silver sulfADIAZINE (sil-ver sul-fa-dye-a-zero)

Classifications

Therapeutic: anti-infection (topical)
Pharmacologic: sulfonamides

Pregnancy Category B

Indications


Action

Splits to produce bactericidal concentrations of silver and sulfadiazine. Action is at level of cell membrane and cell wall. Therapeutic Effects: Bactericidal action against organisms found in burns. Spectrum: Broad spectrum includes activity against many gram-negative and gram-positive bacteria, anaerobes, and some yeast.

Pharmacokinetics

Absorption: Small amounts of silver are systemically absorbed following topical application. Up to 10% of sulfadiazine is absorbed.
Distribution: Unknown.
Metabolism and Excretion: Absorbed sulfadiazine is excreted unchanged by the kidneys.
Half-life: Unknown.

TIME/ACTION PROFILE (anti-infective action)

ROUTE ONSET PEAK DURATION
Topical on contact unknown as long as applied

Contraindications/Precautions

Contraindicated in: Hypersensitivity (cross-sensitivity with sulfonamides may occur); Pedi: Infants <2 mo; risk of kernicterus; OB: Pregnancy near term (risk of kernicterus in infant); G6PD deficiency; Porphyria.
Use Cautiously in: Impaired hepatic or renal function.

Adverse Reactions/Side Effects

Derm: EXFOLIATIVE DERMATITIS, STEVENS-JOHNSON SYNDROME, TOXIC EPIDERMAL NECROLYSIS, burning, itching, pain, rash, skin discoloration, skin necrosis.
Hemat: leukopenia.

Interactions

Drug-Drug: Silver may inactivate concurrently applied topical proteolytic enzymes (fibrinolysis, desoxyribonuclease).

Route/Dosage

Topical (Adults and Children 1 mo): Apply 1% cream 1–2 times daily in layer 1.5-mm thick.

NURSING IMPLICATIONS

Assessment

● Assess burned tissue for infection (pus, odor, moisture, color, and culture); and sepsis (WBC, fever, or shock) prior to and throughout course of therapy.

● Monitor for hypersensitivity reaction (rash, itching, or burning) at and surrounding sites of application.

● Assess patient for skin rash frequently during therapy. Discontinue silver sulfadiazine at first sign of rash; may be life-threatening. Stevens-Johnson syndrome or toxic epidermal necrolysis may develop. Treat symptomatically; may recur once treatment is stopped.

● Lab Test Considerations: Monitor renal function tests and CBC periodically when applied to large area; systemic absorption may cause nephritis and reversible leukopenia. Decrease in neutrophil count is greatest 4 days after initiation of therapy; levels usually normalize after 2–3 days.

Potential Nursing Diagnoses

Risk for infection (Indications)
Risk for impaired skin integrity (Indications)
Deficient knowledge, related to medication regimen (Patient/Family Teaching)

Implementation

● Generally applied after cleansing and debridging of burn wound. Premedicate with analgesia.

Topical: Cream is white; discard if becomes dark.
Use sterile technique to apply. Cover entire wound at depth of 1.5 mm. Reapply to sites where cream rubs off as a result of patient movement; burn should be coated at all times. Burn may be dressed or kept open, depending on recommendation of health care professional.

**Patient/Family Teaching**
- Explain purpose of medication to patient and family. This medication will not stain skin.
- Advise patient to promptly notify health care provider if rash occurs.

**Evaluation/Desired Outcomes**
- Prevention and treatment of infection in 2nd- and 3rd-degree burns. Therapy is continued until burn is healed or skin graft is performed.

Why was this drug prescribed for your patient?