

CORRESPONDENCE

Dear Editor,

Blood transfusion in autoimmune haemolytic anaemia

The controversy surrounding blood transfusion in patients with autoimmune haemolytic anaemia (AMA) is well known and many a time doctors managing AMA patients 'agonise' over the problem of whether to transfuse the patient or not. I wish to comment on some common questions asked over this dilemma which I hope will be of some help to readers involved in the management of such patients.

1. *When (if ever) should one transfuse patients with AIHA?*

The decision to transfuse is based on *clinical* evaluation of the patient. If life threatening manifestations of anaemia such as severe angina, cardiac decompensation and neurologic signs which may begin as marked lethargy, weakness and may progress to somnolence and possible death are present, blood must be provided even when there is an incompatible crossmatch caused by the autoantibody.¹

It is important to assess the '*tempo*' of the haemolytic process. If acute symptoms of haemolysis such as fever, malaise and pain in the back, abdomen and legs² are present, the patient should be closely monitored i.e. Hb or haematocrit be monitored 2-6 hourly or so. In fulminant haemolysis, a significant drop in Hb may occur within hours and may result in death. Generally, it will be difficult to sustain adequate oxygenation if the Hb is < 4g% and most of such patients would require transfusion.

AIHA patients with reticulocytopenia warrant extra attention. The sinister implication of reticulocytopenia in AMA was emphasized by Crosby and Rappaport³ and subsequent studies⁴ suggested that if red cells are transfused in amounts sufficient to sustain life during **reticulocytopenia**, recovery is often seen.

2. *What are the problems associated with blood transfusion in AIHA?*

The presence of autoantibody makes detection of *alloantibody* difficult and the autoantibody may cause a shortened red cell life-span of transfused red cells. If undetected, alloantibody e.g. **anti-Jk**, **anti-K** can cause potentially serious haemolytic reaction. The

rapid haemolysis of transfused red cells due to autoantibody can precipitate renal failure and disseminated intravascular coagulation (DIC). Transfusing AMA patients is certainly a *high risk* affair and hence when the patient is in stable condition, transfusion should be *withheld* as it is well known that response to therapy or spontaneous improvement may be rapid. For example, 50% of patients with warm antibody AIHA respond to adequate doses of corticosteroids during the first week of therapy.⁶

Not only are compatibility tests problematic, even basic blood grouping (**ABO** and **Rh**) may be difficult. The chance of laboratory errors occurring is far higher especially if no negative controls are used or the technicians are inexperienced. It will be prudent to get the serological tests done during office hours when senior technicians are around.

3. *What is the choice of blood?*

The most important aspect in selection of donor blood is the detection of red cell alloantibody that may cause a haemolytic transfusion reaction. Special serological tests⁷ e.g. warm autoabsorption, differential absorption tests, etc., may be required. If alloantibodies are present, blood lacking the corresponding **antigen(s)** should be selected for transfusion. Whenever possible, the donor blood should also avoid obvious specificity exhibited by the autoantibody. In practice, the least incompatible donor blood at crossmatch and when compared to autocontrol (both at Coombs phase) can be used judiciously.

4. *What about the use of washed red blood cells in AIHA?*

Though the use of washed red cells was advocated on the basis that there is least amount of complement,¹ I feel that this is not necessary as the packed cells usually used contain little plasma and not all AIHA are complement mediated. Moreover, washing red cells is time consuming and costly and we may lose sight of the more important issue of detecting alloantibody in the 'hassle' to get the blood washed.

5. *What are the precautions⁸ to be taken while transfusing AIHA patients?*

- a) *slow* rate of transfusion e.g. 1 pint over 4-8 hours
- b) *close* observation
 - (i) vital signs - every 15 minute

- (ii) **input/output** chart (check urine for haemoglobinuria)
- (iii) **slow/stop** transfusion if patient become dyspneic or hypotensive
- c) Patients with a history of febrile and allergic reactions should receive antihistamine and hydrocortisone prior to transfusion (Note that these drugs have no effect on haemolysis).
- d) Patients with cold AIHA should be kept *warm* during transfusion and if an in-line warmer is available the blood should be warmed.

In summary, blood transfusion should be *avoided* in AIHA whenever possible but is urgently required when anaemia is life threatening.^{6,11} The key to successful management of such patients is good communication between attending ward doctors and the doctors (haematologist/pathologist/medical officer) running the blood bank. Because of the potential hazards of transfusing such patients and the complexities of the serological tests, the decision should be undertaken by senior doctors and the advice of the haematologist should be sought whenever possible.

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