Cidofovir (Lexi-Drugs)

ALERT: US Boxed Warning

Nephrotoxicity:

Renal impairment is the major toxicity of cidofovir. Cases of acute renal failure resulting in dialysis and/or contributing to death have occurred with as few as 1 or 2 doses of cidofovir. To reduce possible nephrotoxicity, IV prehydration with normal saline and administration of probenecid must be used with each cidofovir infusion. Renal function (serum creatinine and urine protein) must be monitored within 48 hours prior to each dose of cidofovir and the dose of cidofovir modified for changes in renal function as appropriate. Cidofovir is contraindicated in patients who are receiving other nephrotoxic agents.

Neutropenia:

Neutropenia has been observed in association with cidofovir treatment. Therefore, neutrophil counts should be monitored during cidofovir therapy.

Appropriate use:

Cidofovir is indicated only for the treatment of cytomegalovirus (CMV) retinitis in patients with acquired immunodeficiency syndrome (AIDS).

Carcinogenic/teratogenic:

In animal studies, cidofovir was carcinogenic, teratogenic and caused hypospermia.

Pronunciation

Vm

P

(si DOF o veer)

Brand Names: Canada

Mar-Cidofovir

Pharmacologic Category

Antiviral Agent

Dosing: Adult

Note: To minimize the likelihood of nephrotoxicity, unless otherwise indicated, premedicate with probenecid 2 g 3 hours prior to the cidofovir dose, then 1 g 2 hours and 8 hours after completion of the infusion. Patients should also receive 1 L of NS IV infused over 1 to 2 hours immediately prior to each cidofovir infusion. If tolerated, a second liter may be administered over 1 to 3 hours at the start of cidofovir infusion or immediately following infusion.

Adenovirus infection

BK virus infection

Cytomegalovirus

Herpes simplex virus infection, acyclovir-resistant

* See Dosage and Administration in AHFS Essentials for additional information.

Dosing: Older Adult

Refer to adult dosing.

Dosing: Altered Kidney Function: Adult

Manufacturer's labeling:

Renal function may be estimated using the Cockcroft-Gault formula for dosage adjustment purposes.

Preexisting renal impairment: Serum creatinine >1.5 mg/dL, CrCl ≤55 mL/minute, or urine protein ≥100 mg/dL (≥2+ proteinuria): Use is contraindicated.

Changes in renal function during therapy:

Serum creatinine increases by 0.3 to 0.4 mg/dL: Reduce dose to 3 mg/kg.

Serum creatinine increases ≥0.5 mg/dL or development of ≥3+ proteinuria: Discontinue therapy.

Alternate dosing (Brody 1999):

Note: Given significant risk of nephrotoxicity, avoid use in renal impairment (CrCl ≤55 mL/minute) unless benefit outweighs the risk. Renal function may be estimated using the Cockcroft-Gault formula for dosage adjustment purposes. Adjustment based on 5 mg/kg/dose. Induction doses should be given once weekly and maintenance doses every other week.

CrCl ≥1.3 mL/minute/**kg**: 5 mg/kg/dose with concomitant probenecid.

CrCl 1 to 1.2 mL/minute/**kg**: 4 mg/kg/dose with concomitant probenecid.

CrCl 0.8 to 0.9 mL/minute/**kg**: 3 mg/kg/dose with concomitant probenecid.

CrCl 0.7 mL/minute/**kg**: 2.5 mg/kg/dose with concomitant probenecid.

CrCl 0.5 to 0.6 mL/minute/**kg**: 2 mg/kg/dose with concomitant probenecid.

CrCl 0.4 mL/minute/**kg**: 1.5 mg/kg/dose with concomitant probenecid.

CrCl 0.2 to 0.3 mL/minute/**kg**: 1 mg/kg/dose with concomitant probenecid.

CrCl 0.1 mL/minute/**kg**: 0.5 mg/kg/dose with concomitant probenecid.

Hemodialysis: Dialyzable (~50%): Administer standard induction or maintenance dose 2 hours before hemodialysis without probenecid.

Peritoneal dialysis: Dialyzable (minimal): 0.5 mg/kg/dose without probenecid.

Dosing: Hepatic Impairment: Adult

There are no dosage adjustments provided in the manufacturer's labeling.

Dosing: Pediatric

Note: Route of administration varies (ie, IV, intravesicular, intralesional, topical); use caution to ensure dosing corresponds to appropriate route. Administration of cidofovir should be accompanied by concomitant oral probenecid and IV normal saline hydration, except in cases where lower doses are used and the site of infection is in the kidney or bladder; various regimens have been reported (Anderson 2008; AST-IDCOP [Florescu 2019]; Bhadri 2009; Caruso Brown 2015; Cesaro 2005; Doan 2007; Florescu 2015; Siew 2020; Williams 2009; Yusuf 2006).

Adjunctive therapies: Infants, Children, and Adolescents:

Hydration: IV (various regimens reported): 10 to 20 mL/kg of sodium chloride 0.9% (maximum: 1,000 mL) administered for 1 hour before cidofovir infusion and 10 to 20 mL/kg of sodium chloride 0.9% (maximum: 1,000 mL) over 1 hour during cidofovir infusion, followed by 2 hours of maintenance fluids **or** 5 mL/kg/hour of sodium chloride 0.9% from 3 hours before cidofovir until 3 hours after **or** increase the maintenance fluid infusion rate to 3 times the maintenance rate for 1 hour before cidofovir infusion and continuing until 1 hour after, then decrease to 2 times the maintenance fluid rate for the subsequent 2 hours.

Probenecid: Oral: 25 to 40 mg/kg/dose (maximum dose: 2,000 mg) administered 3 hours before cidofovir infusion and 10 to 20 mg/kg/dose (maximum dose: 1,000 mg) at 2 to 3 hours and 8 to 9 hours after cidofovir infusion **or** 1,000 or 1,250 mg/m^2/dose administered 3 hours prior to cidofovir, followed by 500 to 1,250 mg/m^2/dose 1 to 3 hours and 8 hours after completion.

Adenovirus infection

BK virus infection; allograft nephropathy in kidney transplant recipients

BK virus infection; hemorrhagic cystitis in hematopoietic cell transplant recipients

Cytomegalovirus infection; treatment or preemptive therapy in immunocompromised patients

Herpes simplex virus infection, mucocutaneous, acyclovir-resistant

Respiratory papillomatosis, recurrent

Dosing: Altered Kidney Function: Pediatric

Altered kidney function: Infants, Children, and Adolescents:

Adenovirus infection: Limited data available; specific protocols vary (AST-IDCOP [Florescu 2019]; Florescu 2010; Florescu 2015; Siew 2020; Yusuf 2006). Based on a usual dose of 5 mg/kg/dose once weekly:

CrCl <90 mL/minute/1.73 m^2, S_{cr} >1.5 mg/dL, CrCl <0.3 mL/minute/**kg**, or >2+ proteinuria: IV: Reduce dose to 0.5 to 1 mg/kg/dose 3 times weekly on alternate days for 2 weeks; may then decrease to 0.5 to 1 mg/kg/dose every other week.

Other uses: There are no pediatric-specific recommendations for other uses; based on experience with other indications and in adult patients, dosing adjustment suggested.

Hemodialysis: High flux hemodialysis removes ~50% to 75% based on adult data (Brody 1999; manufacturer's labeling). In pediatric solid organ transplant recipients with adenovirus, it has been recommended to administer dose ≥1 hour after and/or ≥4 hours before hemodialysis to allow for intracellular cidofovir distribution (Florescu 2010).

Dosing: Hepatic Impairment: Pediatric

There are no dosage adjustments provided in the manufacturer's labeling.

Calculations

- Creatinine Clearance by Cockcroft-Gault
- Creatinine Clearance by Cockcroft-Gault (SI units)
- Creatinine Clearance by Cockcroft-Gault with IBW
- Creatinine Clearance by Cockcroft-Gault with IBW (SI units)
- Creatinine Clearance by Jelliffe
- Creatinine Clearance by Sanaka
- Glomerular Filtration Rate by Abbreviated MDRD
- Glomerular Filtration Rate by Abbreviated MDRD (SI units)

- Glomerular Filtration Rate by MDRD
- Glomerular Filtration Rate by MDRD (IDMS-Traceable SCr)
- Glomerular Filtration Rate by MDRD (SI units)
- Glomerular Filtration Rate Estimate in African Americans by AASK Equation

Use: Labeled Indications

Cytomegalovirus retinitis: Treatment of cytomegalovirus (CMV) retinitis in patients with AIDS.

Limitations of use: Safety and efficacy have not been established for treatment of other CMV infections (eg, pneumonitis, gastroenteritis), congenital or neonatal CMV disease, or CMV disease in non-HIV infected individuals.

* See Uses in AHFS Essentials for additional information.

Use: Off-Label: Adult

Adenovirus infection Level of Evidence [C, G]

BK virus infection Level of Evidence [C, G]

Cytomegalovirus, preemptive therapy in hematopoietic cell recipients Level of Evidence [G]

Herpes simplex virus infection, acyclovir-resistant Level of Evidence [C, G]

Level of Evidence Definitions

Level of Evidence Scale

A - Consistent evidence from well-performed randomized, controlled trials or overwhelming evidence of some other form (eg, results of the introduction of penicillin treatment) to support the off-label use. Further research is unlikely to change confidence in the estimate of benefit.

B - Evidence from randomized, controlled trials with important limitations (inconsistent results, methodological flaws, indirect or imprecise), or very strong evidence of some other research design. Further research (if performed) is likely to have an impact on confidence in the estimate of benefit and risk and may change the estimate.

C - Evidence from observational studies (eg, retrospective case series/reports providing significant impact on patient care), unsystematic clinical experience, or from potentially flawed randomized, controlled trials (eg, when limited options exist for condition). Any estimate of effect is uncertain.

G - Use has been substantiated by inclusion in at least one evidence-based or consensus-based clinical practice guideline.

Clinical Practice Guidelines

Adenovirus:

AST-IDCOP, "Adenovirus in Solid Organ Transplant Recipients Guidelines," 2019

ASBMT, "Guidelines for Preventing Infectious Complications Among Hematopoietic Cell Transplantation Recipients: A Global Perspective," 2009

BK Virus:

AST-IDCOP, "BK-Polyomavirus in Solid Organ Transplantation Guidelines," 2019

Cytomegalovirus:

AST-IDCOP, "Cytomegalovirus in Solid Organ Transplant Recipients Guidelines," 2019

ASBMT, "Guidelines for Preventing Infectious Complications Among Hematopoietic Cell Transplantation Recipients: A Global Perspective," 2009

Opportunistic Infections:

HHS, Guidelines for the Prevention and Treatment of Opportunistic Infections in Adults and Adolescents with HIV

Sexually Transmitted Infections:

CDC, “Sexually Transmitted Infections Treatment Guidelines,” July 2021

Administration: IV

For IV infusion only. Infuse over 1 hour. Administer with concomitant probenecid. Hydrate with 1 L of NS IV over 1 to 2 hours immediately prior to cidofovir infusion. If tolerated, a second liter may be administered over a 1- to 3-hour period at the start of or immediately following cidofovir infusion.

Administration: Injectable Detail

pH: 7.4

Administration: Topical

Off-label route: An extemporaneously prepared gel may be prepared by a compounding pharmacy and applied topically for mucocutaneous infections (McElhiney 2006).

Administration: Other

Intravesicular: Off-label route: Instill into bladder via Foley catheter over 15 minutes. If indwelling catheter is in place, clamp catheter for at least 1 hour after instillation. Remove Foley catheter after drug administration for patients who do not require indwelling catheter (Bridges 2006; Rao 2009; Tooker 2020).

Administration: Pediatric

IV: Administer by IV infusion over 1 hour.

Intralesional (recurrent respiratory papillomatosis): Administer in appropriate setting by experienced surgeon, typically following surgical intervention/lesion debulking. Volume and number of injections per treatment variable, based on extent of disease and size of airway; recommended volumes are ≤2 mL for children and ≤4 mL for adolescents; larger volumes have been reported (Ablanedo-Terrazas 2012; Derkay 2013; Mandell 2004; McMurray 2008; Pransky 2003; Wierzbicka 2011).

Intravesicular (hemorrhagic cystitis): Instill into bladder via Foley catheter slowly (eg, over 15 minutes). If indwelling catheter is in place, clamp catheter for ≥1 hour after instillation. For patients who do not require indwelling catheter, Foley catheter can be removed after drug administration (Bridges 2006; Foster 2018; Gander 2018; Rao 2009; Rascon 2015).

Topical (mucocutaneous herpes simplex virus): Apply topically to affected area (CDC [Workowski 2021]; HHS [OI adult 2021]).

Hazardous Drugs Handling Considerations

Hazardous agent (NIOSH 2016 [group 2]).

Use appropriate precautions for receiving, handling, administration, and disposal. Gloves (single) should be worn during receiving, unpacking, and placing in storage.

NIOSH recommends double gloving, a protective gown, ventilated engineering controls (a class II biological safety cabinet or a compounding aseptic containment isolator), and closed system transfer devices (CSTDs) for preparation. Double gloving, a gown, and (if dosage form allows) CSTDs are required during administration (NIOSH 2016). Assess risk to determine appropriate containment strategy (USP-NF 2017).

Storage/Stability

Store intact vials at 20°C to 25°C (68°F to 77°F). Admixtures in D5$^{1}/_{4}$NS, D5W, or NS may be stored for ≤24 hours under refrigeration; however, admixtures must be administered within 24 hours of preparation.

Preparation for Administration: Adult

IV: Dilute dose in NS 100 mL prior to infusion.

Intravesicular: Dilute dose in NS 60 mL prior to administration (Rao 2009; Tooker 2020).

Preparation for Administration: Pediatric

Parenteral: Intermittent IV infusion: Dilute in 100 mL NS (per manufacturer) or to a final concentration not to exceed 8 mg/mL (Ennis 1997); stability also reported in D5W (Yuan 1996).

Intralesional: Dilute with NS to a concentration of 2.5 to 7.5 mg/mL (Ablanedo-Terrazas 2012; Derkay 2013; Mandell 2004; Naiman 2006; Pransky 2003). Concentrations up to 15 mg/mL have been reported (Bielecki 2009; Derkay 2013; Graupp 2013).

Intravesicular: Dilute in 50 to 100 mL of NS (Foster 2018; Gander 2018; Rao 2009; Rascon 2015).

Topical: An extemporaneously prepared 1% gel/cream may be prepared by a compounding pharmacy (CDC [Workowski 2021]; HHS [OI adult 2021]; McElhiney 2006).

Compatibility

See Trissel's IV Compatibility Database

Open Trissel's IV Compatibility

Extemporaneously Prepared

A 1% topical cidofovir gel may be prepared by using 5 mL of the 75 mg/mL cidofovir injection and combining with 32.5 mL of a propylene glycol-based jelly. Of note, propylene glycol may increase the absorption and bioavailability of cidofovir when used on abraded skin (McElhiney 2006).

Medication Patient Education with HCAHPS Considerations

What is this drug used for?

• It is used to treat a viral infection of the eyes in people who have AIDS.

• It may be given to you for other reasons. Talk with the doctor.

All drugs may cause side effects. However, many people have no side effects or only have minor side effects. Call your doctor or get medical help if any of these side effects or any other side effects bother you or do not go away:

• Headache

• Diarrhea

• Lack of appetite

• Hair loss

• Vomiting

• Nausea

WARNING/CAUTION: Even though it may be rare, some people may have very bad and sometimes deadly side effects when taking a drug. Tell your doctor or get medical help right away if you have any of the following signs or symptoms that may be related to a very bad side effect:

• Kidney problems like unable to pass urine, blood in the urine, change in amount of urine passed, or weight gain

• Infection

• Lactic acidosis like fast breathing, fast heartbeat, abnormal heartbeat, vomiting, fatigue, shortness of breath, severe loss of strength and energy, severe dizziness, feeling cold, or muscle pain or cramps

• Pancreatitis like severe abdominal pain, severe back pain, severe nausea, or vomiting

• Liver problems like dark urine, fatigue, lack of appetite, nausea, abdominal pain, light-colored stools, vomiting, or yellow skin

• Vision changes

• Eye pain

• Severe eye irritation

• Shortness of breath

• Severe loss of strength and energy

• Thrush

• Signs of an allergic reaction, like rash; hives; itching; red, swollen, blistered, or peeling skin with or without fever; wheezing; tightness in the chest or throat; trouble breathing, swallowing, or talking; unusual hoarseness; or swelling of the mouth, face, lips, tongue, or throat.

Note: This is not a comprehensive list of all side effects. Talk to your doctor if you have questions.

Consumer Information Use and Disclaimer: This information should not be used to decide whether or not to take this medicine or any other medicine. Only the healthcare provider has the knowledge and training to decide which medicines are right for a specific patient. This information does not endorse any medicine as safe, effective, or approved for treating any patient or health condition. This is only a limited summary of general information about the medicine's uses from the patient education leaflet and is not intended to be comprehensive. This limited summary does NOT include all information available about the possible uses, directions, warnings, precautions, interactions, adverse effects, or risks that may apply to this medicine. This information is not intended to provide medical advice, diagnosis or treatment and does not replace information you receive from the healthcare provider. For a more detailed summary of information about the risks and benefits of using this medicine, please speak with your healthcare provider and review the entire patient education leaflet.

Contraindications

Hypersensitivity to cidofovir or any component of the formulation; history of clinically severe hypersensitivity to probenecid or other sulfa-containing medications; serum creatinine >1.5 mg/dL; CrCl ≤55 mL/minute; urine protein ≥100 mg/dL (≥2+ proteinuria); use with or within 7 days of nephrotoxic agents; direct intraocular injection

Warnings/Precautions

Concerns related to adverse effects:

• Carcinogenic/teratogenic: **[US Boxed Warning]: Possibly carcinogenic and teratogenic based on animal data. May cause hypospermia.**

• Metabolic acidosis: Monitor for signs of metabolic acidosis; decreased sodium bicarbonate with proximal tubule injury and renal wasting syndrome (including Fanconi syndrome), as well as metabolic acidosis with hepatic impairment and pancreatitis (including some fatal cases) have been reported.

• Nephrotoxicity: **[US Boxed Warning]: Acute renal failure resulting in dialysis and/or contributing to death has occurred with as few as 1 or 2 doses of cidofovir. Renal function (serum creatinine and urine protein) must be monitored within 48 hours prior to each dose of cidofovir and the dose of cidofovir modified as appropriate. Administration must be accompanied by oral probenecid and intravenous saline prehydration.**

• Neutropenia: **[US Boxed Warning]: Neutropenia has been reported; monitor neutrophil counts during therapy.**

• Ocular complications: Decreased intraocular pressure, sometimes associated with decreased visual acuity, uveitis, or iritis may occur; monitor intraocular pressure for and signs of iritis/uveitis during therapy. If uveitis or iritis occurs, consider treatment with topical corticosteroids with or without topical cycloplegic agents.

Disease-related concerns:

• Renal impairment: Contraindicated in patients with a baseline serum creatinine >1.5 mg/dL, CrCl ≤55 mL/minute, or urine protein ≥100 mg/dL (≥2+ proteinuria); dosage adjustment or discontinuation of therapy may be required for changes in renal function during treatment.

Other warnings/precautions:

• Administration: For intravenous use only, **not** for direct intraocular injection; iritis, ocular hypotony, and permanent impairment of vision may occur.

• Appropriate use: **[US Boxed Warning]: Indicated only for CMV retinitis treatment in patients with AIDS.**

* See Cautions in AHFS Essentials for additional information.

Older Adult Considerations

Since elderly individuals frequently have reduced kidney function, particular attention should be paid to assessing renal function before and frequently during administration.

Reproductive Considerations

In animal studies, cidofovir caused hypospermia.

Patients who could become pregnant should use effective contraception during therapy and for 1 month after the last cidofovir dose. Males should use a barrier contraceptive during therapy and for 3 months following the last dose of cidofovir.

Pregnancy Considerations

Cidofovir was teratogenic in animal reproduction studies.

The indications for treating CMV retinitis during pregnancy are the same as in nonpregnant HIV infected woman; however, systemic therapy should be avoided during the first trimester when possible. When therapy is needed to treat maternal infection, use of cidofovir is not recommended (HHS [Adult OI

2021]). Cidofovir is not recommended as an alternative therapy to treat patients with monkeypox during the first trimester (CDC 2022).

Breastfeeding Considerations

It is not known if cidofovir is present in breast milk.

Due to the potential for serious adverse reactions in the breastfeeding infant, breastfeeding is not recommended. In addition, HIV-infected mothers are discouraged from breastfeeding to decrease the potential transmission of HIV. Cidofovir is not recommended as an alternative therapy to treat lactating patients with monkeypox (CDC 2022).

Briggs' Drugs in Pregnancy & Lactation

- Cidofovir

Adverse Reactions

The following adverse drug reactions and incidences are derived from product labeling unless otherwise specified.

>10%:

Endocrine & metabolic: Decreased serum bicarbonate

Genitourinary: Proteinuria

Hematologic & oncologic: Neutropenia

Infection: Infection

Ophthalmic: Hypotony of eye (can be severe: Intraocular pressure of 0 to 1 mm Hg), iritis, uveitis

Renal: Decreased creatinine clearance, increased serum creatinine, nephrotoxicity

Miscellaneous: Fever

1% to 10%:

Endocrine & metabolic: Fanconi syndrome

Gastrointestinal: Nausea, vomiting

Respiratory: Dyspnea, pneumonia

Frequency not defined:

Renal: Acute kidney injury

Postmarketing:

Endocrine & metabolic: Metabolic acidosis

Gastrointestinal: Pancreatitis

Hepatic: Hepatic insufficiency

* See Cautions in AHFS Essentials for additional information.

Allergy and Idiosyncratic Reactions

- Cidofovir Allergy

Metabolism/Transport Effects

Substrate of OAT1/3; **Inhibits** MRP2

Drug Interactions Open Interactions

Note: Interacting drugs may **not be individually listed below** if they are part of a group interaction (eg, individual drugs within "CYP3A4 Inducers [Strong]" are NOT listed). For a complete list of drug interactions by individual drug name and detailed management recommendations, use the Lexicomp drug interactions program by clicking on the "Open Interactions" button above.

Cabozantinib: MRP2 Inhibitors may increase the serum concentration of Cabozantinib. *Risk C: Monitor therapy*

Cladribine: Agents that Undergo Intracellular Phosphorylation may diminish the therapeutic effect of Cladribine. *Risk X: Avoid combination*

Tenofovir Products: Cidofovir may increase the serum concentration of Tenofovir Products. Tenofovir Products may increase the serum concentration of Cidofovir. *Risk C: Monitor therapy*

Monitoring Parameters

Serum creatinine and urine protein (at baseline and within 48 hours of each dose), WBC with differential (prior to each dose); intraocular pressure and visual acuity, signs and symptoms of uveitis/iritis; metabolic acidosis.

Advanced Practitioners Physical Assessment/Monitoring

Obtain serum creatinine and urine protein at baseline and within 48 hours of each dose; dosage adjustment may be needed. Obtain CBC with differential prior to each dose. Assess intraocular pressure and visual acuity. Assess for signs and symptoms of uveitis/iritis and metabolic acidosis.

Nursing Physical Assessment/Monitoring

Check ordered labs and report abnormalities. Administration must be accompanied by oral probenecid and intravenous saline prehydration. Monitor for CNS changes, anemia, renal status, and visual acuity. Instruct patient to report any changes in vision or eye pain.

Dosage Forms: US

Excipient information presented when available (limited, particularly for generics); consult specific product labeling.

Solution, Intravenous [preservative free]:

Generic: 75 mg/mL (5 mL)

Dosage Forms: Canada

Excipient information presented when available (limited, particularly for generics); consult specific product labeling.

Solution, Intravenous:

Generic: 75 mg/mL (5 mL)

Anatomic Therapeutic Chemical (ATC) Classification

- J05AB12

Generic Available (US)

Yes

Pricing: US

Solution (Cidofovir Intravenous)

75 mg/mL (per mL): $177.60 - $237.29

Disclaimer: A representative AWP (Average Wholesale Price) price or price range is provided as reference price only. A range is provided when more than one manufacturer's AWP price is available and uses the low and high price reported by the manufacturers to determine the range. The pricing data should be used for benchmarking purposes only, and as such should not be used alone to set or adjudicate any prices for reimbursement or purchasing functions or considered to be an exact price for a single product and/or manufacturer. Medi-Span expressly disclaims all warranties of any kind or nature, whether express or implied, and assumes no liability with respect to accuracy of price or price range data published in its solutions. In no event shall Medi-Span be liable for special, indirect, incidental, or consequential damages arising from use of price or price range data. Pricing data is updated monthly.

Mechanism of Action

Cidofovir is converted to cidofovir diphosphate (the active intracellular metabolite); cidofovir diphosphate suppresses CMV replication by selective inhibition of viral DNA synthesis. Incorporation of cidofovir diphosphate into growing viral DNA chain results in viral DNA synthesis rate reduction.

Pharmacokinetics

The following pharmacokinetic data are based on a combination of cidofovir administered with probenecid unless otherwise specified:

Distribution: Does not cross significantly into cerebrospinal fluid.

V_d:

Children ≥2 years and Adolescents ≤14 years: 0.591 L/kg (with probenecid) (Caruso Brown 2015).

Adults: 0.41 L/kg (with probenecid); 0.537 L/kg (without probenecid).

Protein binding: <6%.

Metabolism: Minimal; phosphorylation occurs intracellularly to the active metabolite cidofovir diphosphate.

Half-life elimination, plasma: Mean range: 2.4 to 3.2 hours (Cundy 1995; Lalezari 1995); intracellular elimination half-lives of metabolites are longer (range: 24 to 87 hours) (Lea 1996).

Excretion: Urine (70% to 85% as unchanged drug).

Clearance:

Renal clearance without probenecid: 150±26.9 mL/minute/1.73 m^2.

Renal clearance with probenecid: 98.6±27.9 mL/minute/1.73 m^2.

Pharmacokinetics: Additional Considerations

Altered kidney function: Clearance decreases proportionally with CrCl.

Dental: Local Anesthetic/Vasoconstrictor Precautions

No information available to require special precautions

Dental: Effects on Dental Treatment

Key adverse event(s) related to dental treatment: Stomatitis and abnormal taste.

Dental: Effects on Bleeding

No reports of bleeding or thrombocytopenia with cidofovir alone.

Related Information

- Safe Handling of Hazardous Drugs

FDA Approval Date

June 26, 1996

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Brand Names: International

Vistide (AT, BE, BG, CH, CZ, DK, FI, FR, GR, HN, HU, IE, IT, NL, NO, PL, PT, RO, RU, SE, SI, TR)

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