Neonatal Nosocomial Sepsis Care Guideline

Inclusion Criteria:
- ≥ 7 days old
- Hospitalized in the NICU/CVICU with new onset signs and symptoms of infection

Assessment
- Vital signs
- Physical exam
- Presence of central catheters (inspect sites) and/or ventilator

Interventions
- Hemodynamic support as needed
- Labs: CBC with diffs, CRP, Blood Culture, Urinalysis and culture, CSF studies and culture
- Hemodynamic support as clinically indicated
- Consider BMP, Blood Gas, RP-PCR if new respiratory symptoms
- Hold feeds if clinically indicated
- CXR if respiratory symptoms

Is patient experiencing hemodynamic instability, respiratory decomposition, poor perfusion?

No

Antibiotic Therapy
(Refer to order set for dosing)
Oxacillin
And
Gentamicin

Yes

Antibiotic Therapy
(Refer to order set for dosing)
Cefepime
+/-
Vancomycin with presence of a central line or h/o MRSA. Consider discontinuing at 24 hours if cultures are negative.

Recommendations
- Discontinue antibiotics at 36 hrs if culture negative & clinical status reassuring
- Adjust antibiotics per culture results and response to therapy
- Remove central venous catheters (when possible) if infection related

Considerations
- Risk factors for sepsis include: birthweight <1500 grams, recent antibiotic use, presence of central venous catheters and/or ventilator.
- ID consult for: all positive blood cultures, hemodynamically unstable patients and meningitis.
- Consider addition of fluconazole prophy if birthweight < 1000gm and recent broad-spectrum antibiotic exposure.
- Duration of treatment:
  - Bacteremia - 10 -14 days, depending on pathogen
  - Meningitis - 14 - 21 days, depending on pathogen
  - Pyelonephritis - 10 - 14 days, if patient older than 2 months treat with shorter courses if responds quickly to treatment
- Consider antifungal treatment if new onset thrombocytopenia.

Antibiotic Dosages

Oxacillin
- 25 mg/kg IV q12h, Dosing Guidelines: 0 – 4 weeks & < 1200g
- 37.5 mg/kg IV q12h, Dosing guidelines:0 – 7 days & 1200 – 2000g
- 37.5 mg/kg IV q8h, Dosing Guidelines: 0 – 7 days & > 2000g – OR – 7 – 28 days & 1200 – 2000g
- 37.5 mg/kg IV q6h, Dosing Guidelines: 7 – 28 days & > 2000g

Gentamicin
- 5 mg/kg IV q48h, Dosing Guidelines: ≤ 29 wks (< 7 days) or asphyxia, renal dysfunction, Indocin
- 4 mg/kg IV q36h, Dosing Guidelines: ≤ 29 wks or asphyxia, renal dysfunction, PDA or Indocin and 8 – 28 days Post Natal
- 4 mg/kg IV q24h, Dosing Guidelines: <29 wks, asphyxia, renal dysfunction, PDA or Indocin and ≥ 29 days Post Natal
- 4.5 mg/kg IV q36h, Dosing Guidelines: 30 – 34 wks and < 7 days Post Natal
- 4 mg/kg IV q24h, Dosing Guidelines: 30 - 34 wks and ≥ 8 days Post Natal

Cefepime
- 30 mg/kg IV q 12h Infuse Over 30 min, Dosing Guidelines: Neonates GA < 36 weeks
- 50 mg/kg IV q12h Infuse Over 30 min, Dosing Guidelines: Neonates GA ≥ 36 weeks
- 50 mg /kg IV q8h Infuse Over 4 HRS, Dosing Guidelines: > 15 days of age, severe, CF, Neutropenic, MIC 4 – 8 pathogens

Vancomycin
- 10 mg/kg IV q6h, Dosing Guidelines: < 7 days & 1200 – 2000g
- 10 mg/kg IV q12h, Dosing Guidelines: < 7 days & > 2000g
- 10 mg/kg IV q12h, Dosing Guidelines: > 7 days & 1200 – 2000g
- 10 mg/kg IV q8h, Dosing Guidelines: > 7 days & > 2000g

Safety Monitoring
- **Gentamicin / Vancomycin nephrotoxicity**
  - If continuing gentamicin and vancomycin beyond 36 hours, obtain trough levels

Approved Care Guidelines Committee: 4/23/2009; Revision 3/20/2013
Evidence Based Medicine Committee Review/Revise: 5/15/2024; 9/21/2016

Reassess the appropriateness of Care Guidelines as condition changes and 24 hrs after admission. This guideline is a tool to aid clinical decision making. It is not a standard of care. The physician should deviate from the guideline when clinical judgment so indicates.

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References

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