ANTIMICROBIAL GUIDELINES - NEONATES

This LOP is developed to guide clinical practice at the Royal Hospital for Women. Individual patient circumstances may mean that practice diverges from this LOP.

1. AIM

- To ensure appropriate antimicrobial prescribing.

2. PATIENT

- All neonates

3. STAFF

- Medical staff

4. EQUIPMENT

- Nil

5. CLINICAL PRACTICE

Indication	Antimicrobial Treatment	Comments
Early- onset infection (within first 48 hours of life)	Benzylpenicillin[1] PLUS Gentamicin[1]	If blood cultures are negative after 36/48 hours and sepsis is not clinically suspected cease treatment
Late- onset infection (after 48 hours of life)	Vancomycin PLUS Gentamicin AFTER 48 HOURS IF PATIENT REMAINS UNWELL AND IF CULTURES NEGATIVE FOR STAPH. EPIDERMIDIS, CHANGE ANTIMICROBIALS TO Piperacillin/Tazobactam (meningitis excluded) AND DISCUSS WITH ID TEAM	If there is suspicion or confirmation of multi-resistant organisms discuss with neonatologist on duty, the ID team and consider Meropenem or alternative agent. Piperacillin/Tazobactam can be used as monotherapy provided no Staph. epidermidis is present in blood cultures. RHW NICU data suggests resistance of Staph epidermidis to Piperacillin/Tazobactam.
Necrotising enterocolitis	Vancomycin[4,5] PLUS Gentamicin[4,5] PLUS Metronidazole[4,5] AFTER 48 HOURS CHANGE TO Piperacillin/Tazobactam PLUS Vancomycin DISCONTINUE VANCOMYCIN ONCE CULTURES NEGATIVE FOR STAPH. EPIDERMIDIS	Piperacillin/Tazobactam can be used as monotherapy provided no Staph. epidermidis is present in blood cultures. RHW NICU data suggests resistance of Staph epidermidis to Piperacillin/Tazobacatm.

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ANTIMICROBIAL GUIDELINES – NEONATES cont'd

Indication	Antimicrobial Treatment	Comments
Meningitis	Ampicillin PLUS Cefotaxime	If herpes simplex encephalitis is suspected add Aciclovir
Urinary tract infection/pyleonephritis	Ampicillin PLUS Gentamicin	If there is suspicion or confirmation of multi-resistant organisms discuss with neonatologist on duty, the ID team and consider Meropenem or alternative agent.
Skin and soft tissue infections	Flucloxacillin[3]	If MRSA is suspected, ADD Vancomycin while awaiting culture results. If infection is severe consider adding Gentamicin
Cellulitis/ omphalitis (infected umbilicus)	Flucloxacillin[2]	If MRSA is suspected ADD Vancomycin while awaiting culture results. If infection is severe consider adding Gentamicin
Balanitis	Mupirocin 2% ointment or cream topically[3]	
Cytomegalovirus	Ganciclovir[3]	Commence treatment only after discussion with neonatologist on duty and SCH infectious diseases team. Inform Pharmacy ASAP
Candida sepsis	Fluconazole	If previous known *Candida* infection or patient has received Fluconazole previously, discuss with SCH infectious diseases.
Pertussis (prophylaxis or treatment)	Azithromycin[3]	No history of deafness in patient or first degree relative Risks of pyloric stenosis Ensure contact tracing occurs and alert Infection Control and Public Health

6. DOCUMENTATION

- Integrated Clinical Notes
- Medication Chart

7. EDUCATIONAL NOTES

- Any neonate suspected of sepsis requires urgent empiric antimicrobial therapy. Premature infants are more vulnerable to sepsis. All infants with suspected sepsis require discussion with neonatologist on duty.
- Obtain blood cultures (and other clinical specimens e.g. urine, CSF as appropriate). Do not delay antibiotic administration if unable to obtain specimens promptly.

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ANTIMICROBIAL GUIDELINES – NEONATES cont'd

- Infants with bacteraemia or complex infections may also be discussed with SCH infectious diseases team. Choice of antimicrobial therapy depends on maternal factors, age at onset of infection, prematurity, focus of infection, any surgery undertaken and the presence or recent usage of central venous lines.
- For drug dosing refer to Neonatal Drug Guidelines on the RHW intranet
- All neonates < 32 weeks gestation or post-surgical receiving antibiotics should be placed on oral Nystatin 50,000 units PO every 6 hours as prophylaxis against systemic candidiasis.

8. RELATED POLICIES / PROCEDURES / CLINICAL PRACTICE LOP

- Antimicrobial Stewardship Policy- Newborn Care Centre- Royal Hospital for Women

9. RISK RATING

- Low

10. NATIONAL STANDARD

- Preventing and controlling healthcare associated infections
- Medication safety

11. REFERENCES

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- Rennie and Robertson's Textbook of Neonatology, Rennie J, Garrett Anderson E, Churchill Livingstone; 5th Edition 2012
- Shah D, Sinn JKH. Antibiotic regimens for the empirical treatment of newborn infants with necrotising enterocolitis. Cochrane Database of Systematic Reviews 2012, Issue 8. Art. No.: CD007448. DOI: 10.1002/14651858.CD007448.pub2
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