

niagarahealth

Extraordinary Caring. Every Person. Every Time.

GHEST

Interesting Case

“Rhlg or No Rhlg? **That is the Question**”

September 22, 2018





Patient Case

27y Female in the OR for a D&C on March 20th 2018

Private Laboratory Report Faxed to TM and Rhlg ordered

Private Laboratory Report Results (Testing done March 7th)

Blood Group - A Negative

Antibody Screen - Positive

Antibody ID - Anti-D and Anti-C

Combination Titre 4

Ask yourself; is this patient a candidate for Rhlg?

2



Is this patient a candidate for RhIg?

a) Yes

b) No

c) I am
not
sure



Patient Case

We requested the OR to collect a specimen for a group and screen to confirm Private Laboratory report of a Anti-D and Anti-C

Here are the screen results

Cell	Rht	Donor Number	Rh-ir													KELT	DUFFY	KIDP	LEWIS	MNS	P	LITENS	Special Antigen Typing	Test Results													
			D	C	E	c	e	f	C ^M	V	K	k	Kp ^a	Kp ^b	Jk ^a									Jk ^b	Jk ^a	Jk ^b	P ₁	Lut ^a	Lut ^b	Cross	Other						
1	Rhts	309746	+	0	0	+	0	0	0	0	+	0	+	0	+																						
2	Rhts	314842	+	0	+	+	0	0	0	+	+	0	-	+	+																						
3	Rhts	321028	0	0	0	+	+	+	0	0	0	+	0	+	+																						
Patient Cells																																					



Patient Case

Cell#	Rh-hr	Donor Number	Rh-hr										KELL				DUFFY		KIDD		Sex Linked		LEWIS		MNS		P		LUTHERAN		Special Antigen Typing	Cell#	Test Results
			D	C	E	X	e	C ^y	V	K	X	Kp ^a	Kp ^b	Jsa	Jsb	Fya	Fyb	Jya	Jyb	Xga	Xgb	S	X	Y	N	X	Lu ^a	Lu ^b					
1	R1wR1	318586	+	+	0	0	+	0	+	0	0	+	0	+	+	+	+	+	0	0	+	+	+	+	+	0	+		1	SL			
2	R1R1	316865	+	+	0	0	+	0	0	0	+	+	0	+	+	+	+	0	0	+	+	+	0	+	0	+		2	SL				
3	R2R2	310580	++	0	+	+	0	0	0	0	+	+	0	+	+	+	0	0	+	0	+	+	+	+	+	+		3	SL				
4	Ror	305698	+	0	0	+	+	+	0	+	0	+	0	+	0	0	+	+	0	0	+	0	+	+	+	+		4	SL				
5	rr	311660	0	+	0	+	+	+	0	0	+	+	0	+	+	+	+	0	+	+	+	+	0	+	0	+	@, HLA+	5	SL				
6	rr	110840	0	0	+	+	+	+	0	0	0	+	0	+	+	+	+	0	0	+	+	+	+	0	0	+	@	6	0				
7	rr	321053	0	0	0	+	+	+	0	0	+	+	0	+	+	+	+	0	+	+	+	+	0	+	0	+	@, HLA+	7	0				
8	rr	306470	0	0	0	+	+	+	0	0	+	+	0	+	+	+	+	0	0	+	+	+	0	+	0	+	@, HLA+	8	0				
9	rr	320996	0	0	0	+	+	+	0	0	+	+	0	+	+	+	+	0	+	+	+	+	0	+	0	+		9	0				
10	rr	320451	0	0	0	+	+	+	0	0	+	+	0	+	+	+	+	0	+	0	+	+	0	+	0	+		10	0				
11	R1R1	321049	+	+	0	0	+	0	0	0	+	0	+	+	+	+	0	+	0	+	+	0	+	0	+	0	+	HLA+	11	SL			
	Patient Cells																										AUTO		0				

Do you agree with the private lab antibody identification?
(Anti-D and Anti-C)

Do you agree with the private lab antibody identification?

a) Yes

b) No

c) Further testing is required



Patient Case

The following comment was in the Private Laboratory Report;

“This antibody has been known to cause hemolytic disease of the fetus and newborn (HDFN). During pregnancy, antibody titres should be monitored at 2-4 week intervals.

Anti-G cannot be excluded, recommend referral to hospital blood bank for further work-up”

This patient had no previous history at Niagara Health before the date of the surgery, March 20th, 2018. Unfortunately, the physician did not refer this patient to the hospital for further follow-up on this antibody case prior to OR date.





Patient Case

So, what now?

- Since Anti-D appears to be present, the patient would not be a candidate for Rhlg administering due to previous sensitization of Rh D. However, the Anti-D and Anti-C combination **could** be an **Anti-G**.
- If the patient only has an Anti-G, the patient **is** a candidate for Rhlg preventative therapy due to the risk of developing Rh D antibodies.



How much do you know about Anti-G?

a) A lot

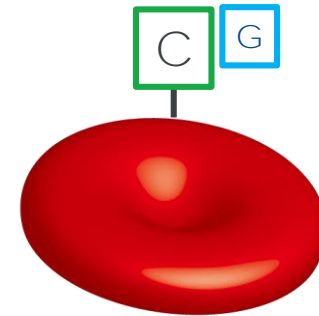
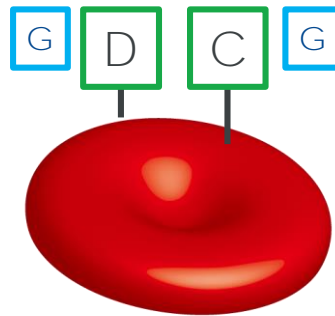
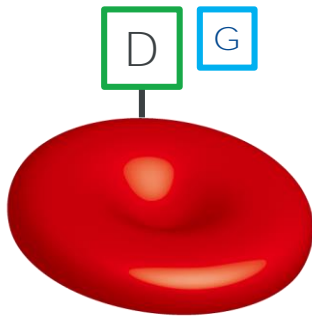
b) Never
heard of it

c) Brief
understanding



Anti-G

- Member of the Rh system
- Most cells have D and/or C
- IgG and does not bind complement
- Not necessary to differentiate D and C from G for routine testing



*imaged adapted from BloodBankGuy- "So You Want to be a G-Wiz?" 10





Patient Case

- Further investigation is required to determine if this sample has Anti-G present or Anti-D and Anti-C.
- The sample is referred out to CBS but will take several days for the conclusion and the clinical area is waiting for the Rhlg.

So what would you do?



So what would you do?

a) Administer
Rhlg

b) Withhold
Rhlg until
further testing

c) Deny- not
required



Patient Case

If this patient does have anti-G present only, then she requires Rhlg to prevent Rh immunization of Anti-D for subsequent pregnancies.

The decision was made to administer the Rhlg product to this patient to prevent Rh immunization of Anti-D.

So, what was the final outcome of the CBS report?

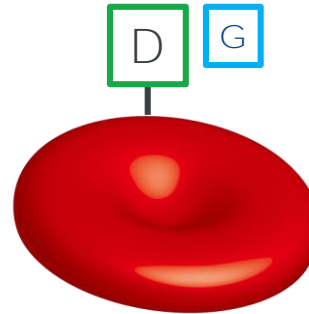




Patient Case

CBS Report – Received April 11th

Anti-D and Anti-G was present



The patient was indeed **not** a candidate for Rhlg but it was in the best interest of the patient to administer the Rhlg product when this wasn't certain.

So, if this patient presents again and needs a red cell transfusion, what phenotype should be selected?



So, if the patient presents again and needs a red cell transfusion, what phenotype should be selected?

a) D-
G-

b) D-
C- G-

c) D+
C- G+



Patient Case

Any future samples tested on this patient (positive for Anti-G, Anti-D) will be performed using the IAT method and crossmatched with Rh neg and C neg red cells.

Anti-G will react with either D+ cells or C+ cells.

Conclusion

It is important to recognize any female of child bearing age that appears to have an Anti-D and Anti-C and investigate the sample for the presence of an anti-G.

We need to ensure that we are appropriately denying Rhlg administration.





Author

Krista Walters –Charge MLT, Transfusion Medicine Department
Niagara Health, LMP

