

Antibiotic Protocols for Paediatrics – Steve Biko Academic Hospital

Respiratory tract infections in children

Uncomplicated URTI

- A child with a 'cold' should not receive an antibiotic
- Paracetamol (15 mg/kg/dose 4 hourly) for 24 hours if needed for fever
- Saline nose drops are appropriate

Acute otitis media

Antibiotic therapy

- Amoxicillin 30 mg/kg/dose 8 hourly po for 5 days
- No specimens should be sent for MC&S

Pharyngitis/Tonsillitis

Antibiotic therapy - Pen VK

- 250 mg twice daily for 10 days (< 27 kg)
- 500 mg twice daily for 10 days (> 27 kg)
- (given 30 minutes before food)
- No specimens should be sent for MC&S

Pneumonia

Diagnosis

- **Tachypnoea with fever**
- **Crackles on chest auscultation**
- **CXR – Consolidation with air-bronchograms**

Antibiotic therapy

- Ampicillin 30 mg/kg/dose IVI 8 hourly 5 days or,
- Ampicillin 30 mg/kg/dose 8 hourly + Amikacin 15 mg/kg/day for 5 days if HIV-exposed (or malnourished)
- Oral amoxycillin suitable for less severely ill children

Bronchiolitis

Diagnosis

- Tachypnoea with fever
- Wheezes on auscultation

- Hyperinflation on chest examination
- CXR – Hyperinflated

Antibiotic therapy

- **No antibiotic (unless < 2 months old)**
- **If less than 2 months old Ampicillin and Amikacin**
- Oxygen only
- No bronchodilator nebulisation (unless hypoxic on oxygen and if positive bronchodilator response tests)
- No oral steroids

Severe Pneumonia – PCP

Diagnosis

- Infant 2-6 months
- Severe hypoxia
- No adventitious sounds on chest auscultation
- LDH > 500 u/ml
- CXR – Interstitial changes

Antibiotic therapy

- Trimethoprim / Sulphamethoxazole 5mg/kg/dose 6 hourly preferably IVI (of Trimethoprim) x 21 days
- Oral steroids 1mg/kg/day 10 days – wean over 4 days
- Ganciclovir 5 mg/kg 12 hrly (if hyperinflation present) x 3 weeks

Pneumonia in PICU

- If hospital acquired or ventilator associated pneumonia or failed first line treatment
- Meropenem 40mg/kg/d 8hrly x 5 days
- Alternatives Ertapenem 20-40mg/kg 8 hourly (if no suspicion of Pseudomonas or Acinetobacter) x 5 days

Urinary tract infections

- E coli most common organism causing UTI (60-90%)
- Other common organisms: Klebsiella, Proteus, Enterococcus & Enterobacter spp.
- Unusual organisms more common in patients with

- anatomical defects
- on intermittent bladder catheterization
- following repeated courses with antibiotic treatment

Clinical differentiation of the site of UTI

- Pyelonephritis = infection of the renal parenchyma
 - Symptoms and signs: fever, flank pain, nausea, vomiting
 - Usually have underlying urogenital tract abnormalities
 - At risk of renal scarring
- Cystitis (uncomplicated UTI) = infection of the bladder
 - Symptoms dysuria, frequency or lower abdominal pain
 - No systemic manifestations / fever

Diagnosis

- Collect an uncontaminated urine sample for MCS
- Urine collected with urine bags is unsuitable
- In infants and young children who are not toilet trained urine should be obtained by urinary catheterization or suprapubic aspiration
- Mid stream clean catch urine collection is used in older children.

Urine dipstick results

- Leukocyte esterase and nitrites positive = UTI
- Only leukocyte esterase positive = Doubtful
- Only nitrites positive = Doubtful (associated with bacteriuria in patients with vesicostomy, neurogenic bladder)
- Leukocyte esterase and nitrites negative = No UTI

Asymptomatic bacteriuria

- = Growth of a significant number of a single organism (often >100 000 CFU/ml) from a urine sample of an asymptomatic child with no pyuria
- Most often E coli strain of low virulence
- No antibiotics should be given

Antibiotic therapy

- Parenteral and oral treatment is equally effective provided child does not have septicaemia

- Treat bacterial cystitis x 3 days only

Infants 0-2 months

- *Parenteral treatment for acutely ill infants*
- Cefuroxime 25 mg/kg/dose 8 hourly IV x 7 days
- Amikacin 15mg/kg/dose once daily IV (is added in infants who clinically have septicaemia)
- Cefuroxime 15 mg/kg/dose 12 hourly per os for 7 days

Older children

- Parenteral treatment:
- Cefuroxime 25 mg/kg/dose 8 hourly IV until oral treatment is possible
- Complete total course of 5 days
- Orally administered antibiotics:
- Cefuroxime 15 mg/kg/dose 12 hourly per os for total 5 days

Febrile Neutropenia

All febrile neutropaenic patients must receive:

- Tazocin 90mg/kg (max 4.5g) ivi 6hourly
- Amikacin 15mg/kg (max 600mg) iv daily
- Continue until child is afebrile for 48 hours
- If there is evidence of an infection of a central line or if there is no improvement after 48 hours of therapy add:
- Vancomycin 15mg/kg (Max 500mg) 6 hourly iv
- If there is no response after a further 48 hours change to:
- Meropenem 40mg/kg (max 1g) q 8 hourly
- Diflucan 12mg/kg (max 400mg) once then 6 mg/kg daily or switch to
- Amphotericin B 0,1mg/kg – day 1
0,5mg/kg – day 2
1-1,5mg/kg – day 3 onwards

Meningitis

Diagnosis

- Start antibiotic within 1 hour of suspicion of meningitis then:

– Lumbar Puncture:

- Any Poly's
- Elevated protein, low glucose
- Positive antigen test

Treatment

- Cefotaxime 50 mg/kg/dose 6 hourly x 10 days < 2 months old
- Ceftriaxone 100 mg/kg/dose BD x 10 days > 2 months old
- X 14 days for GBS infection
- X 21 days for complicated GBS infection
- X 21 days for neonatal Gram Negative infection
- If Herpes encephalitis is expected (focal seizures with haemorrhagic CSF results) add Acyclovir
 - (Term neonates – 12 weeks of age)
 - 20mg/kg IVI over 1 hour q12h in the first week of life
 - 20 mg/kg IVI over 1 hour q8h for 2 weeks
 - 12 weeks- 12 years
 - 500mg/m².q8h IVI over 1 hour x 10 days
 - >12 years
 - 10 mg/kg q8h IVI over 1 hour x10 days

Bloody diarrhoea

- Send stool to lab for MC&S

Treatment

- Ciprofloxacin po 15 mg/kg/dose BD x 3 days

Acute liver failure

- Ampicillin 30 mg/kg/dose TDS +
- Amikacin 15mg/kg/d IVI for 5 days +
- Diflucan 12mg/kg stat IVI then 6mg/kg/d for 5 days
- If neonate with acute liver failure also Acyclovir 10mg/kg/dose every 8h for 5 days