IDArubicin (eye-da-roo-bi-sin)
Idamycin PFS

**Classification:** Therapeutic: antineoplastics Pharmacologic: anthracyclines

**Pregnancy Category D**

**Indications**
Acute myelogenous leukemia in adults (with other agents).

**Action**
Inhibits nucleic acid synthesis. Therapeutic Effects: Death of rapidly replicating cells, particularly malignant ones.

**Pharmacokinetics**

- **Absorption:** IV administration results in complete bioavailability.
- **Distribution:** Rapidly distributed with extensive tissue binding. High degree of cellular uptake.
- **Metabolism and Excretion:** Extensive hepatic and extrahepatic metabolism. One metabolite is active (idarubicinol). Primarily eliminated via biliary excretion.
- **Half-life:** 22 hr (range 4–46 hr).

**TIME/ACTION PROFILE (effects on blood counts)**

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV</td>
<td>Unknown</td>
<td>10–14 days</td>
<td>21 days</td>
</tr>
</tbody>
</table>

**Contraindications/Precautions**

- **Contraindicated in:** OB, Lactation: Pregnancy or lactation.
- **Use Cautiously in:** Patients with childbearing potential; Active infection; bone marrow reserve; Other chronic debilitating illnesses; Hepatic impairment (dose may be required; avoid if bilirubin >5 mg/dL); Renal impairment; Pre-existing cardiac disease; Previous chemotherapy or radiation therapy. **Geri:** Safety not established;
- **Pedi:** Safety not established;
- **GYN:** Incidence of side effects and adverse reactions.

**Adverse Reactions/Side Effects**

- **CNS:** headache, mental status changes.
- **Resp:** pulmonary toxicity, pulmonary edema, respiratory distress, dyspnea, rales/crackles, weight gain.
- **CV:** hypotension, peripheral edema.
- **GI:** abdominal cramps, diarrhea, nausea, vomiting, De诺, anorexia, phototoxicity, rash.
- **Endo:** glucose suppression.
- **GU:** nephrotoxicity.
- **HEMA:** myelosuppression.
- **Metabolic:** hyperuricemia.
- **Neuro:** peripheral neuropathy.
- **Skin:** alopecia, photosensitivity, rashes.
- **Misc:** fever.

**Drug Interactions**

- **Drug-Drug:** Can myelosuppression with other antineoplastics or radiation therapy. May stimulate antibody response to and increase risk of adverse reactions from live-virus vaccines.

**NURSING IMPLICATIONS**

- **Assessment:**
  - Monitor BP, pulse, respiratory rate, and temperature frequently during administration. Report significant changes.
  - Monitor for bone marrow depression. Assess for bleeding (bleeding gums, bruising, petechiae, guaiac stools, urine, and emesis) and avoid IM injections and taking rectal temperatures if platelet count is low. Apply pressure to venipuncture sites for 10 min. Assess for signs of infection during neutropenia. Inoculums may occur. Monitor for increased lipase, alkaline phosphatase.
  - Monitor intake and output ratios. Report significant discrepancies. Encourage fluid intake of 2000–3000 mL/day. Allopurinol and alkalinization of the urine may be used to decrease serum urate levels and to help prevent urate stone formation.
  - Nausea and protracted nausea and vomiting may occur as early as 3 hr after therapy and may last 24 hr. Parenteral antacids should be administered 30–45 min prior to therapy and routinely around the clock for the next 24 hr as indicated. Monitor amount of emesis; report emesis exceeding guidelines to prevent dehydration.
  - Monitor for development of signs of myelosuppression manifested by life-threatening anemia, myelosuppression, and CRF (peripheral edema, dyspnea, rales/crackles, weight gain). Chest x-ray, ECG, echocardiography, and radionuclide angiographic determinations of ejection fraction should be monitored prior to and periodically during therapy.
  - Assess for the frequency for infection, sepsis, or neutropenia. May irritate veins. If extravasation occurs, infusion must be stopped and restarted...
2

either to avoid damage to subcutaneous tissue. If possible, withhold 3 to 5 mL of
blood to remove some of the drug. Remove the infusion needle. Treatment of ex-
travasation includes rest and elevation of the extremity and application of a wet-
ten ic packs (apply for 30 min immediately and then 30 min qig for 3 days). May also
use DMSO or deoxaroxone to treat extravasation. For DMSO: Apply choral so-
lubrile (DMSO) 99% by saturating a patty pad and painting on an area twice the
size of the extravasation. Allow site to air dry and repeat application every 2 hours
for 14 days. Do not cover the area with dressing. For deoxaroxone: administer first
infusion as soon as possible within 6 hrs of extravasation. Remove ice packs
for at least 15 minutes prior to and during deoxaroxone administration. Recom-
mented dose of deoxaroxone for day 2 is 1,000 mg/m² (up to 2,000 mg), the dose
for day 2 is 1,000 mg/m² (up to 2,000 mg), and the dose for day 3 is 900 mg/m²
(up to 1,000 mg). Deoxaroxone is administered as an IV infusion over 1 to 2
hours. Concurrent treatment with topical dimethyl sulfoxide application should
not be used in connection with deoxaroxone, and if administered, may worsen ex-
travasation induced tissue injury. If pain, redness, or vesication persists longer
than 48 hr, immediate plastic surgery may be warranted.

**Lab Test Considerations:*** Monitor CBC, differential, and platelet count prior to
and frequently during therapy. Nadirs of leukopenia and thrombocytopenia are
10-14 days, with recovery occurring 21 days after a dose.

**Potential Nursing Diagnoses***

**Risk for infection (Adverse Reactions)**

**Initiated nutrition: low fluid body requirements (Adverse Reactions)**

**Implementation***

**Do not confuse idarubicin with doxorubicin.**

**Solution should be prepared in a biologic cabinet. Wear gloves, gown, and mask
while handling medication. Discard IV equipment to specially designated contain-
ers.**

**See cytarabine monograph for specific information on administration of cytar-
abine with idarubicin.**

**Do not administer subcut or IM and avoid extravasation; may cause severe tissue
necrosis.**

**Y-Site Compatibility:** alemtuzumab, alfentanil, amifostine, amikacin, amox-
cillin, ampicillin/sulbactam, busulfan, cefazolin, cefepime, cefoperazone, cef-
otaxime, ciprofloxacin, clindamycin, cyclophosphamide, cytarabine, daunorubicin,
dexamethasone, dextran, diltiazem, diphenhydramine, doxorubicin, drotaverine,
droperidol, duretics, etoposide, famotidine, fenoldopam, filgrastim, fluconazole,
gemcitabine, gentamicin, heparin, hydrocortisone sodium succinate, ketorolac,
lorazepam, magnesium chloride, calcium gluconate, carboplatin, caspofungin,
chlorpromazine, cimetidine, cisatracurium, cisplatin, cladribine, cyclophos-
phamide, cyclosporine, dantrolene, dexamethasone, diazepam, docetaxel, erta-
penem, etoposide, fentanyl, filgrastim, fluconazole, ganciclovir, gentamicin, hepa-
rin, hydrocortisone, indomethacin, irinotecan, isoproterenol, lorazepam, lidoc-
aine, linezolid, magnesium sulfate, mannitol, melphalan, mesna, metaraminol,
metoclopramide, metronidazole, mirabegron, mitomycin, mycophenolate mofet-
ide, mupirocin, ondansetron, oxaliplatin, palonosetron, pancuronium, pentamidine,
phenytoin, phenylephrine, phenytoin sodium, phenylpropanolamine, piperacil-
in, piperacillin, plicamycin, pranlukast, procainamide, promethazine, proprano-
lol, quinupristin/dalfopristin, ranitidine, remifentanil, rituximab, rocuronium,
sargramostim, sodium acetate, sodium bicarbonate, sodium benzoate, sodium chlo-
ride, sodium citrate, sodium succinate, sodium valproate, somatostatin, sorbitol,
succinylcholine, suxamethonium, tacrolimus, theophylline, thiotepa, tirofiban,
tobramycin, tolazoline, tolbutamide, toremifene, tobramycin, ticlopidine, timi-
droquine, ticrynafen, vasopressin, vecuronium, verapamil, vinorelbine, zidovudine,
zoledronic acid.

**Y-Site Incompatibility:** acyclovir, allopurinol, amoxicillin, ampicillin, amphotericin
B colloidal, amphotericin B liposomal, amphotericin B lipid complex, amphotericin B liposome, ampicillin, ampicillin/sulbactam, amikacin, cefazolin, ceftazidime, ceftiraxone, ceftazidime, ceftriaxone, cefuroxime, chloramphenicol, clindamycin, cyclo-
sporine, dexamethasone, doxorubicin, droperidol, drotaverine, etoposide, famo-
tidine, fenoldopam, filgrastim, fluconazole, fosaprin, ganciclovir, gantroni-
con, heparin, hydrocortisone sodium succinate, hydrocortisone, hydroxychol}-
ate, hydroxyurea, hyaluronidase, imipenem/cilastatin, insulin, irinotecan, isopro-
terfen, ketorolac, loratadine, melphalan, mesna, metaraminol, metaraminol,
metoclopramide, metronidazole, mirabegron, mitomycin, mycophenolate mofet-
ide, mupirocin, ondansetron, oxaliplatin, palonosetron, pancuronium, pentamidine,
IDArubicin

- meperidine, mefenamic acid, mitomycin, mitoxantrone, mycophenolate, naloxone, nalidixic acid, pantothenic acid, penicillin, penicillamine, phenobarbital, phenylephrine, phenoxybenzamine, potassium citrate, potassium phosphate, sodium bicarbonate, sodium citrate, sodium phosphate, sorbitol, ticarcillin/clavulanate, ticsavisertib, trimethoprim/sulfamethoxazole, urokinase, vancomycin, vincristine, voriconazole.

**Patient/Family Teaching**

- Instruct patient to notify health care professional promptly if fever, sore throat, signs of infection; bleeding gums; bruising; petechiae; blood in stools, urine, or emesis; increased fatigue; dyspnea; or orthostatic hypotension occurs. Caution patient to avoid crowds and persons with known infections. Instruct patient to use soft toothbrush and electric razor and to avoid falls. Caution patient not to drink alcoholic beverages or take medication containing aspirin or NSAIDs, as these may precipitate gastrointestinal bleeding.
- Instruct patient to report pain at injection site immediately.
- Instruct patient to inspect oral mucosa for erythema and ulceration. If ulceration occurs, advise patient to use sponge brush, rinse mouth with water after eating and drinking, and confer with health care professional if mouth pain interferes with eating. Further courses of idarubicin should be withheld until recovery from mucositis, and subsequent doses should be decreased by 25%. Stomatitis pain may require treatment with opioid analgesics.
- Instruct patient to notify health care professional immediately if irregular heartbeat, shortness of breath, or swelling of lower extremities occurs.
- Advise patient to wear sunscreen and protective clothing to prevent photosensitivity reactions.
- Discuss with patient the possibility of hair loss. Explore methods of coping.
- Instruct patient not to receive any vaccinations without advice of health care professional.
- Instruct patient that urine may turn a reddish color.

- Advise patient that this medication may have teratogenic effects. Contraception should be practiced during and for at least 4 mo after therapy is concluded.
- Emphasize the need for periodic lab test to monitor for side effects.

**Evaluation/Desired Outcomes**

- Improvement of hematologic status in leukemia.

**Why was this drug prescribed for your patient?**