Title: Anti-E Reaction as a Consequence of Prehospital Transfusion in Patients with Previous Transfusions

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Objectives:

The objective is to address an under-recognized risk for prehospital transfusion programs, the importance of hemovigilance, and communication between prehospital and hospital transfusion services as prehospital blood product use continues to expand.

Methods:

A woman in her eighth decade with a history of colon cancer, chronic anemia, and prior blood transfusions developed acute gastrointestinal bleeding with hematemesis and melena. Paramedics found the patient pale and diaphoretic with altered mental status. Given the severity of hypotension and concern for ongoing hemorrhage, the prehospital paramedics initiated transfusion of uncross-matched low-titer group O whole blood.

Results:

In the emergency department, the patient developed pain, swelling, and erythema at the injection site with occlusion of the intravenous line. Transfusion was immediately discontinued. Subsequent antibody screening identified anti-E alloantibodies in the patient's plasma. Crossmatching demonstrated incompatibility with E+ donor blood. The patient was subsequently transfused with E− compatible red blood cells and admitted for further management of gastrointestinal bleeding.

While initial crossmatching is not possible during rapid prehospital transport, uncrossmatched LTOWB can often be transfused without adverse reactions. However, the transfusion of Rh+ blood to Rh− patients who have previously been exposed to Rh+ blood can put those patients at risk for hemolysis. This is further complicated by the existence of several types of Rh antigens, including E. The patient had likely developed anti-E antibodies from a previous transfusion with E+ blood.

Conclusion:

This case highlights important issues that have simultaneously arisen with the development of prehospital blood transfusion programs which were originally designed for trauma but now, because of so-called "indication creep," include patients who have been previously transfused who are in shock from gastrointestinal bleeding.