrile previously during this illness. There was no hemoglobinemia or change in the serologic findings, and bacterial contamination of the unit was ruled out.