

ABID CASE #29

(Case study by Jim Perkins, © 2009)

History: This patient was an 84 year old woman admitted for a fractured distal femur after a fall. The x-ray suggested that it might be a pathologic fracture, and marrow tissue obtained at the time of open reduction and internal fixation contained large B cell malignant lymphoma. She denied transfusion.

ABO and Rh Typing

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

Antibody Screen

	Gel
SCI	w+
SCII	0

Direct Antiglobulin Test tube method

	Poly	IgG	<C3
AHG	0		
CCC	2+		

Initial Panel

Lot# 8RA175		Rh system						Kell						Duffy		Kidd		Xg	Lewis		MNSs				P	Lutheran		Other				
Cell	Rh	D	C	E	c	e	V	K	k	Kp ^a	Kp ^b	Js ^a	Js ^b	Fy ^a	Fy ^b	Jk ^a	Jk ^b	Xg ^a	Le ^a	Le ^b	S	s	M	N	P1	Lu ^a	Lu ^b	Typings	Cell	Gel		
1	R1wR1	+	+	0	0	+	0	0	+	0	+	0	+	+	0	+	0	+	0	+	+	+	+	+	0	0	+	C ^w +	1	1+		
2	R1R1	+	+	0	0	+	0	0	+	0	+	0	+	0	+	0	+	0	+	0	+	0	+	0	+	0	+		2	1+		
3	R2R2	+	0	+	+	0	0	0	+	0	+	0	+	+	+	+	+	+	0	0	0	+	0	+	0	0	+		3	w+		
4	Ror	+	0	0	+	+	+	0	+	0	+	0	+	0	+	+	+	+	+	0	0	+	0	+	+	0	+		4	1+		
5	r'r	0	+	0	+	+	0	0	+	0	+	0	+	+	0	0	+	0	0	+	+	+	+	0	0	0	+		5	vw+		
6	r''r	0	0	+	+	+	0	0	+	0	+	0	+	0	+	+	0	0	0	+	0	+	+	0	+	0	+		6	vw+		
7	rr	0	0	0	+	+	0	+	+	0	+	0	+	0	+	+	0	0	0	+	0	+	0	+	0	0	+		7	w+		
8	rr	0	0	0	+	+	0	0	+	0	+	0	+	+	0	+	0	+	+	0	+	+	+	+	+s	0	+		8	w+		
9	rr	0	0	0	+	+	0	0	+	0	+	0	+	0	+	0	+	+	0	0	+	0	+	0	+	0	+		9	vw+		
10	rr	0	0	0	+	+	0	0	+	0	+	0	+	+	0	0	+	0	0	+	+	0	+	0	+	0	+		10	vw+		
11	R1R1	+	+	0	0	+	0	+	+	0	+	0	+	0	+	+	+	+	0	+	+	+	+	0	+	0	+		11	1+		
Patient																												AC				

Questions:

1. What can you say about the initial test results? Are there any hypotheses you would like to test?

ABID CASE #29

PEG/tube panel

Lot #38467		Rh system						Kell						Duffy		Kidd		Lewis		P	MNSs				Lutheran		Xg	Other		PEG/AHG
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	Typings	Cell	Raw plasma
1	RzR1	+	+	0	+	+	0	0	+	0	+	0	+	+	0	0	+	+	+	+	+	0	0	+	0	+	0		1	vw+ ^{mf*}
2	R1wR1	+	+	0	0	+	0	0	+	0	+	0	+	0	+	+	+	0	+	+	+	0	+	0	0	+	0	C ^w	2	vw+ ^{mf}
3	R2R2	+	0	+	+	0	0	+	+	0	+	0	+	+	+	+	+	0	+	+	+	0	0	+	0	+	+		3	vw+ ^{mf}
4	Ror	+	0	+	0	+	+	0	+	0	+	0	+	0	0	+	0	0	+	+	0	+	0	0	0	+	+		4	vw+ ^{mf}
5	r'r	0	+	+	0	+	0	0	+	0	+	0	+	+	+	+	0	+	0	+	+	+	+	+	0	+	0		5	vw+ ^{mf}
6	r''r	0	0	+	+	+	0	0	+	0	+	0	+	+	+	0	+	0	+	0	+	+	+	+	0	+	+		6	vw+ ^{mf}
7	rr	0	0	+	0	+	0	+	+	0	+	0	+	0	+	0	+	0	+	+	+	+	0	+	0	+	+		7	vw+ ^{mf}
8	rr	0	0	+	0	+	0	0	+	0	+	0	+	+	0	0	+	0	+	+	+	0	+	+	0	+	+		8	vw+ ^{mf}
9	rr	0	0	+	0	+	0	0	+	0	+	0	+	+	+	0	+	+	0	0	0	+	0	+	0	+	+		9	
10	R1R1	+	+	0	0	+	0	+	+	0	+	0	+	0	+	+	+	0	+	0	0	+	+	+	0	+	+		10	
11	R1R1	+	+	0	0	+	0	0	+	0	+	0	+	0	+	+	+	0	+	+	+	+	0	+	0	+	+	Di(a+b-)	11	
Patient																													AC	

*mf = mixed field reactivity

Additional testing; 2 drops saline/tube method

	I.S.	R.T.	37°/30'	AHG	CC
SCI	0	0	0	0	2+
SCII	0	0	0	0	2+
AC	0	0	0	0	2+
Unit #1	0	0	0	0	2+
Unit #2	0	0	0	0	2+

Questions:

2. What did we learn from the PEG panel? (Hint: Note the mixed field reactions.) What would you like to do next?

ABID CASE #29

Urine neutralization test; PEG/tube method

Lot #38467		Rh system						Kell						Duffy		Kidd		Lewis		P	MNSs					Lutheran		Xg	Other Typings	PEG/AHG		
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	PI	M	N	S	s	Lu ^a	Lu ^b	Xg ^a	Cell		Urine neutralized	Dilution control	
1	RzR1	+	+	0	+	+	0	0	+	0	+	0	+	+	0	0	+	+	+	+	0	0	+	0	+	+	0		1	0 ^v	vw+ ^{mf}	
2	R1wR1	+	+	0	0	+	0	0	+	0	+	0	+	0	+	+	+	0	+	+	+	0	+	0	+	+	0	C ^w	2	0 ^v	vw+ ^{mf}	
3	R2R2	+	0	+	+	0	0	+	+	0	+	0	+	+	+	+	+	0	+	+	+	0	0	+	0	+	+	3	0 ^v	vw+ ^{mf}		
4	Ror	+	0	+	0	+	+	0	+	0	+	0	+	0	0	+	0	0	+	+	0	+	0	0	0	+	+	4	0 ^v	vw+ ^{mf}		
5	r'r	0	+	+	0	+	0	0	+	0	+	0	+	+	+	+	0	+	0	+	+	+	+	+	0	+	0	5	0 ^v	vw+ ^{mf}		
6	r''r	0	0	+	+	+	0	0	+	0	+	0	+	+	+	0	+	0	+	0	+	+	+	+	0	+	+	6	0 ^v	vw+ ^{mf}		
7	rr	0	0	+	0	+	0	+	+	0	+	0	+	0	+	0	+	0	+	+	+	+	0	+	0	+	+	7	0 ^v	vw+ ^{mf}		
8	rr	0	0	+	0	+	0	0	+	0	+	0	+	+	0	0	+	0	+	+	+	0	+	+	0	+	+	8	0 ^v	vw+ ^{mf}		
9	rr	0	0	+	0	+	0	0	+	0	+	0	+	+	+	0	+	0	0	0	0	+	0	+	0	+	+	9				
10	R1R1	+	+	0	0	+	0	+	+	0	+	0	+	0	+	+	+	0	+	0	0	+	+	+	0	+	+	10				
11	R1R1	+	+	0	0	+	0	0	+	0	+	0	+	0	+	+	+	0	+	+	+	+	0	+	0	+	+	Di(a+b-)	11			
Patient																												AC				

*mf = mixed field reactivity

Questions:

3. What did the neutralization test show? How is the neutralization done? What does the saline control demonstrate? Is any further workup needed?
4. Does this antibody cause hemolytic transfusion reactions? Hemolytic disease of the fetus and newborn? How would you provide compatible RBCs in this case?
5. What is the biochemical nature of the antigen?