**Policy: Anti-Viral Protocol in Post-Liver Transplantation (HSV, VZV)**

**Statement:**
**1. Affected Department:** LiverTransplant Program

**2. Vision Strategy:** Patient Care

**3. Policy Statement:** The Emory Transplant Center will comply with all applicable federal, state and local laws, regulations and policies regarding the management of prescribing medications and refills.

**4. Basis**: This policy is necessary for the protection of patients, physicians and staff

**5. Administrative Responsibility:** Section heads, physicians, practitioners, and staff are responsible for compliance with this policy.

**Scope/Procedure:**

**For patients at high risk for developing cytomegalovirus, please see CMV protocol.**

**1. Herpes Simplex Virus (HSV)**

A. **Prophylaxis**: Post-transplant patients will receive acyclovir 400 mg PO TID for 3 months post-op. Acyclovir 800 mg PO BID may be considered if adherence is an issue. Valacyclovir 1000 mg PO daily may be used alternatively, however, acyclovir is the preferred agent due to lack of insurance coverage or higher cost of valacyclovir. Dosages should be adjusted for renal insufficiency.

**Table 1. Antiviral Prophylaxis or Maintenance Dosing**

|  |  |  |
| --- | --- | --- |
| Creatinine Clearance (ml/min) | Acyclovir (mg) – Oral | Valacyclovir (mg) - Oral |
| ≥50 | 400 mg 3 times daily | 1000 mg q24 hours |
| 25-49 | 400 mg q12 hours | 1000 mg q24 hours |
| 10-24 | 400 mg q24 hours | 500 mg q24 hours |
| < 10 | 400 mg q24 hours(administer after dialysis on HD days) | 500 mg q48 hours (administer after dialysis on HD days) |

B. **Treatment**: For treatment of herpes simplex virus, oral dosing of 800 mg given 4 or 5 times daily for 5-10 days. In renal insufficiency, decrease dosing to 2-3 times daily (see Table 2 below).

For **severe mucocutaneous HSV** or initial **herpes genitalis** infection intravenous acyclovir 750 mg/m2/day divided every 8 hours or
5-10 mg/kg every 8 hours. Decrease dose in renal insufficiency to q12-24hr in renal insufficiency.

For herpes **encephalitis** dosing of IV acyclovir should be 10-15mg/kg q8hr. Decrease dose in renal insufficiency to q12-q24 hour dosing.

**2. Varicella-Zoster Virus**

Oral dosing of acyclovir 600-800 mg/dose every 4 hours while awake (5x/day) for 10-14 days. Alternatively, valacyclovir may be used at a dose of 1000mg PO TID.

Intravenous dosing of acyclovir is 10 mg/kg/dose given every 8 hours for 7 days. Dose reduction is required in renal insufficiency for oral and intravenous formulations.

**3. Herpes Zoster Infections**

Oral dosing of acyclovir 800mg every 4 hours while awake (5 x day) for 10-14 days. Alternatively, valacyclovir may be used at a dose of 1000 mg PO TID.

Intravenous acyclovir dosing of 10 mg/kg/dose every 8 hours for 10-14 days. Dose reduction required for renal insufficiency for oral and intravenous formulations.

**Table 2. Antiviral Treatment Dosing**

|  |  |  |  |
| --- | --- | --- | --- |
| Creatinine Clearance (ml/min) | Acyclovir (mg) – Oral | Acyclovir (mg) - IV | Valacyclovir (mg) - PO |
| ≥50 | 800 mg 5 times daily | 5-10 mg/kg q8 hours | 1000 mg q8 hours |
| 25-49 | 800 mg 5 times daily | 5-10 mg/kg q12 hours | 1000 mg q12 hours |
| 10-24 | 800 mg q8 hours | 5-10 mg/kg q24 hours | 1000 mg q24 hours |
| < 10 | 800 mg q12 hours (on HD days, administer after dialysis) | Administer 50% of the dose every 24 hoursHD: 2.5-5mg/kg q24 hours | 500 mg q24 hours |

\*Note dosing of IV acyclovir for herpes encephalitis is 10-15mg/kg q8 hours.

**4 Precautions with Acyclovir/Valacyclovir:**

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| --- | --- |
| Use with caution in patients with pre-existing renal insufficiency. Patients should receive adequate hydration (2-3L/day) if receiving IV acyclovir prevent precipitation in the renal tubules. Generally, 500 mL of normal saline is administered with each IV acyclovir dose to prevent nephrotoxicity.**References:** 1. Taber DJ, Ashcraft E, Baillie GM, et al. Valganciclovir prophylaxis for patients at high risk developing cytomegalovirus disease. Transpl Infect Disease 2004;6: 101-109. 2. Kalil AC, Levitsky J, Lyden E, et. al. Meta-Anaylsis: The efficacy of strategies to prevent organ disease by cytomegalovirus in solid organ transplant recipients. Ann Int Med 2005; 143: 870-880.  |  |

3. Fishman JA. Infection in solid-organ transplant recipients. NEJM 2007; 357: 2601-2614.

4. Wilck MB, Zuckerman RA, et al. Herpes Simplex Virus in Solid Organ Transplantation. Am J Transplant 2013; 13: 121-127.

Approved by: Liver Transplant Leadership Group

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**Transplant Leadership Group**

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| **Regulatory References:** |  |

**Related Policies/Procedures:**

CMV Protocol

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**Key Words For Search:** CMV, antiviral, HSV, VZV