Treatment of Acute T-cell mediated Renal Allograft Rejection

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.

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-medications 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 $< 0.05 \times 10^9/L$ then no thymoglobulin should be given that day

If the total WCC is $< 2.5 \times 10^9/L$ then reduce the Thymoglobulin dose by 50%, and if $< 2.0 \times 10^9/L$ 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

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