CORRESPONDENCE

Rh Nomenclature

To the Editor:

The letter of Smith and Sinclair[1] comparing erythrocyte membrane characteristics of Rh_{null} with those of normal Rh phenotype was most interesting and informative. However, the authors' use of the symbol Rh_0 to indicate the phenotype Rh_{null} was both irritating and distractive.

The problem of Rh nomenclature is a well-known source of exasperation to immunohematologists and surely needs no further contribution. It has become standard practice to accept the designation Rh_0 as synonymous terminology for the Rh antigen D. Any attempt to muddy the waters further by introducing an antonymonous meaning for Rh_0, i.e., the absence of D and all other Rh antigens (Rh_{null}), should be discouraged and subjected to ruthless editorial surgery.

By drawing attention to the misuse of the designation Rh_0 we earnestly hope to discourage general use of any terminology which might be misleading to readers of scientific literature.

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REFERENCES

1. Smith JA, Sinclair AJ: Rh_0 and the erythrocyte membrane. Blood 49:491-492, 1977 (Letter)

Sickle Hemoglobin and Erythrocyte Membrane Permeability

To the Editor:

It has been shown previously that red cells from people with sickle cell (SS) anemia have different membrane characteristics, as well as the abnormal hemoglobin. SS red cell membranes show an increased cation flux,[1] an accumulation of calcium,[2] a loss of mass,[3] altered phosphorylation,[4] increased rigidity,[5] and a possible altered phospholipid arrangement,[6] although the protein and glycoprotein contents appear normal.[7]

In order to determine if the altered SS red cell membrane structure, because of membrane-hemoglobin interactions,[8] affected water and nonelectrolyte permeability, we used previously described stopped-flow techniques.[9] We found that N_2 ($\approx$ 30 min) deoxygenated SS red cell membranes had osmotic water permeability, hydrophilic (urea and glycerol) nonelectrolyte permeability, and lipophilic (2,3-butanediol) nonelectrolyte permeability identical within experimental error to those of oxygenated SS red cells or normal cells (oxygenated or deoxygenated). The deoxygenated SS red cells manifested typical sickled shapes,[10] whereas deoxygenated control cells appeared normal.

These experiments were performed on 3-day-old SS cells that were kept chilled during their shipment, suggesting that the cells' levels of ATP and 2,3-DPG were not drastically lowered. The pH of the red cell buffer solution was 7.4. No experiments were done with CO_2-treated SS cells, and the degree of irreversible sickled cell formation of the N_2-treated cells was typically approximately 25%. The level of fetal Hb was not determined in these SS cells.

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