Case No. 7

Initial considerations based on Panel 1:

1. The pattern contains a combination of strongly positive results, weakly positive results, and negative results, suggesting an antibody that demonstrates dosage and/or more than one antibody. Furthermore, there are only two negative samples in Panel 1. Whenever there are no, or only a few, negative results, antibody studies become more complex:
   a. Crossing out will frequently leave many specificities not excluded.
   b. An antibody to an antigen of high prevalence may be present. Such antibodies may not have the corresponding antigen listed on the routine panel antigen profile.
2. Reactions are at IAT, suggesting IgG antibody.
3. The autocontrol is negative, suggesting alloantibody(ies).

The laboratory's policy requires at least one double-dose red cell sample to exclude anti-C, -c, - E, -e, -Jk^a, -Jk^b, -Fy^a, -Fy^b, -S, and -s. All other antibody specificities can be ruled out with a single nonreactive single-dose or double-dose red cell sample. Review of the pattern and phase of Panel 1 does not suggest any specific antibody. Crossing out is done to assist with identification. Once all exclusions are completed, the following specificities remain:

1. Anti-C, -E, -D, -K, and -Fy^a because there are no nonreactive antigen-positive red cell samples.
2. Anti-S and -Jk^a because this laboratory requires double-dose red cells to be nonreactive in order to rule out these antibody specificities.

Anti-N is excluded because the laboratory's policy does not require double-dose exclusion for anti-N. There is no clear suggestion of specificity; multiple explanations are possible. Depending on available resources, this sample might require referral to an outside laboratory (see Fig 1 in main text). If a second panel were available, it could be tested in the hope that additional nonreactive samples would reduce the number of possible antibodies (Panel 2). Testing of enzyme-treated red cells or other means to alter and enhance reactivity may prove helpful. However, before performing additional special testing, closer review of initial results (Panel 1) may provide helpful clues. If the 4+ reactions are considered alone,

they are found to have the pattern of anti-K. After that, looking at the reactions of the K– red cells is useful. It can be noted that, although many antibodies cannot be excluded, only one explains all of the positive results: anti-Fy^a. Furthermore, the variation in graded strength is consistent with the variation in antigen expression seen with dosage. Testing of selected red cells and antigen typing of the patient's red cells for the K and Fy^a antigens, rather than more specialized methods, may be adequate to complete this workup.

Case No. 7, Panel 1

	D	C	c	E	e	K	M	N	S	s	Le^a	Le^b	P1	Fy^a	Fy^b	Jk^a	Jk^b	IAT
1.	0	+	+	0	+	0	0	+	+	+	+	0	+	+	+	+	+	1+
2.	+	+	0	0	+	0	+	+	+	0	0	+	+	+	0	+	0	2+
3.	+	+	0	0	+	+	+	0	+	+	0	+	+	0	+	0	+	4+
4.	+	0	+	+	0	0	+	+	0	+	0	0	+	+	0	+	0	2+
5.	0	0	+	+	+	0	0	+	0	+	0	+	0	+	+	0	+	1+
6.	0	0	+	0	+	0	+	+	+	+	0	+	+	+	0	+	+	2+
7.	0	0	+	0	+	+	+	0	+	0	0	+	0	+	+	0	+	4+
8.	0	0	+	0	+	0	+	+	0	+	+	0	+	0	+	+	+	0
9.	0	0	+	0	+	0	0	+	0	+	0	0	+	+	+	+	0	1+
10.	0	0	+	0	+	0	+	0	+	+	0	+	+	0	0	0	+	0
11.	0	0	+	0	+	0	+	+	0	+	0	0	+	+	0	0	+	2+
A/C						0								0				0
I	+	+	0	0	+	0	0	+	+	0	+	0	+	+	0	+	0	2+
II	+	0	+	+	0	+	+	0	0	+	0	+	0	0	+	0	+	4+