Ifosfamide (eye-foss-fam-ide)

**Classification**
- Therapeutic: antineoplastics
- Pharmacologic: alkylating agents

**Pregnancy Category D**

**Indications**
- Germ cell testicular carcinoma (with other agents). Used with mesna, which prevents ifosfamide-induced hemorrhagic cystitis.

**Action**
- Following conversion to active compounds, interferes with DNA replication and RNA transcription, ultimately disrupting protein synthesis (cell-cycle phase—nonspecific).

**Therapeutic Effects:**
- Death of rapidly replicating cells, particularly malignant ones.

**Pharmacokinetics**
- **Absorption:** Administered IV only; inactive prior to conversion to metabolites.
- **Distribution:** Excreted in breast milk.
- **Metabolism and Excretion:** Metabolized by the liver to active antineoplastic compounds.
- **Half-life:** 15 hr.

**TIME/ACTION PROFILE (effects on blood counts)**
- **ROUTE** ONSET PEAK DURATION
  - IV unknown 7–14 days 21 days

**Contraindications/Precautions**
- **Contraindicated in:** Hypersensitivity; OB, Lactation: Pregnancy or lactation.
- **Use Cautiously in:** Patients with childbearing potential; Active infections; Decreased bone marrow reserve; Geri: Geriatric patients; Other chronic debilitating illness; Impaired renal function; Pedi: Children.

**Adverse Reactions/Side Effects**
- **CNS:** CNS toxicity (somnolence, confusion, hallucinations, coma), cranial nerve dysfunction, disorientation, dizziness.
- **CV:** Cardiotoxicity.
- **GI:** Nausea, vomiting, anorexia, constipation, diarrhea, hepatotoxicity.
- **GU:** Hemorrhagic cystitis, dysuria, urinary frequency, Hematuria, azotemia, Nephrotoxicity, Urinary tract infection, Renal toxicity.
- **Derm:** Alopecia.
- **Hemat:** Anemia, leukopenia, thrombocytopenia.
- **Local:** Phlebitis.

**Interactions**
- **Drug-Drug:** Myelosuppression with other antineoplastics or radiation therapy. Toxicity may be minimized or prevented by allopurinol or phenobarbital. May increase antibody response to and risk of adverse reactions from live-virus vaccines.

**Route/Dosage**
- **IV (Adults):** 1.2 g/m²/day for 5 days; coadminister with mesna. May repeat cycle q 1 wk.

**NURSING IMPLICATIONS**

**Assessment**
- **Monitor BP, pulse, respiratory rate, and temperature frequently during administration. Report significant changes.**
- **Monitor cardiac ventricular function during therapy. Notify health care professional if significant changes occur.**

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**Route/Dosage**
- **IV (Adults):** 1.2 g/m²/day for 5 days; coadminister with mesna. May repeat cycle q 1 wk.
Urinalysis should be evaluated before each dose. Withhold dose until recovery if urinalysis shows 10 RBCs per high-power field.

May cause q in liver enzymes and serum bilirubin.

Monitor AST, ALT, serum alkaline phosphatase, bilirubin, and LDH prior to and periodically during therapy. Ifosfamide may cause q in liver enzymes and serum bilirubin.

Monitor BUN, serum creatinine, phosphate, and potassium periodically during therapy. May cause hypokalemia.

Potential Nursing Diagnoses
Risk for infection (Side Effects)
Disturbed body image (Side Effects)

Implementation

Preparación en un biológico estéril. Usar guantes, vestimenta y máscara mientras se manipule la medicación IV. Eliminar el material IV en materiales especialmente designados.

IV Administration

pH: 6.0.

IV: Prepare a solution by diluting each 1-g vial with 20 mL of sterile water or bacteriostatic water for injection containing parabens. Use solution prepared without bacteriostatic water within 6 hr. Solution prepared with bacteriostatic water is stable for 1 wk at 30°C or 6 wk at 5°C.

Concentración: 0.6 to 20 mg/mL (maximum 40 mg/mL). Dilute solution is stable for 7 days at room temperature or 6 wk if refrigerated.

Rate: Administer over at least 30 min.

Y-Site Compatibility: acetaminophen, allopurinol, amifostine, amikacin, amphotericin B colloidal, amphotericin B liposome, anfotericin B colloidal, anfotericin B liposome, ampicillin, ampicillin/sulbacta- 

Y-Site Incompatibility: cefepime, diazepam, methotrexate, pantoprazole, phénytoin, potassium phosphates.

Additive Compatibility: carboplatin, cisplatin, etoposide, fluorouracil, granisetron, heparin, hetastarch, hydrocortisone, ketorolac, leucovorin, levofloxacin, levorphanol, methotrexate, pantoprazole, propofol, propranolol, quinupristin/dalfopristin, ranitidine, remifentanil, remifentanil, tirofiban, tobramycin, trimethoprim/sulfamethoxazole, vancomycin, vinorelbine, vincristine, voriconazole, zidovudine.

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ifosfamide

CONTINUED

Caution patient to avoid crowds and persons with known infections. Inform patient of need to avoid falls. Patients should also be cautioned not to drink alcoholic beverages or to take products containing aspirin or NSAIDs, as these may precipitate G.I. hemorrhage.

Discuss with patient the possibility of hair loss. Explore methods of coping.

Advise patient to consult health care professional before taking any Rx, OTC, or herbal products.

Instruct patient not to receive any vaccinations without advice of health care provider; ifosfamide may decrease antibody response to and increase risk of adverse reactions from live-virus vaccines.

Evaluation/Desired Outcomes

Decrease in size or spread of malignant germ cell testicular carcinoma.

Why was this drug prescribed for your patient?