Rabbit Anti-Thymocyte Globulin (ATG)

Presentation:

Thymoglobuline® 25mg powder for reconstitution

Indications:

Prophylaxis of organ rejection in renal transplant recipients.
Treatment of corticosteroid-resistant allograft rejection in renal transplantation.

Dose:

Test Dose

A test dose should be given prior to the first full dose. Give via central line if possible.

Weight	Test Dose
<10kg	1mg
10-50kg	2.5mg
>50kg	5mg

Full Dose

2mg/kg once daily, infused over 12 hours. If tolerated at this rate for 3 days may be given over 8 hours for subsequent doses.

Dose Monitoring (see paediatric renal transplant guideline)
FBC and CD3 count (EDTA sample) send daily between 8-9am

- **Omit ATG if any one of the following criteria is met:**
  - Absolute number of CD3 positive cells is < 0.050 x 10^9/L
  - **OR** Platelet count ≤ 50 x10^9/L
  - **OR** Total WBC ≤ 4.0 x10^9/L

- **Half ATG dose (to 1mg/kg) if any one of the following criteria is met:**
  - Absolute number of CD3 positive cells is between 0.051-0.079 x10^9/L
  - **OR** Platelet count between 51-75 x10^9/L
  - **OR** Total WBC is between 4.1-5.0 x10^9/L

If CD3 monitoring is not available e.g. at the weekend, then the aim is to maintain the total lymphocyte count below 3% of the total white blood cell count.

Route of administration:

Intravenous infusion. **Central access preferred**. Administer through a 0.22micron filter (see below)

Directions for Administration:

Test Dose

Reconstitute a 25mg vial with 5ml water for injection. Dilute required dose to 5-10mL with sodium chloride 0.9% and infuse over 30 minutes. ***Do not administer chlorphenamine or hydrocortisone prior to the test dose.***

A doctor should be present throughout the administration of the test dose and vital signs monitored every 15 minutes (during the infusion and for 60 minutes after). Any reaction should be treated with oxygen, hydrocortisone IV, chlorphenamine IV and adrenaline IM as needed.

If no severe reactions are observed after 60 minutes (from the start of the infusion), give the full dose as per instructions below.

Full Dose

15-30 minutes before commencing infusion of ATG.give;

- Hydrocortisone IV (Up to 6 months: 25mg, 6 months-6yrs: 50mg, over 6yrs: 100mg)
- Chlorphenamine IV (1-6yrs: 2.5mg, 6-12yrs: 5mg, Over 12 yrs: 10mg).

Reconstitute each 25mg vial with 5ml water for injection. Dilute required dose with sodium chloride 0.9% to a final concentration of not more than 2mg ATG in 1ml of sodium chloride 0.9%.

Administer dose over 12 hours. If tolerated at this rate for 3 days may be run over 8 hours for subsequent doses.

Measure and record vital signs immediately prior to initiating infusion, every 15 minutes for the first hour, every 30 minutes for the next hour and then hourly until the infusion is complete.

Administration

Rabbit ATG requires filtering with a 0.22micron filter. Insert the filter in-between the giving set and the central line. 0.22micron filters are available from pharmacy sterile production.

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Written by: Peter Foxon Paediatric Pharmacist
Checked by: Andrew Wignell Paediatric Pharmacist
Approved by: Andrew Lunn Paediatric Nephrology Consultant

Cautions and Contra-indications:	Use of ATG is contraindicated in patients with a history of allergy or anaphylaxis to rabbit Proteins. A severe reaction or anaphylaxis to the test dose is a contraindication to the therapeutic course. ATG is contraindicated in infection due to its immunosuppressive activity.
Common Side Effects:	Nausea, vomiting, dysphagia, diarrhoea, hypotension, infusion-related reactions (including anaphylaxis), serum sickness, fever, increased susceptibility to infections/malignancy, lymphopenia, neutropenia, thrombocytopenia, myalgia, pruritis, rash.
Compatibility (Y – site):	Do not mix with any other infusions
Additional Comments:	**Antimicrobial Prophylaxis (to be commenced in all patients given ATG)** • Co-trimoxazole for 3 months • Nystatin 1ml QDS for the duration of the treatment course. • Oral valgancicolvir for 3 months unless both recipient and donor are CMV negative **Modification of Immunosuppression** • Continue daily prednisolone • Stop azathioprine, mycophenolate mofetil and sirolimus for the duration of the ATG course - Restart only when total WCC > 4.0 x109/l • Discuss reduction of tacrolimus dose with consultant paediatric nephrologist Repeat courses of ATG can be given provided there is no history of reaction to previous doses.

NB This monograph has been written and is intended solely for use by healthcare professionals working at Nottingham University Hospitals. Information within the monographs reflects local policies and procedures and may not be appropriate for use in other organisations. The final responsibility of other organisations referring to the information in the monographs will remain the responsibility of the individual clinician.

References

1. BNFC 2015-2016
2. Sanofi Summary of product characterists. Thymoglobuline 25 mg powder for solution for infusion Last Updated on eMC 18-May-2015
3. Paediatric Renal Transplant Guideline (http://nuhnet/nuh_documents/Guidelines/Family%20Health/Children%27s%20Hospital%20-%20Renal/2009.pdf)
4. NHS Injectable Medicines Guide. Accessed via www.medusa.wales.nhs.uk Accessed on 02-02-2016
5. Evelina Children's Formulary Accessed via http://cms.ubqo.com/public/d2595446-ce3c-47ff-9dcc-63167d9f4b80 on 02-02-2016

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