

ABID CASE #1 Case Study by Jim Perkins MD (©, 2009)

History: This patient was a 55 year old woman admitted to have a loop ileostomy taken down. She had a 9 year history of colon cancer, originally treated by partial colectomy. Eleven weeks earlier she underwent proctocolectomy for recurrent disease. She also had a history of uterine cancer S/P hysterectomy, as well as peptic ulcer disease. At the time of her recent proctocolectomy her antibody screen was negative, and she received 2 units of RBCs.

ABO and Rh Typing

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

Antibody Screen

	Gel
OI	2+
OII	0

Direct Antiglobulin Test

	Poly	IgG	<C3
AHG	0		
CCC	3+		

Initial Panel

8RA178		Rh system						Kell						Duffy		Kidd		Xg	Lewis			MNSs				P	Lutheran		Other Typings	Cell	Gel				
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	PI	Lu ^a	Lu ^b								
1	R1wR1	+	+	0	0	+	0	0	+	0	+	0	+	+	0	+	+	+	0	+	+	+	+	0	+	0	+	C ^w	1	0					
2	R1R1	+	+	0	0	+	0	+	+	0	+	0	+	+	+	+	+	+	0	0	0	+	+	+	0	+	+		2	2+					
3	R2R2	+	0	+	+	0	0	0	+	0	+	0	+	0	+	+	0	+	0	+	0	+	0	+	+	0	+		3	0					
4	Ror	+	0	0	+	+	+	0	+	0	+	0	+	0	0	+	+	+	0	0	+	+	+	+	+	0	+		4	0					
5	r'r	0	+	0	+	+	0	0	+	0	+	0	+	0	+	+	0	+	0	+	+	+	+	+	+	0	+		5	0					
6	r''r	0	0	+	+	+	0	0	+	0	+	0	+	+	+	+	+	+	0	+	+	0	+	+	0	0	+		6	0					
7	rr	0	0	0	+	+	0	+	+	0	+	0	+	0	+	+	+	+	0	+	+	+	+	+	+	0	+		7	2+					
8	rr	0	0	0	+	+	0	0	+	0	+	0	+	0	+	0	+	0	+	0	0	+	+	0	+	0	+		8	0					
9	rr	0	0	0	+	+	0	0	+	0	+	0	+	0	+	0	+	0	0	+	+	0	+	0	+	0	+		9	0					
10	rr	0	0	0	+	+	0	0	+	0	+	0	+	+	0	+	0	+	0	+	+	+	0	+	0	0	+		10	0					
11	R1R1	+	+	0	0	+	0	0	+	0	+	0	+	0	+	0	+	+	+	0	0	+	0	+	+	0	+		11	0					
Patient																												AC	0						

Screening cell phenotype

		Rh system						Kell						Duffy		Kidd		Xg	Lewis			MNSs				P	Lutheran		Other Typings
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	PI	Lu ^a	Lu ^b		
OI	R1R1	+	+	0	0	+	0	+	+	0	+	0	+	+	+	+	+	+	0	+	+	+	+	+	+	0	+		
OII	R2R2	+	0	+	+	0	0	0	+	0	+	0	+	+	0	+	0	0	+	0	+	+	+	+	+	0	+		

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1. What is the probable identity of this antibody?
2. Is any further workup needed to prove it? Articulate the standards for identification of a blood group antibody (see SOP #221).
3. What is the probable source of the immunizing stimulus in this case?
4. Does this antibody cause hemolytic transfusion reactions?
5. Does this antibody cause hemolytic disease of the newborn?
6. How would we select compatible blood for this patient? What percentage of donors are expected to be compatible with this recipient?
7. What is the biochemical nature of the antigen? (Review the outline of the features of the relevant blood group system.)