**Elution of Anti-S**

A patient whose serum contained multiple allo antibodies including anti-S was transfused with 2 units of blood that lacked all appropriate antigens except S. The direct antiglobulin test post transfusion was weakly positive with broad spectrum and anti-IgG antiglobulin serum but negative with anti-complement reagent. The anti-S was IgG in nature, as determined by monospecific (anti-IgG and anti-IgM) antiglobulin sera.

An ether eluate prepared from the patient's post transfusion cell sample possessed no blood group antibody activity; however a heat eluate contained clear cut anti-S specificity. Has anyone else experience difficulty in recovering cell-bound anti-S by the ether elution method? We are interested in your findings.

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**Hemolytic Transfusion Reaction**

A patient with hereditary hemorrhagic telangiectasia was admitted to a local hospital because of G.I. bleeding. The patient had a ten year history of hemoglobinuria post transfusion. Our pretransfusion samples were negative by standard and enzyme techniques. The patient received 3 units of packed cells uneventfully. Seven days later he experienced hemoglobinuria. Serum samples tested within the next week demonstrated weak unidentified albumin-antiglobulin reactivity. In an idle conversation with a technologist from another Blood Center in the area, I learned that a trypsin-only anti-hr"(e) was demonstrated in the patient's serum 3 years previously. The report had gone to the clinician who neglected to pass that information on to the Blood Center or transfusion service. The patient had not been transfused since that time.

The patient eventually developed an identifiable anti-Chido. The serum was tested in numerous laboratories and the anti-hr"(e) could not be detected by standard techniques which included many different enzyme techniques. The anti-hr"(e) has been detected using the microtiter technique and using the autoanalyzer. The patient has received approximately 40 units of hr"(e) negative, Chido positive blood in the last three years without any hemoglobinuria or other signs of a transfusion reaction.

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Controls for Enzyme Premodification

The following controls have proven useful in our laboratory for demonstrating adequate enzyme premodification of red cells.

1. Using an antibody/antigen system known to be enhanced by enzyme treatment. A weakly reactive antibody, with no saline reactivity, is selected and tested against cells possessing the weakest available form of the appropriate antigen.
   
   For example:
   - anti-c and heterozygous - positive cells
   - anti-D and Rh cells
   - anti-Le^a and Le(a+b-) cells
   - anti-Le^b and Le(a-b+) cells

2. Using an antibody/antigen system known to be denatured by enzyme treatment. A strongly reacting antibody is selected and tested against cells possessing the strongest available form of the appropriate antigen.
   
   For example:
   - anti-M and MM cells
   - anti-Fy^a and Fy(a-b-) cells

3. Using a substance that demonstrates reduction in red cell sialic acid levels.
   
   For example:
   - Polybrene - untreated cells aggregate
     Enzyme premodified cells do not aggregate
   - Soybean extract - untreated cells do not aggregate
     Enzyme premodified cells aggregate

We do not use milk flocculation or X-ray paper digestion methods for quality control of enzyme activity since they only measure proteolytic activity.

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