Immunosuppressive therapy for kidney transplantation in children and adolescents (review of technology appraisal 99)

ADDENDUM: Evaluation of the effect of a discount to the list price of prolonged-release tacrolimus (Advagraf®)

In their company submission (page 46), Astellas Pharma Ltd (Astellas) indicated that a discount of [redacted] from list price would be applied to hospital prescriptions of prolonged-release tacrolimus (Advagraf®). This addendum has been produced by PenTAG on request by NICE to evaluate the impact on cost-effectiveness of prolonged-release tacrolimus of incorporating this discount.

This addendum focusses on the comparison of immediate-release tacrolimus (TAC), prolonged-release tacrolimus (TAC-PR) and ciclosporin (CSA), with concomitant mycophenolate mofetil (MMF) and corticosteroids. Only deterministic results are presented as there are no significant nonlinearities which would necessitate consideration of probabilistic results.

In the base case, unit costs for TAC and CSA were drawn from the CMU eMit database, which reflect average acquisition costs for NHS hospitals, while the unit cost of TAC-PR was drawn from the BNF list price, and included no discount. The base case results are shown in Table 1.

In the base case, it can be seen that only TAC is cost-effective at any cost-effectiveness threshold as it is both cheaper and more effective than the comparators (TAC-PR and CSA). Although TAC-PR dominates CSA in the base case, it is itself dominated by TAC so is not cost-effective at any threshold.

Astellas suggest (pages 5 and 46) that discounts only apply to hospital prescribing and that kidney transplant recipients (KTRs) transfer to community prescribing after [redacted]. This does not reflect recent direction from NHS England and the Welsh Health Specialised Services Committee that prescribing of immunosuppresants should be maintained in secondary care (and KTRs previously transferred should be

repatriated) on the grounds of patient safety (see Section “Maintenance immunosuppression” of Assessment Report, page 455). As such discounts from list price apply for lifetime in the PenTAG model.

In a scenario analysis conducted on request from NICE, in which the unit cost of prolonged-release tacrolimus was reduced by [redacted], the results are as shown in Table 2.

[redacted]

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Table 1: Cost-effectiveness of TAC, TAC-PR and CSA (in combination with MMF) in the base case

Maintenance agent	Discounted costs		Discounted QALYs		ICER (cost per QALY)	Incremental net health benefit	
	Total	Incremental	Total	Incremental		£20k/QALY	£30k/QALY
With MMF						*vs. TAC*	
CSA	£199,910	—	18.1269	—	Dominated	-1.1224	-0.7859
TAC-PR	£196,165	-£3,744	18.1854	+0.0586	Dominated	-0.8767	-0.6026
TAC	£179,719	-£16,446	18.2398	+0.0544	—	—	—

Table 2: Cost-effectiveness of TAC, TAC-PR and CSA (in combination with MMF) in the scenario analysis where a discount of [redacted] was applied to the list price of Advagraf®

Maintenance agent	Discounted costs		Discounted QALYs		ICER (cost per QALY)	Incremental net health benefit	
	Total	Incremental	Total	Incremental		£20k/QALY	£30k/QALY
With MMF						*vs. TAC*	
CSA	£199,910	—	18.1269	—	Dominated	-1.1224	-0.7859
TAC-PR	[redacted]	[redacted]	18.1854	+0.0586	Dominated	[redacted]	[redacted]
TAC	£179,719	[redacted]	18.2398	+0.0544	—	—	—