Maine Medical Center
Maine Transplant Program
Policies and Procedures
Polyoma Protocol

Background

1. Transplant recipients are exposed to polyoma viruses during childhood or via receipt of a kidney transplant. These viruses can remain dormant and may reactivate when the subject is immunosuppressed.
2. Pre-transplant testing does not accurately predict post transplant infection.
3. BK/Polyoma viremia is the major risk factor for Polyoma Virus Allograft Nephropathy (PVAN), with risk of premature graft failure.
4. Diagnosis of PVAN is histologic.
5. Definitive treatment options for established PVAN are lacking. However screening for asymptomatic viremia with judicious reduction in immunotherapy is safe and effective in preventing PVAN and graft loss for most patients.

Screening:

Who?	All kidney transplant recipients
What?	Quantitative blood BK PCR
When?	Start at week 4 post transplant and after rejection rescue immunotherapy
	Screen (-): Months 0-6: monthly
	Months 6-24: every 3 months
	After 24 months: yearly
	Screen (+): Months: Repeat at 2-4 week intervals after reducing immunotherapy

Indications for Kidney Allograft Biopsy

1. Persistent/worsening viremia
2. AKI
3. Immunohistochemistry for BK to be requested at time of biopsy if patient has either BK viremia

Indications for intervention:

1. BK viremia (any level)
2. Biopsy evidence of PVAN

Principles of Therapy:

- There is no strategy that is universally successful
- First line interventions
- Reducing immunotherapy is the only strategy that is effective for most patients (>80%)
- Immunosuppression should be reduced in a step wise fashion
- Precipitous immunosuppression reductions are to be avoided
- Patients on reduced immunosuppression for BK need frequent viral load measurements
- Second line interventions
- There is no evidence that quinolones are effective. These agents will not be used for this purpose accordingly
- Leflunomide is a strategy of uncertain efficacy for patients who fail immunotherapy reduction
- IVIg is a strategy of uncertain efficacy for patients who fail immunotherapy reduction and specially in those with hypogammaglobulinemia
- Cidofovir is a strategy of uncertain efficacy for patients who fail immunotherapy reduction and leflunomide. It is generally not recommended given it potential for nephrotoxicity

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Revised Dates: 6/6/09, 7/28/14, 5/30/16, 1/18/18, 11/20/20

This policy was reviewed and approved at QAPI on 11/20/20

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Appendix: Management

Immunosuppression Taper

- Presume baseline immunotherapy is Tac/MMF/Pred
- Goal is to change one medication at a time and to maintain the remaining 2 per usual protocol
- No compelling data that reducing or stopping steroid versus antimetabolite is associated with better outcome

Step 1: Reduce MMF/MPA by 50%
Step 2: Stop MMF/MPA
Step 3: Reduce tacrolimus by 50%
Step 4: Consider IVIg/Leflunomide Rx

Leflunomide Protocol

- Start Leflunomide 20 mg/d
- No need to follow levels unless neurotoxicity suspected

IVIg Protocol

- Consider checking quantitative immunoglobulins prior to therapy (IgG, IgM, IgA)
- Start IVIg 500 mg/kg
- May repeat dosing twice a week if positive response