

# Neonatal Fungal Sepsis Care Guideline

## Inclusion Criteria:

- $\geq 7$  days old
- New onset signs and symptoms of infection
- Clinically unstable despite receiving appropriate antibiotic therapy

## Assessment

- Vital signs, cardiac/respiratory/neuro status
- Hemodynamic status
- Presence of central catheters (inspect sites) and/or ventilator
- Other risk factors for candidiasis (see recommendations)

## Interventions

- Hemodynamic support as needed
- Labs: CBC w/ manual differential, CRP, CMP, blood culture & Gram stain (central & peripheral), urine fungal culture
- Lumbar puncture
- ID consult if blood culture is positive for *Candida spp*, or if the use of echinocandins or other antifungal agents are being considered

## Empiric Antifungal Therapy

- Fluconazole 6 mg/kg IV q 24 hrs < 30 wks calculated gestational age (CGA) or < 28 days old
- Fluconazole 6mg/kg IV q 12hrs > 30 wks CGA and > 28 days old

## Alternatives

- Consider alternative antifungal if previous use of fluconazole prophylaxis or previously colonized with *candida glabrata*
- Consider amphotericin B deoxycholate - 1 mg/kg/day for hepatic dysfunction and urinary tract involvement
- Consider liposomal amphotericin B - 3 mg/kg/day for hepatic dysfunction without urinary tract involvement

## Continued Considerations

- Adjust antifungals per culture results, clinical status, and response to therapy.
- For documented candidemia, obtain echocardiogram, abdominal ultrasound, and Ophthalmology consult for retinal exam
- DC antifungal therapy if culture negative at 48-72 hrs and based on clinical status .
- Remove central catheters (when possible) if infection related.

## Recommendations/Considerations

- Risk factors for candidiasis include broad spectrum antibiotic use, very low birth weight (<1000 grams), central catheters, TPN, recent abdominal surgery, presence of ventilator, & *candida* colonization.

## Duration of therapy

- Candidemia: 3 wks & resolution of signs/ symptoms
- Endophthalmitis: min. 4-6 wks with documented lesion stabilization or resolution
- Meningitis: continue until all signs/symptoms, CSF, & radiologic abnormalities are resolved
- Endocarditis: min. 6 wks after surgery
- Osteomyelitis: fluconazole 6-12 months

## Safety Monitoring

### Fluconazole

*Hepatotoxicity:* Monitor liver function enzymes at least weekly.

### Amphotericin B products

*General reactions:* Hypotension, fever (usually occurs within 1 - 2 hours after the start of the infusion and subsides within 4 hours after discontinuation), shaking chills. Record *vital signs* (heart rate, blood pressure, temperature, respiratory rate) at baseline and observe first 5 minutes; record every 15 minutes for the first 30 minutes; and then every 30 minutes thereafter.

*Renal effects:* Hypokalemia, nephrotoxicity, hypomagnesemia. Monitor laboratory values (BUN, creatinine, and electrolytes) at least three times weekly during the first 2 weeks of therapy; then once or twice weekly thereafter. Adverse effects appear to be less common in neonates than in older children and adults.

*Echinocandins*  
*Hepatotoxicity:* Monitor liver function enzymes as warranted.

*Echinocandins*  
*Hepatotoxicity:* Monitor liver function enzymes as warranted.

### Echinocandins

*Hepatotoxicity:* Monitor liver function enzymes as warranted.