Otitis media symptoms Acute otitis Acute otitis Acute otitis **EFFUSION** media with yellow media with media with red with or bulging tympanic tympanic without **EFFUSION ALONE** eardrum membrane membrane No antimicrobial therapy indicated Temperature >38°C Acute otitis media Exclude neonatal NEONATAL SEPTICAEMIA **NEONATE** YES sepsis eg: **EXCLUDED** Blood culture Urine-MC&S NO Treat neonatal AOM only if neonatal sepsis is excluded: Refer if work-up is REFER TO ENT SPECIALIST IF: not possible Amoxycillin-clavulanate The tympanic membrane is not visible. No response after 3 days of treatment. Suspected intracranial extension. PLUS **SEPSIS** additional amoxicillin (to 90mg/kg amoxycillin per Lower motor neuron palsy of the facial day) in three divided Treatment nerve. doses for 10 days according to cultures Compelling reasons for antibiotic therapy? Recurrent AOM Immuno-compromised Neonate Structural ENT abnormalities

TREATMENT OF CHOICE: Oral

Amoxycillin

Children

- 90mg/kg/day in 2-3 divided doses for 5-7days (twice daily accepted) If < 2years: 7-10days

Fever >38°C Pain >48hours

Complicated cases: 7-10 days

Adults

1000mg tds for 5days

ALTERNATIVES FOR CHILDREN SEVERE BETA LACTAM ALLERGY

- Azithromycin, 10-20mg/kg once daily for 3 days Clarithromycin, 7.5-15mg/kg bd for 5-7 days Cefpodoxime proxetil, 8-16mg/kg bd for 5-7days Cefprozil, 15-30mg/kg bd for 5-7 days Cefuroxime axetil, 15-30mg/kg bd for 5-7days

Failed initial therapy for otitis media? See next page

ALTERNATIVES FOR ADULTS SEVERE BETA LACTAM ALLERGY

- Azithromycin, 500mg once daily for 3 days
- Clarithromycin (Modified release), 1000mg once daily for 10 days Erythromycin estolate, 500mg gid for 10 days
- Telithromycin, 800mg once daily for 5-10 days Cefpodoxime proxetil, 200-400mg bd for 10 days.

- Cefpodoxime proxetii, 200-400mg bd for 10 days.
 Cefprozil, 500-1000mg bd for 10 days.
 Cefuroxime axetii, 500-1000mg bd for 10days
 Gatifloxacin, 400mg once daily for 5-10 days
 Levofloxacin, 500mg once or twice daily for 10 days
 Moxifloxacin, 400mg once daily for 7-10 days
 Clindamycin, 450mg tds for 10 days

Failed initial therapy for otitis media? See next page

Failed initial therapy for otitis media

Identify the reason(s) for failed initial therapy:

- Check for complications. Refer if necessary.
- Check compliance (dose and duration).
 Check recent previous antibiotic exposure.
- Check for risk factors for intermediate or high level resistant S. Pneumoniae OR risk factors for a beta-lactamase producing organism: H. Influenzae
- In cases of clinical failure (e.g. persistent fever) after 72 hours of appropriate, compliant initial antibiotic therapy, consider referral to an otorhinolaryngologist for tympanocentesis and MEF culture. This is of relevance in areas with a high prevalence of antibiotic-resistant *S. pneumoniae*, as is the case for the majority of major urban centres in South Africa, particularly in the private.

A. RISK FACTORS FOR INTERMEDIATE/HIGH LEVEL RESISTANT S.PNEUMONIAE INFECTIONS:

- Child is 2 years old.
- Child is in a day care centre
- Child is a sibling of a day care attendee.
- Prior AOM in past 6 months.
- Antibiotics in the past 3 months

B. RISK FACTORS FOR BETA-LACTAMASE PRODUCING H. INFLUENZAE INFECTIONS:

- Immunocompromised patient
- Neonate

ALTERNATIVE ANTIBIOTIC CHOICES

FAILED INITIAL THERAPY: GENERAL

- Amoxycillin-clavulanate, plus additional amoxycillin (to a total dose of amoxycillin of 90mg/kg/day) divided into 2 or 3 doses for 5-7 days for failed initial therapy with amoxycillin alone
- Ceftriaxone, IVI or IMI, 50-75mg/kg once daily for 3 days. This is also recommended in the case of isolates of known high-level antibiotic resistance and in severe presentations, e.g. threatened mastoiditis and preferably in consultation with an otorhinolaryngologist.

- Amoxycillin-clavulanate, 1g twice daily plus amoxycillin 500mg twice daily for 10 days for failed initial therapy with amoxycillin alone \
- Respiratory fluoroquinolones:

Gatifloxacin, 400mg once daily for 5-10 days Levofloxacin, 500mg once or twice daily for 10 days

Moxifloxacin, 400mg once daily for 7-10 days

- Telithromycin, 800 mg once daily for 5-10 days
 Ceftriaxone, IVI or IMI, 1-2g once daily for 3-5 days. Ceftriaxone or the respiratory fluoroquinolones may also be used as first line therapy in severe initial presentations e.g. periorbital oedema and preferably in consultation with an otorhinolaryngologist

CONSIDER BETA-LACTAMASE-STABLE ANTIBIOTICS IF RISK FACTORS ARE PRESENT FOR BETA-LACTAMASE PRODUCING ORGANISM(S)

CHILDREN

- Amoxycillin-clavulanate, plus additional amoxycillin (to 90mg/kg amoxycillin per day in three divided doses for
- Cefpodoxime proxetil, 8-16mg bd for 5-7 days
- Cefprozil, 15-30mg/kg bd for 5-7 days Cefuroxime axetil, 15-30mg/kg bd for 5-7 days

ADULTS

- Amoxycillin-clavulanate, 1000mg bd plus additional amoxycillin, 500mg bd for 10 days \(\)
- Cefpodoxime proxetil, 200-400mg bd for 10 days*
- Cefprozil, 500mg-100mg bd for 10 days
- Cefuroxime axetil, 500mg-1000 mg bd for 10 days*
- The higher dosages of cephalosporins recommended would cover for most pneumococcal isolates of intermediate resistance to penicillin, but not necessarily for pneumococcal isolates with high-level resistance. The particular choice of cephalosporins would depend on physician or patient preference, availability and cost.
- Subsequent to the recent publication of the recommendations for the antibiotic treatment of upper respiratory tract infections in SAMJ (2004), a new slow release formulation of amoxycillin-clavulanate (2000mg SR bd) was licensed for use in South Africa. This formulation would be a suitable replacement for the previously recommended amoxycillin-clavulanate and additional amoxycillin, formulation.

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