Tertiary/Quaternary Level Essential Drug List
Medication Review Summary

Medication Name: Basiliximab **Date:** 11 April 2017

Indication:
Induction therapy for prophylaxis against acute rejection in renal transplant recipients.

Context:
Induction therapy in the transplant setting is an intense prophylactic treatment strategy intended to lower the risk of acute rejection in the early post-transplant period. Current treatment protocols consist of lymphocyte depleting agents, including anti-thymocyte globulin (ATG) and interleukin 2 receptor antagonists (IL2-RAs).

Basiliximab is a monoclonal antibody directed at the interleukin-2 receptor and inhibits the proliferation of T-cells resulting from allograft antigen stimulation but does not affect resting T-lymphocytes. When compared with ATG, IL2-RAs are thought to offer more selective immunosuppression, while ATG, when compared with no induction, has been reported to be associated with higher risks of opportunistic infections and lymphoproliferative disorders.

Quality of evidence:
No new randomized controlled trials, systematic review or meta-analyses were identified after the 2010 Cochrane review by Webster and colleagues.

Clinical efficacy:
Webster *et al*)[i] reported that when compared with placebo, IL2-RAs reduced graft loss, including death with a functioning graft, by 25% at 6 months (RR 0.75, 95% CI 0.58 to 0.98) and at one year (24 studies: RR 0.75, 95% CI 0.62 to 0.90). At one-year, biopsy-proven acute rejection was reduced by 28% (14 studies: RR 0.72, 95% CI 0.64 to 0.81). When compared with ATG, there was no difference in graft loss at any time point, or for acute rejection diagnosed clinically. However, ATG therapy reduced biopsy-proven acute rejection at one year (8 studies: RR 1.30 95% CI 1.01 to 1.67).

When compared with no treatment, the NNT for IL2-RA was calculated as 9 to prevent one recipient having rejection, 42 to prevent one graft loss, and 38 to prevent one incidence of CMV disease over the first year post-transplantation.

Safety concerns:
Nil

Further considerations:

COST	Strength	Dose*	Cost	Total dose	Cost per course
Basiliximab	20mg/vial	20mg IV on day 0 and day 4	R 10 397.11**	40mg	R 20 794.22
ATG (Equine)	100mg/vial	Total dose 9mg/kg	R 3 671.00**	630mg (700mg)	R 25 697.00

*Dose based on GSH dosing protocols (based on 70kg) **Cost based on GSH buy out price March 2017

Recommendation:
Basiliximab should be included on the Tertiary/Quaternary Essential Medicines List as induction therapy in low risk patients renal transplantation recipients.

[i] Webster et al. Interleukin 2 receptor antagonists for kidney transplant recipients (Review). The Cochrane Library. 2010, issue 3.