Guidelines for the Use of Amphotericin B, Conventional (Fungizone®)

Recommended Neonatal, Dose, Route, and Interval.

*Dose*: 0.5 – 1 mg/kg/24hr IV infusion over 2 – 6 hours
Dosage modification for renal dysfunction is only necessary if serum creatinine increases > 0.4 mg/dl during therapy- hold dose for 2 to 5 days.

Chief Indications

Treatment of severe systemic infections and meningitis caused by susceptible fungi such as *Candida* and *Aspergillus* species

Possible Adverse Reactions

1. Cardiovascular: hypotension, hypertension, cardiac arrhythmias, flushing
2. CNS: fever, chills, and headache are the most common adverse effects reported with amphotericin B infusion; seizures, malaise
3. Endocrine and metabolic: hypokalemia, hypomagnesemia
4. Gastrointestinal: vomiting, diarrhea
5. Hematologic: anemia, leukopenia, thrombocytopenia
6. Hepatic: acute hepatic failure, jaundice
7. Local: phlebitis
8. Renal: renal tubular acidosis, renal failure (oliguria, azotemia, elevated serum creatinine)
9. Respiratory: wheezing, hypoxemia
10. Miscellaneous: anaphylactoid reaction

Contraindications & Precautions

1. Hypersensitivity to amphotericin
2. **CAUTION** in hepatic/renal dysfunction - caution use with other nephrotoxic drugs
3. **CAUTION** use with steroids: can aggravate hypokalemia caused by amphotericin

Nursing Implications

1. Monitor for adverse reactions particularly with initial doses. Cardiovascular collapse has been reported after rapid amphotericin injection
2. follow serum electrolytes (esp. K, Mg, Phos), Hct, liver and renal studies
3. monitor I & O
4. Infuse alone
5. Observe IV site for signs of phlebitis
6. monitor for signs of hypokalemia (muscle weakness, drowsiness, EKG changes, etc), blood pressure, temperature, pulse, and respiration
Special Considerations and Calculations

1. Dilute in D5W or D10W **DO NOT** use NS or Sterile H2O as precipitate may result. Dilute to 0.1 mg/ml for peripheral infusion and 0.2 - 0.5 mg/ml for central infusion in infants who can not tolerate large fluid volume (done in pharmacy)
2. Reconstitute vial (50mg) with 10 ml D5W for injection to make a concentration of 5mg/ml. Stable for 7 days refrigerated, 24 hours at room temperature. Further dilute 1ml (5mg) in 49ml D5W to make a final dilution of 0.1mg/ml unless otherwise indicated by physician. However, more concentrated solutions increase the likelihood of phlebitis. Stable for 5 days refrigerated and 10 days at room temperature.
3. therapy can be interrupted for 2 - 5 days in case of renal/hepatic impairment
4. half-life increased in small neonates, *initial*: 15 - 48 hours, *terminal*: 15 days; excreted very slowly by the kidney, may be detected in the urine up to 7 weeks after discontinuation
5. do **NOT** mix with any other medications
6. Solution compatibility: D5W, D10W, D15W. Not compatible with TPN; TPN must be shut off during infusion of Amphotericin, or additional IV access utilized. Terminal injection site compatibility with Heparin therefore may be given through central line.
7. treat with antipyretics, antihistamines, corticosteroids for adverse reactions
8. Monitor weekly hematologic, renal, and hepatic function; at least biweekly serum electrolytes (potassium, magnesium).

References:

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Samir Alabsi, MD
Kelli Cunningham, Pharm. D, BCPS
Rebecca Willson, ARNP, NNP