**Policy: Post Liver and Kidney Transplant BK Polyoma Virus Management**

**Statement:** Vision Strategy: Patient Care
Policy Statement: The Emory Transplant Center and all the solid organ transplant programs will comply with all applicable federal, state, and local laws, regulations, policies and protocols regarding the management of transplant patients.

Basis: This protocol is necessary for the protection of patients, physicians and staff.

Admin Responsibility: All transplant program physicians, practitioners and clinical staff members are responsible for compliance with this clinical protocol.

**Scope/Procedure:**

Uncontrolled BK viremia can lead to nephropathy and loss of a transplanted organ. Twenty percent of renal transplant patients will develop BK viremia post-transplantation. Prior to institution of prospective screening at EUH for BK polyoma, fifty percent of patients with BK nephropathy would lose their transplanted kidney within 6 months of diagnosis. Reduction of immunosuppression is the only currently effective means of prolonging allograft survival.

**Protocol**:

Monitoring protocol:

All patients undergoing combined liver-kidney transplantation will have a BK polyoma PCR performed at post-transplant visits 1 month, 2 month, 3 month, 4 month, 5 month, 6 month, 9 month, and 12 months. BK monitoring will be discontinued after the first annual visit on all patients who have not developed evidence of infection.

Upon detection if BK PCR is < 10,000 copies it should be repeated in two weeks and in 1 month. If viremia is verified on a subsequent measurement, but is still below 10,000 copies, then a 25% reduction (or as dictated by AUC, if performed) in the CNI dose should be instituted and a change in target trough range should be considered. BK PCR should then be monitored every 2 weeks until a stable low level (<10,000 copies) viremia is documented. (Likely asymptomatic viremia)

In addition to the above,

A BK polyoma PCR will be obtained at the time of any renal transplant biopsy for cause (allograft dysfunction, BK viremia)

BK polyoma PCR will be obtained monthly for 6 months following each episode of severe rejection treated with Thymoglobulin.

Treatment protocol (initial diagnosis)

If initial BK PCR is between 10,000 and 100,000 copies, then reduce the dose of the CNI by 50% (or as dictated by AUC, if performed) and change target level to next lower level then repeat BK PCR in 2 to 4 weeks.

If initial BK PCR is greater than 50,000 copies, consider renal biopsy

If BK PCR is grater than 100,000, a renal biopsy is indicated.

If biopsy proven BK PCR

Reduce CNI by 50% as stated above

Reduce the anti-proliferative (mycophenolate, azathioprine) by 50 to 100% based upon severity of histology and response to prior immunosuppression reduction in consultation with attending. Repeat BK PCR in 2-4 weeks.

Treatment protocol (follow up therapy):

If the BK PCR has greater than a 50% reduction in level, continue to monitor every 2-4 weeks until PCR <1,000 copies.

If the BK PCR has less than a 50% reduction in PCR then consider either further reduction in the CNI dose or if the patient is already off the CNI, consider reduction of the antiproliferative agent. Repeat BK PCR in 2-4 weeks and repeat cycle until BK PCR < 10,000 copies.