KANGAROOCARE NICU ANTIBIOTIC POLICY

Infection has become an increasingly important cause of mortality and morbidity in NICUs. Infection usually falls into two main categories: early onset and late onset sepsis. The cut off between early and late onset is usually taken as 48-72 hr.

Risk Factors:

Early onset of Sepsis:

1. UTI in pregnancy
2. Preterm labour
3. Premature rupture of membranes
4. Prolonged rupture of membranes (>18 hours)
5. Maternal fever
6. Maternal carrier Group B Streptococcus
7. Maternal chorioamnionitis
8. Outborn neonates

Organisms responsible for early onset sepsis:

The predominant pathogens come from the maternal genital tract and are:

- E.coli
- Klebsiella spp
- Pseudomonas spp
- Group B Streptococcus (GBS)

Late onset of Sepsis:

1. Deficient immune responses in ELBW infants

2. Central lines, especially UVC > 10 days

3. Outborn neonates

4. Colonization of newborns by MRSA

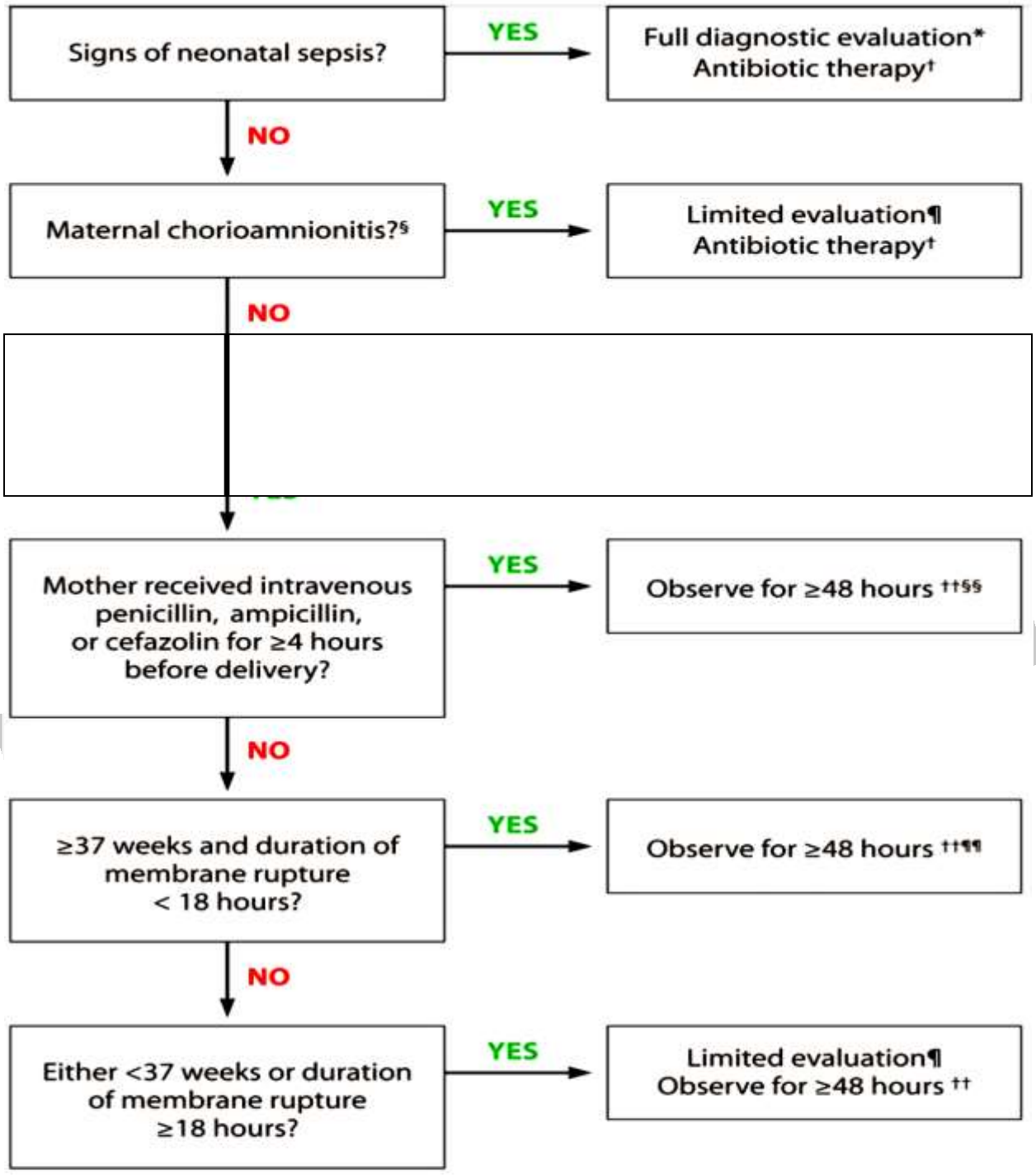
5. Inadequate infection control practices by staff and visitors.

6. Pre mature neonates

Organisms responsible for late onset sepsis:

The predominant pathogens are:

- Gram Positive organisms
    - Coagulase- negative staphylococci
    - Staphylococcus aureus
    - Enterococci
    - Streptococcus spp
- Gram Negative organisms
    - E coli
    - Klebsiella spp
    - Pseudomonas spp
    - Acinetobacter spp



- Full diagnostic evaluation includes a blood culture, a complete blood count (CBC) including white blood cell differential and platelet counts, chest radiograph (if respiratory abnormalities are present), and lumbar puncture (if patient is stable enough to tolerate procedure and sepsis is suspected).

† Antibiotic therapy should be directed toward the most common causes of neonatal sepsis, including intravenous ampicillin for GBS and coverage for other organisms (including *Escherichia coli* and other gram-negative pathogens) and should take into account local antibiotic resistance patterns.

§ Consultation with obstetric providers is important to determine the level of clinical suspicion for chorioamnionitis, Chorioamnionitis is diagnosed clinically and some of the signs are nospecific.

Early onset sepsis

Baby < 28 weeks

- Without risk factors: ***IV Ampicillin and Gentamicin(Consider Amikacin for outborn babies instead of Gentamicin) for 5 days***
- With risk factors: **Cefotaxime *and Amikacin for 5-7 days***
- Second line***: IV Piptaz and Amikacin for 5-7 days***

Babies 28-32 weeks:

- Without risk factors: ***Amoxicillin-Clavalanic Acid and Gentamicin (Consider Amikacin for outborn babies instead of Gentamicin) for 5 days***
- With risk factors: ***Cefotaxime and Gentamicin for 5-7 days***
- Second line of antibiotics***: IV Piptaz and Amikacin for 5-7 days***

Babies > 32 weeks:

Without risk factors: ***Amoxicillin-Clavalanic Acid and Gentamicin (Consider Amikacin for outborn babies instead of Gentamicin) for 5 days***

With risk factors: ***Cefotaxime and Gentamicin for 5-7 days***

Second Line of Antibiotics: ***Imipenem and Amikacin*** **for 5-7 days**

(Considered Imipenem if meningitis not suspected and Meropenem for suspected meningitis)

Add metronidazole if anaerobic infection is suspected.

Less than 28 weeks		
	No risk factors	Ampicillin and Gentamicin
	With risk factors	Cefotaxime and Amikacin
	Second line	Piptaz and Amikacin
28-32 weeks		
	No risk factors	Augmentin and Gentamicin
	With risk factors	Cefotaxime and Gentamicin
	Second line	Piptaz and Amikacin
More than 32 weeks		
	No risk factors	Augmentin and Gentamicin
	With risk factors	Cefotaxime and Gentamicin
	Second line	Imipenem/Meropenem and Amikacin

Late onset sepsis

IV Amoxicillin-Clavalanic Acid + Amikacin till we get PCR or blood culture report.

Second Line of Antibiotics: **Cefaperazone-Sulbactum and Amikacin**

- **Ceftriaxone** can be considered in place of Cefotaxime in term infants.
- Add **metronidazole** if suspicion of anaerobic infection (e.g. intra-abdominal sepsis, NEC)
- IV **Vancomycin** for Gram positive sepsis, and in MRSA
- Consider **Piperacillin- Tazobactum and Amikacin** for ventilator-associated pneumonia
- Duration of antibiotics depends on risk factors, clinical condition and lab reports; kindly review antibiotics after 48-72 hrs
- Incubator will be used till 28 weeks only and will be changed every week
- Incubator humidifier will be changed every 72 hrs and sent to ETO.

Fluconazole will be given if 2 out of the following conditions are met

1. Birth weight less than 1kg.
2. TPN
3. On Ventilator
4. Broad Spectrum antibiotics
5. Central line

- **Amphotericin B**

  - In proven fungal infections, liposomal form of the same should be given

  Second Line

  - 5 Flucytosine, kindly do CBC before starting. Flucytosine is given along with Amphotericin B in CNS infections

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Patients to whom this applies: Patients of the KC Neonatal Service and newborn infants on the Postnatal Wards and Labour Suites of the KC Hospitals who fit the inclusion criteria of the guideline
Evidence used: The contemporary evidence base has been used to develop this guideline.