

Ganciclovir:

Class: Antiviral Agent.

Indications:

Treatment of CMV retinitis in immunocompromised individuals, including patients with acquired immunodeficiency syndrome; prophylaxis of CMV infection in transplant patients.

Available dosage form in the hospital: 500MG I.V VIAL.

Trade Names:

Dosage:

- CMV CNS infection in HIV-exposed/-infected patients (unlabeled use; CDC, 2009): *I.V.*: 5 mg/kg/dose every 12 hours plus foscarnet until symptoms improve followed by chronic suppression
- CMV retinitis: *I.V. (slow infusion)*:
 - Induction therapy: 5 mg/kg/dose every 12 hours for 14-21 days followed by maintenance therapy
 - Maintenance therapy: 5 mg/kg/day as a single daily dose for 7 days/week or 6 mg/kg/day for 5 days/week
- Prevention (secondary) of CMV disease in HIV-exposed/-infected patients (unlabeled use; CDC, 2009): *I.V.*: 5 mg/kg/dose daily
- Prevention (secondary) of CMV disease in transplant patients: *I.V. (slow infusion)*: 5 mg/kg/dose every 12 hours for 7-14 days, duration of maintenance therapy is dependent on clinical condition and degree of immunosuppression
- Varicella zoster: Progressive outer retinal necrosis in HIV-exposed/-infected patients (unlabeled use; CDC, 2009): *I.V.*: 5 mg/kg/dose every 12 hours plus systemic foscarnet and intravitreal ganciclovir or intravitreal foscarnet.

Renal Impairment:

- I.V.* (Induction):
 - Cl_{cr} 50-69 mL/minute: Administer 2.5 mg/kg/dose every 12 hours.
 - Cl_{cr} 25-49 mL/minute: Administer 2.5 mg/kg/dose every 24 hours.
 - Cl_{cr} 10-24 mL/minute: Administer 1.25 mg/kg/dose every 24 hours.
 - Cl_{cr} <10 mL/minute: Administer 1.25 mg/kg/dose 3 times/week following hemodialysis.

-I.V. (Maintenance):

-Cl_{cr} 50-69 mL/minute: Administer 2.5 mg/kg/dose every 24 hours.

-Cl_{cr} 25-49 mL/minute: Administer 1.25 mg/kg/dose every 24 hours.

-Cl_{cr} 10-24 mL/minute: Administer 0.625 mg/kg/dose every 24 hours

-Cl_{cr} <10 mL/minute: Administer 0.625 mg/kg/dose 3 times/week following hemodialysis.

-Intermittent hemodialysis (IHD) (administer after hemodialysis on dialysis days): Dialyzable (50%): CMV Infection: I.V.: Induction: 1.25 mg/kg every 48-72 hours; Maintenance: 0.625 mg/kg every 48-72 hours. **Note:** Dosing dependent on the assumption of 3 times/week, complete IHD sessions.

-Peritoneal dialysis (PD): Dose as for Cl_{cr} <10 mL/minute.

-Continuous renal replacement therapy (CRRT) (Heintz, 2009; Trotman, 2005): Drug clearance is highly dependent on the method of renal replacement, filter type, and flow rate. Appropriate dosing requires close monitoring of pharmacologic response, signs of adverse reactions due to drug accumulation, as well as drug concentrations in relation to target trough (if appropriate). The following are general recommendations only (based on dialysate flow/ultrafiltration rates of 1-2 L/hour and minimal residual renal function) and should not supersede clinical judgment: CMV Infection:

-CVVH: I.V.: Induction: 2.5 mg/kg every 24 hours; Maintenance: 1.25 mg/kg every 24 hours

-CVVHD/CVVHDF: I.V.: Induction: 2.5 mg/kg every 12 hours; Maintenance: 2.5 mg/kg every 24 hours

Common side effect:

Central nervous system: Fever

Gastrointestinal: Diarrhea , anorexia , vomiting.

Hematologic: Thrombocytopenia, leukopenia , anemia , neutropenia with ANC <500/mm³ (12% to 14%)

Ocular: Retinal detachment.

Pregnancy Risk Factor: C