

AIHA CASE #7

Because the findings above were inconsistent with a clinically significant cold autoantibody, repeat testing was scheduled. The sample was drawn in the blood bank donor room and immediately placed in the 37°C water bath prior to separation of the serum and RBCs. The new test results were as follows.

ABO and Rh Typing

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

Antibody Screen

	Gel
SCI	0
SCII	0

Direct Antiglobulin Test (tube method)

	Poly	IgG	<C3
AHG	1+	0	1+
CCC		2+	

Cold panel

	IS	RT	18°C	4°C
SCI	2+	2+	3+	4+
SCII	2+	2+	3+	4+
AC	0	1+	2+	4+
Oi	0	0	0	4+
Oi	0	0	0	4+

Thermal amplitude study

		37°	30°	RT
Saline suspended RBCs	SCI	0	w+	4+
	SCII	0	0	4+
Albumin suspended RBCs	SCI	0	4+	4+
	SCII	0	4+	4+

Titration at 4°C

	1:1	1:2	1:4	1:8	1:16	1:32	1:64	1:128	1:256	1:512	1:1024	1:2048
SCI	4+	4+	4+	4+	4+	4+	4+	4+	4+	2+	1+	1+
SCII	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	2+	1+

Questions:

1. What is the significance of reactivity of a cold autoantibody at 30°C? (See Garratty and Petz, Immune Hemolytic Anemias, pg. 182-190)
2. Why was there a difference between the first and second thermal amplitude test? Was the difference in titration results consistent with your hypothesis?
3. What is the specificity of the antibody in this case?
4. Discuss the features of cold autoimmune hemolysis as exemplified by the case. Is this likely a polyclonal or a monoclonal cold autoantibody? Why was the reticulocyte count normal at the time of the first episode of hemoglobinuria?