

Investigation and Clinical Management of Suspected Reactions to Immunoglobulin A (IgA)

1. Introduction

Immunoglobulin A (IgA) deficiency is relatively common, occurring in approximately 1:700 individuals¹.

Severe anaphylactic transfusion reactions have rarely been described in IgA deficient individuals.^{2,3,4,5} They are stated to be more common in individuals with antibodies against IgA,^{2,3,4} although some authors disagree.⁵ It has been suggested that the link between IgA deficiency and transfusion reactions is not evidence-based.⁶ and indeed the Serious Hazards of Transfusion scheme receives very few reports of anaphylaxis or severe allergic reactions associated with IgA deficiency.

There is therefore little current evidence on which to base guidance on the transfusion of patients with IgA deficiency.

The current guidance takes into account the fact that the majority of individuals identified as having IgA deficiency have been identified outside the field of transfusion medicine, most commonly during testing for coeliac disease⁷, and that the number of reports of anaphylaxis or severe allergy linked to IgA deficiency appears very low.

The most important guiding principle is that ***urgent treatment should not be denied or delayed because IgA deficient components are not immediately available.***

2. IgA and anti IgA assays

Patients are likely to have an initial screening test for IgA deficiency for the following reasons:

- As part of the investigation of suspected coeliac disease.⁷ This is likely to be the commonest indication at present.
- Investigation of possible immuno-deficiency syndromes. Selective IgA deficiency is defined by the European Society of Immunodeficiencies as “serum IgA level of <0.07 g/L, and normal levels of serum IgG and IgM, when other causes of hypogammaglobulinemia have been excluded” and is considered to be part of the spectrum of common variable immunodeficiency (CVID)
- Investigation of acute allergic or anaphylactic transfusion reactions

Initial screening for IgA deficiency is usually performed using nephelometry, and low levels should be confirmed using a more sensitive technique.⁸ NHSBT uses a particle gel immunoassay for confirmation of very low levels (<0.0005 g/L) and detection of anti-IgA. The importance of anti-IgA antibodies in patients with IgA deficiency is unclear, although past studies do suggest a higher incidence of reactions in patients with high-titre, class-specific anti-IgA antibodies.^{4,5}

Samples required for RCI investigation of IgA levels and anti-IgA are 2 x 6ml EDTA

3. Choice of blood components for IgA deficient patients with a previous history of severe allergic/anaphylactic reactions (There are very few patients in this category)

- The duty patient-facing NHSBT consultant should be contacted, to discuss requirements with the requesting clinicians.

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- IgA deficient red cells or platelets are not routinely available
- In urgent cases, where there is insufficient time to prepare washed red cells or platelets in additive, red cells in SAG-M optimal additive solution (standard red cells) or standard platelets should be used.
- Washed red cells and/or platelets in additive can be provided if the risk of delay in provision does not outweigh the need for urgent transfusion
- Stocks of IgA deficient plasma are held in Sheffield and Filton. Issue requires approval by an NHSBT consultant, including requests from other blood services within the UK.

All patients in this category, must be transfused in a setting where there is immediate access to skilled clinical help, and where staff have been trained in anaphylaxis management and have access to adrenaline.¹⁰

4. Components for patients with confirmed IgA deficiency, with or without IgA antibodies, who have never previously been transfused, or who have received standard blood components with no reaction

There is no current evidence on which to base guidance. As the incidence of adverse reactions in this group of patients is likely to be extremely low, patients without any history of allergy or anaphylaxis may be transfused with standard components.

5. Desensitisation

It is possible that a desensitisation procedure may be an option for the small number of patients who have had transfusion reactions and may require further transfusion². A consultant immunologist would be able to advise on this.

6. Access to appropriate components

- Washed red cells and platelets in 100% PAS should be requested from local Hospital Services. Authorisation by an NHSBT consultant is required.
- IgA deficient plasma is available from Sheffield Hospital Services (tel 0114 358 (4)4817); or Filton Hospital Services: (tel 0117 9112 (2)5724) Issue requires approval by an NHSBT consultant.

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References

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