

Administration of intravenous Immunoglobulin (IVIg)

Indications in the renal transplant recipient

1. Treatment of antibody mediated rejection (ABMR)
2. Treatment of BK virus associated nephropathy (BKVAN)

Dosage

1. Treatment of acute ABMR - 0.1 g per kg after each plasma exchange
2. Treatment of chronic antibody mediated rejection - Total 0.2 g per kg given three times per week for 10 doses (total dose 2 g/kg)
3. Treatment of BKVAN - 0.1 g/kg/dose given as weekly infusion for 10 doses (total dose 1 g/kg)

Storage

1. Intravenous immunoglobulin preparations must be stored at 2 - 8 deg C (Refrigerate, Do not Freeze) until use (Intragam P Product Information, 2012; Kiovig 10% Product Information, 2011; Octagam CMI, 2011)
2. Once removed from refrigeration, store at below 25 deg C and use within 3 months or as directed (Intragam P Product Information, 2012; Kiovig 10% Product Information, 2011)
3. Allow to reach room temperature before administration (Intragam P Product Information, 2012)
4. Do not use after expiry date (Intragam P Product Information, 2012; Kiovig 10% Product Information, 2011; Octagam CMI, 2011).
5. Shelf life for some products may be restricted, always check expiry dates (Kiovig 10% Product Information, 2011).

Administration

1. A valid **consent** is required prior to the administration of any blood product, including IVIg.
2. Infusion of IVIg should ideally be **conducted during the day** (0800 – 2000hrs). It is very rare that the infusion of IVIg is an urgent procedure requiring administration after hours. The prescribing Registrar must confirm if an after-hours infusion is necessary.
3. Ensure the insertion and / or patency of any **vascular access** device prior to removing immunoglobulin dose from refrigeration.



4. **Pre-infusion hydration** - 250 ml 0.9% sodium chloride (unless otherwise indicated by medical officer) over 30 min.
5. **Pre-infusion anti-coagulation** given (see below).
6. **Infusion rate= 1ml/kg/hr**, this slow rate is required for the duration of the infusion
7. **Post infusion hydration**- 250 ml 0.9% sodium chloride (unless otherwise indicated by medical officer) over 30 min.

Pre-infusion anticoagulation (SHOULD BE DISCUSSED WITH NEPHROLOGIST)

Intravenous immunoglobulin therapy has been associated with an increased incidence of thrombosis, particularly at high doses (>0.5 g/kg)

Enoxaparin (Clexane) at a dose of 1mg/kg given subcutaneously. (If enoxaparin contra- indicated then 5,000 units of **intravenous heparin** can be administered)

Precautions – In general these patients should not be anti-coagulated: Recent biopsy (within the preceding 48 hours), Recent bleed, Receiving plasma exchange or dialysis requiring anticoagulation, Patients already anticoagulated, HITTS

Observation

1. **Record vital signs** (temperature, pulse, blood pressure and respiratory rate):

- At baseline prior to infusion commencing
- After the first 15mins of infusion
- Then hourly until completion
- At the completion of the infusion

The frequency of monitoring will need to be more frequent if the clinical condition of the patient deteriorates

2. If patient is diabetic, BSL should be taken prior to infusion commencing and at the completion of the infusion due to the sugar content of the preparation

Side effects from IVIg

chills, fever, headache, nausea, vomiting, allergic reactions, arthralgia, low blood pressure and lower back pain.



References

1. INTRAVENOUS IMMUNOGLOBULIN (IVIg) ADMINISTRATION IN RENAL TRANSPLANT RECIPIENT
- Protocol from the Western Sydney local health district
2. High Dose Intravenous Immunoglobulin
- Protocol from QUEENSLAND RENAL TRANSPLANTATION SERVICE
3. ACUTE ANTIBODY MEDIATED REJECTION (AMR)- Monash protocol 2014