CORRESPONDENCE

To the Editor:

Dutcher et al.1 concludes that there is no dose response relationship between the number of platelet transfusions and the development of alloimmunization. They suggest that prophylactic platelet transfusions should not be withheld because of the risk of sensitization. We wish to comment on a few important aspects of their study and their conclusion.

1. The presence of lymphocytotoxic antibodies (LCA) is taken as a measure of alloimmunization. It is likely that the use of serological tests directed towards platelets rather than lymphocytes would give more valid information. Although we agree that an overall correlation exists between the presence of LCA and posttransfusion platelet recovery, false negative and false positive tests are frequent. In a previous study from the same group, their LCA testing was erroneous approximately 35% of the time.1 Thus, LCA-positivity has limited correlation with refractoriness in vivo.

2. Although the authors stated that all patients in this study received multiple units of packed red blood cells, the number of transfusions was not included in the analysis of the data. This might have obscured a possible dose response relationship since it is well-known that packed red blood cell transfusions lead to the development of LCA.3

3. The study is based on a retrospective comparison between patients receiving “smaller” and “larger” numbers of thrombocyte transfusions. We question whether these groups are comparable. In a study from the Baltimore Cancer Research Center Group,4 HLA matched platelet transfusions were given as soon as patients had become refractory to random donor platelets. This means that only selected patients (i.e., those who were not alloimmunized) continued to receive random donor platelets. Consequently, patients with numerous random platelet transfusions may represent a subgroup of patients with a decreased propensity to alloantibody production. This would result in an underestimation of the occurrence of LCA as a function of transfusion number.

In contrast to the data presented, we have shown, in a prospective study5 progressive alloimmunization in patients receiving multiple donor platelet transfusions. In our investigations we used 1 hr and 24 hr posttransfusion increments as a direct parameter of sensitization. Other authors have also shown a dose response relationship of sensitization with the number of whole blood6 and platelet7 transfusions.

The question as to whether prophylactic platelet transfusions should be given is one of considerable impact. Dutcher et al. concludes from their data that prophylactic random donor platelet transfusions can be given without increasing the risk of alloimmunization. We object to such a recommendation based on the data presented in their study.

REFERENCES


There does appear to be a group of patients with leukemia who do not become alloimmunized despite multiple platelet transfusions. However, when considering only the patients who become alloimmunized, there is still no relationship between the number of transfusions given and the rate of alloimmunization. In addition, possibly because of the immunosuppressive effects of therapy, LCTAb may not develop until the patients are in remission 4–8 wk after initial antigenic exposure. Because of this delay in antibody response these patients may not have required HLA matched platelets during induction therapy. It is therefore necessary to follow patients receiving platelet transfusions for a number of weeks to monitor the development of alloimmunization. This represents a critical problem in the study of Sintnicolaas et al.5 in that a comparison of the first two transfusions received by a patient was used to determine the potential development of refractoriness.

Furthermore, contrary to Sintnicolaas’ statements, longer followup of our patients (BLOOD, November 1981) does not demon-
Platelet transfusion and alloimmunization [letter]

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