1. Introduction

Many renal transplant patients travel to areas of significant malaria risk and clinicians are frequently asked to give advice on prophylaxis by patients and GPs because of concerns about drug interaction and the effect of a reduced renal clearance on drugs

2. Scope

This guideline is intended to help clinical staff advise Renal Transplant patients who require ant-malarial prophylaxis

3. Recommendations, Standards and Procedural Statements

3.1 General Advice

3.1.1 The prophylaxis recommended depends on the region to be visited and varies from time to time

3.1.2 Give patients general advice about risk reduction – e.g. sleeping with window protection or mosquito nets

3.1.3 Advise patients to go to their GP who will have up to date regional information, and will prescribe the prophylaxis usually on a private prescription, which means the patient will have to pay the full cost of the medicines

3.1.4 Prophylaxis should start at least one week before travel [except for mefloquine which should start 2-3 weeks before] and continue for 4 weeks after return [except for Malarone which should be stopped one week after return]. Advice to start mefloquine 2-3 weeks before travel is mainly to assess tolerance. If mefloquine has been used previously without problems it just needs to be started before travel.

3.1.5 Chloroquine/proguanil prophylaxis are rarely recommended as there is so much chloroquine resistance so for most patients the choice is between mefloquine, doxycycline and malarone.

3.2 Recommended drug therapy [advice for GP]

3.2.1 No dose reduction necessary regardless of renal function

- Mefloquine 250mg once weekly – but avoid mefloquine in patients with a history of neuropsychiatric disorder including depression and convulsions
- (Doses in CKD recommended by 'Drug prescribing in renal failure' 5th edition by Aronoff et al. The manufacturer lists 'severe renal impairment' as a contraindication for prophylaxis due to lack of experience in this patient population).

- Doxycycline 100mg once daily

3.2.2 Dose reductions required for reduced renal function

All dose reductions recommended in BNF are based on estimation of renal function using the Cockroft & Gault formula. However, use of eGFR, as reported by UHL laboratory, provides sufficient equivalence to avoid any risk of clinically significant mis-dosing.

Chloroquine: expressed as base

eGFR > 10mls/minute: 300mg once weekly

eGFR <10mls/minute: 150mg once weekly

Proguanil: **Manufacturer gives the following dosing schedule based on eGFR**

eGFR > 60ml/min/1.73m^2	200mg once daily
eGFR 20-59 ml/min/1.73m^2	100mg once daily
eGFR 10-19 ml/min/1.73m^2	50mg on alternate days
eGFR<10ml/min/1.73m^2	50mg once weekly

Malarone (Proguanil/Atovaquone combination)

eGFR> 30ml/min: 1 tablet daily

eGFR < 30ml/min: AVOID

3.2.3 Interactions with Immunosuppressive drugs

No interactions with sirolimus

Chloroquine and doxycycline may increase ciclosporin and tacrolimus levels

4. Education and Training

None specifically required

5. Monitoring and Audit Criteria

Key Performance Indicator	Method of Assessment	Frequency	Lead
Adverse drug reactions to anti-malarial prophylaxis in renal transplant patients	Datix incidents	Annually	Maria Martinez

6. Legal Liability Guideline Statement

See section 6.4 of the UHL Policy for Policies for details of the Trust Legal Liability statement for Guidance documents

7. Supporting Documents and Key References

8. Key Words

Renal transplant, malaria, anti-malarials, foreign travel

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