## Ganciclovir
### Newborn Use Only

**Alert**

IV ganciclovir is a cytotoxic agent.

**Indication**

1) Treatment of severe or moderately severe, symptomatic congenital CMV, or
2) Treatment of acute severe CMV disease.

**Action**

Synthetic nucleoside analogue of 2-deoxyguanosine that inhibits replication of herpes viruses. Sensitive human viruses include cytomegalovirus, herpes simplex virus 1 and 2, herpes virus type 6, 7 and 8, Epstein-Barr virus, varicella zoster virus and hepatitis B virus.

**Drug Type**

Antiviral

**Trade Name**

Cymeve

**Presentation**

Injection containing ganciclovir sodium 500 mg (for reconstitution)

**Dosage/Interval**

6 mg/kg/dose 12 hourly.

Infants may be switched to oral valganciclovir if clinically stable and able to take oral medications.

IV ganciclovir should generally not be used for more than 6 weeks.

Please note, oral valganciclovir is the oral prodrug of ganciclovir and prescribed at a different dose.

**Route**

IV

**Preparation/Dilution**

IV ganciclovir is a cytotoxic agent. Contact Pharmacy to order reconstituted/pre-diluted product. Final concentration should not be higher than 10 mg/mL.

**Administration**

IV ganciclovir is a cytotoxic agent. Follow full cytotoxic precautions as per local policy.

IV infusion over 30 minutes with a syringe pump. Central line is preferred as medication has high pH and can cause tissue irritation. Peripheral cannula may be used for short-term treatment but the IV site should be monitored carefully.

**Monitoring**

Full blood count, particularly neutrophil count, should be followed weekly for 6 weeks, then at week 8, then monthly for the duration of therapy.

Liver function tests monthly throughout therapy.

Renal function tests.

**Contraindications**

Hypersensitivity to ganciclovir, valganciclovir, aciclovir or valacyclovir.

Patients with:
- absolute neutrophil count below 0.5 x 10^9/L or
- platelet count below 25 x 10^9/L unless thrombocytopenia is related to CMV disease, or
- haemoglobin less than 80 g/L (8 g/dL).

**Precautions**

Ganciclovir has both gonadal toxicity and carcinogenicity in animal models and its long-term safety after administration to young children is not established.¹

**Drug Interactions**

Convulsions have been reported in patients receiving ganciclovir and imipenem-cilastatin concurrently.

Concurrent use of tacrolimus and ganciclovir increases nephrotoxicity.

**Adverse Reactions**

Commonly causes neutropenia. If absolute neutrophil count (ANC) falls below 0.5 x 10^9/L and if it is thought not to be due to CMV disease, withhold medication until ANC is above 0.75 x 10^9/L then restart medication at half dose. If ANC falls below 0.5 x 10^9/L again, consider discontinuing the medication.

Can also cause anaemia and thrombocytopenia. Discontinue medication if platelet count below 25 x 10^9/L or haemoglobin less than 80 g/L occurs and is thought not to be due to CMV disease.

**Compatibility**

**Fluids:** Glucose 5%, sodium chloride 0.9%.

**Drugs via Y-site:** Anidulafungin, caspofungin, filgrastim, fluconazole, linezolid, remifentanil.

**Incompatibility**

**Fluids:** Amino acid/glucose. Lipid emulsion.

**Drugs:** Adrenaline (epinephrine) hydrochloride, amikacin, aminophylline, ampicillin, aztreonam, benzatropine, benzylpenicillin, cefazolin, cefepime, cefotaxime, cefoxitin, ceftazidime,
| Cytotoxic Medicines | Ceftriaxone, clindamycin, dobutamine, dopamine, erythromycin, esmolol, gentamicin, hydralazine, hydrocortisone sodium succinate, imipenem-cilastatin, lidocaine (lignocaine), magnesium sulfate, methylprednisolone sodium succinate, metronidazole, midazolam, morphine sulfate, mycophenolate mofetil, noradrenaline (norepinephrine), pentamidine, pethidine, phenylephrine, piperacillin-tazobactam (EDTA-free), potassium acetate, pyridoxine, sodium ascorbate, sodium bicarbonate, suxamethonium, tacrolimus, thiamine, ticarcillin-clavulanate, tobramycin, vancomycin, vecuronium, verapamil. |

**Stability**
Compounding centres that are licensed by the Australian Therapeutic Goods Administration to reconstitute and/or further dilute cytotoxic medicines and have validated aseptic procedures and regular monitoring of aseptic technique may apply a shelf life of 15 days at 2 to 8°C (refrigerate, do not freeze) to ganciclovir IV infusions reconstituted with water and further diluted with sodium chloride 0.9% or glucose 5%. Please contact your Pharmacy Department for more information or refer to expiry date on the product.

**Storage**
Unused vials: Store below 30°C.
Pre-diluted solution: Store at 2 to 8°C (or as instructed on product label by compounding facility).