Treatment of Acute T-cell mediated Renal Allograft Rejection

- Allograft biopsy should be performed prior to treatment, unless this will substantially delay therapy
- In view of the risks of HBV reactivation, specialist opinion for initiation of antiviral agents is to be considered in patients with positive anti HB core antibodies

Initial therapy

Methyl prednisolone

Dose: **500 mg IV OD for three days**.

This should be diluted in 50 ml of either 0.9% saline or 5% glucose and given over 20-30 minutes

Oral steroids should be discontinued for the duration of IV treatment

All patients diagnosed with acute rejection should have a 10ml **serum sample sent to tissue typing for HLA antibody** screen

Oral prednisolone

After the steroid pulse, oral steroids can be restarted and tapered rapidly to the previous oral dose

Other

Switch from cyclosporine to tacrolimus aiming for blood trough tacrolimus levels 8- 12 ug/L

Consider increasing baseline immunosuppression or adding mycophenolate for those patients not already receiving this agent. Azathioprine may need to be substituted with mycophenolate.

Thymoglobulin may be considered for the initial treatment of severe acute T cell mediated rejection (see below)

Restart or continue PJP and CMV prophylaxes.

Treatment for biopsy proven steroid resistant or recurrent acute T cell mediated rejection

Thymoglobulin (Anti thymocyte globulin, ATG)

Thymoglobulin must be infused into a **central line** or a **PICC** or (in rare circumstances) an AV fistula

Dose: 1.5mg/kg/day for 7-14 days, diluted in 100- 500 ml of 0.9% NS. The final concentration should be <0.5mg/ml. A single dose should not exceed 150mg

Give **pre-medication** with paracetamol 1g PO, chlorpheniramine 10mg IV and hydrocortisone 200mg IV

The **first treatment dose should be infused over a minimum of 6 hours** and subsequent doses over > 4 hours.

Monitoring:

Monitor for infusion related reactions. Rare but serious side effects are anaphylaxis and pulmonary edema

Check **WBC, platelet and lymphocyte** counts daily

If the total lymphocyte count is < 0.05 x 109/L then no thymoglobulin should be given that day

If the total WCC is < 2.5 x 109/L then reduce the Thymoglobulin dose by 50%, and if < 2.0 x 109/L do not give any Thymoglobulin, whatever the lymphocyte count.

lymphocytes subsets recommended at day 7 if used for >7 days

Other:

Isolated cellular mediated rejection, which is refractory to pulse steroids and ATG, is rare. Underlying antibody mediated rejection needs to be rules out.

Prophylaxis against infection

Cotrimoxazole 800/160mg PO Mon, Wed, Fri (if not already prescribed) continued for six months or more following treatment

CMV prophylaxis with valganciclovir if either donor or recipient is CMV IgG seropositive (D+ or R+), for at least three and possibly six months

Consider acyclovir prophylaxis for CMV D-/R- patients (to protect against other herpes virus infections, particularly herpes simplex virus (HSV) and VZV)

Nystatin 100,000 U QDS for 30 days to protect against oral and oesophageal candidiasis.

References

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3. Chadban S et al, KHA-CARI guidelines, Adaptation of the KDIGO Practice Guideline for the Care of Kidney Transplant Recipients, February 2012
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