ANTITHYMOCYTE GLOBULIN ATGAM® ADMINISTRATION - SCH

DRUG PROTOCOL ©

DOCUMENT SUMMARY/KEY POINTS

- This document is used for the safe administration of Amtithymocyte Globulin. *Antithymocyte globulin was known as ATG. It must now be referred to as Atgam*.
- All staff will safely administer ATG, a common therapy used for patients during conditioning for blood and marrow transplant or those receiving first line therapy for severe aplastic anaemia.
- There are two types of Atgam: rabbit or horse derived and doses are not interchangeable.
- Atgam is only compatible with normal saline, and no other medications should run with Atgam.

Note: Separate practice guidelines may be required to cover all aspects of management.

CHANGE SUMMARY

- Document due for mandatory review.
- Replaces SCH Document C.18.A.1.
- Antithymocyte globulin is now referred to as 'Atgam'.

READ ACKNOWLEDGEMENT

- All SCH nursing staff who administer Atgam must read and acknowledge document.

This document reflects what is currently regarded as safe practice. However, as in any clinical situation, there may be factors which cannot be covered by a single set of guidelines. This document does not replace the need for the application of clinical judgement to each individual presentation.

Approved by:	SCH Drug Committee	
Date Effective:	1st September 2015	**Review Period**: 3 years
Team Leader:	Clinical Nurse Consultant	**Area/Dept**: Kids Cancer Centre SCH

Indications for Use

Antithymocyte Globulin (Atgam) is a broad spectrum immunosuppressive agent used to prevent a transplanted organ rejection, treat graft versus host disease and the treatment of aplastic anaemia.

Mechanism of Action: Purified human T-lymphocytes are injected into a horse or rabbit which then produce antibodies to these lymphocytes. Antibodies are present in the animal serum which is then purified into Atgam. When Atgam is infused into the patient, the antibodies then attack the patients T-cells.

There are two types of Atgam which are used in the conditioning therapy for Blood and Marrow Transplant. The type of Atgam to be used is protocol dependent. The dose for rabbit derived Atgam is different to the dose for horse derived Atgam. These doses are not interchangeable.

Procedure

1. Atgam must be prescribed by a medical officer and checked by two registered nurses.
2. Instruct the patient and family on the purpose of Atgam, the method and duration of administration and provide them with a list of potential adverse reactions.
3. Check the room has the following equipment and that it is ready for use:
   - Oxygen
   - Suction
   - pulse oximeter
4. The room should have the following medications available for use in an emergency:
   - promethazine hydrochloride
   - Hydrocortisone
   - adrenaline 1:1,000
5. Administer premedication at hour “0”, hour “4” and hour “8” as prescribed. The premedication may be dependent on the other treatments the patient is receiving. Typically the premedications are:
   - promethazine hydrochloride 0.2 - 0.5 mg/kg/dose
   - hydrocortisone 2 -4 mg/kg/dose
   - paracetamol 15 mg/kg/dose
6. Atgam should be infused over 6 hours. It may be infused via a central venous access device or a peripheral cannula. The bag of Atgam must be weighed to determine the total volume to be infused. The rate of infusion should then be calculated. Atgam should be attached to one of the 3 needle-free valves on the Smartsite® extension set.

N.B. *It is important not to discard the remaining drug as it should be able to be recommenced at a much slower rate (once the child is stable). The new rate should be*

determined, by the doctor. If the remainder of the Atgam is to be discarded then the amount administered should be determined first.

Atgam is only compatible with normal saline, and no other medications should run with Atgam.

7. A full set of observations (temperature, heart rate, respiratory rate, oxygen saturation and blood pressure) should be taken at the following frequency.

- pre infusion.
- every 15 minutes for first hour of infusion
- every 30 minutes for second hour of infusion
- hourly until infusion completed.
- as necessary per clinical need.

8. Observe for signs of a reaction or anaphylaxis, from the time of initiation of infusion and throughout the infusion.

9. If the patient experiences signs of anaphylaxis such as shortness of breath, difficulty breathing, stridor, wheezing, facial swelling, significant hypotension or cyanosis.

- stop infusion immediately.
- maintain a patent line - do not leave the patient.
- call for the medical officer immediately.(Dial 777, Clinical Review. See: BTF guideline)
- administer oxygen if needed.
- be prepared to administer emergency medications.

10. If an anaphylaxis occurs, the consultant medical officer will determine if the infusion should continue.

11. The RMO should be notified immediately if the following adverse reactions occur: fever, chills, tachycardia, hypotension, urticaria. If no other significant reaction occurs, Atgam may continue to be infused. Urticaria and atgam rash may occur intermittently up to 6 weeks post infusion.

12. When the Atgam is restarted, the infusion should be commenced slowly, and possibly not reach the previous rate of infusion where reaction had occurred. If a patient has had a previous infusion, and had a reaction, the rate of infusion should begin slowly, and increase rate slowly in an attempt to prevent further reactions. The rate of infusion must be discussed with RMO prior to restarting.

13. A patient can react to any dose of Atgam, even if prior doses have proceeded without incident. Theoretically, with each subsequent dose there is an increased risk of reaction.

14. Document all observations on a standard paediatric observation chart.

Outcome:

Registered Nurse will safely administer Antithymocyte Globulin.

References:

1. National Institute of Health Clinical Nursing Department, Standard of Practice: Care of the Patient Receiving Antithymocyte Globulin (ATG), 1996.
2. Lymphocyte Immune Globulin, Antithymocyte Globulin (Equine), 1996. American Hospital Formulary Service, pg. 2751-2754.
3. Paediatric Pharmacopoeia 13th Edition, (2002) Royal Children's Hospital Melbourne pg.62.http://www.rch.org.au/pharmacy/dev/index.cfm?doc_id=11341
4. MIMS Online prescribing Information. 2011 "Atgam Concentrated Injection" http://proxy36.use.hcn.com.au/Search/AbbrPI.aspx?ModuleName=Product%20Info&searchKeyword=ANTITHYMOCYTE+GLOBULIN&PreviousPage=~/Search/QuickSearch.aspx&SearchType=&ID=13800001_2.
5. Sydney Children's Hospital Paediatric Information on Intravenous Medications.
6. Australian Injectable Drugs Handbook, Fourth Ed. "Antithymocyte Globulin" http://proxy6.use.hcn.com.au/index.php/component/content/article/1-drug-monographs-a-z/26-section-26?directory=3&Itemid=8