

1) 2) , 가 (Table 1). 가 가 : , , 3 75% 가 1 , , , ear pulling, irritability , 1/3 3 3) 가 , 6 18 가 . (48 , , 가 2) .) 1) . 가 2) . pneumatic otoscopy otoscopy mastoiditis tympanogram acoustic reflectometry . 가 1930 mastoiditis 32% 가 'otitis 1940 sulfonamide media with effusion, OME' 6% , 가 10 3) . 가 .

Table 1. Otitis Media Definitions and Epidemiology

Otitis type	Definition	Comment
Myringitis	Erythema of the tympanic membrane, without MEE; similar appearance occurs from dilation of tympanic membrane vessels when crying during otoscopy	Most often viral but may be seen in early stages of AOM or during resolution; does not require antibiotic treatment
AOM	MEE with rapid onset of one or more of the following : otalgia, ear pulling, otorrhea, fever, irritability, anorexia, vomiting, or diarrhea	Most frequent diagnosis made by pediatricians; affects about 50% of children by age 1 year, 65% by age 2 years, and 70% by age 3 years
OME	MEE without signs or symptoms of acute infection; chronic OME implies duration longer than 2 to 3 months	Occurs in both healthy children and following an episode of AOM; 15% prevalence with seasonal variations

AOM : acute otitis media, OME : otitis media with effusion

Table from Rosenfeld RM. An evidence-based approach to treating otitis media. *Pediatr Clin North Am* 1996;43:1165-81

가 , 가 , 가 , , . 2

ysis 3) . (placebo) 1930 meta-anal- group A streptococcus, *S. aureus* 7), 1940 70% *S. pneumoniae*, *H. influenzae* *M. catarrhalis*가 30 35%, 20 25%, 10 15% 15%가 . Group A streptococcus 24 . Group A streptococcus 2 5% 8) . *H. influenzae* , 10% type b b b *M. catarrhalis* . 가 *S. pneumoniae* *H. influenzae*가 7% 9) . 25 30% (Table 2). 5) 6) 가 가 708 55% 가 , 15% 가 , 5% RSV가 50%

Table 2. Dutch Guidelines for Treatment of Acute Otitis Media

Patients 2 years old	
A. Symptomatic treatment only(acetaminophen with or without decongestant nose drops) for the first 3 day	
B. Re-evaluation if symptoms(i.e., pain, fever, etc, due to AOM) persist for 3 day	
At that time, the doctor may continue additional observation or prescribe an antibiotic(amoxicillin or erythromycin if amoxicillin is contraindicated) for 7 days	
C. Special treatment for spontaneous tympanic-membrane perforation not suggested unless it persists for > 14 days, at which time a course of antibiotic therapy is recommended	
Patients aged of 6 months to 2 years	
A. Management is the same as for chose 2 years and older, except for a mandatory contact(either by telephone or office visit) after 24 hours. If no improvement, doctors may start antibiotics or wait an additional 24 hours	
B. Referral to an otolaryngologist suggested if patients in this age group appear to be seriously ill or do not improve after 24 hours with antibiotics	

Table from Rutka J, Lekagul S. No therapy :use, abuse, efficacy, and morbidity-the European versus the Third-World experience. J Otolaryngol 1998;27(S)2:43-8

, parainfluenza virus type 1, 2, influenza virus가 14% 13% . rhinovirus가 6.8% RT-PCR RSV . rhinovirus 가 (10, 11). *S. pneumoniae* 60 80% penicillin (penicillin MIC 0.1 µg/mL) , 1/2 (penicillin MIC 2 µg/mL) . *H. influenzae* *M. catarrhalis* 50% 95% beta-lactamase . *H. influenzae* *M. catarrhalis* 50% 75 % , *S. pneumoniae*가 10 20% . (penicillin resistant *S. pneumoniae*, PRSP) 가가 가 . Dagan (12) PSSP cefaclor cefuroxime 6% PRSP 36.7% . 52 10 (19%) 14 9 (64 %) , 가 . PRSP macrolides trimetho- prime-sulfamethoxazole PRSP breakthrough bacteremia meningitis가 (13) . 가 . 가 *S. pneumoniae* . 50% 가 (middle ear fluid, MEF) 90% 가

beta-lactams , bacteriologic effect 'time-depen- dent killing mechanism' . bacteriologic cure (dosing interval) (T) 가 MIC (time above MIC, T>MIC) . *S. pneumoniae* beta-lactams T>MIC가 40 50% bacteriologic cure가 90 100% , T>MIC가 40 50% 90% , beta-lactams T>MIC가 40 50% (14, 15) . Amoxicillin 40 45 mg/kg/day MEF 1 6 µg/mL PRSP . amoxicillin 70 90 mg/kg/day MEF 3 8 µg/mL 3 PRSP (5). Dagan amoxicillin 90 mg/kg/day PRSP(MIC range 2 4 µg/mL) 34 31 가 91% (9) . PRSP 가 amox- icillin 80 90 mg/kg/day가 . PRSP , 2 , 3 amoxicillin (Table 3). 3 , , OME OME가 . OME AOM 3 90% 가

First-line therapy
Uncomplicated AOM
Amoxicillin(standard or high dose [80 to 90 mg/kg per day]) [*]
Uncomplicated AOM in patients allergic to penicillin
Cefprozil, cefuroxime axetil, cefpodoxime proxetil, azithromycin, or clarithromycin
Second-line therapy [†]
Amoxicillin/clavulanate, cefuroxime axetil, cefprozil, cefpodoxime proxetil, or ceftriaxone [‡]
Third-line therapy [§]
Tympanocentesis and therapy based on culture and susceptibility results

virus	virus가	3	90%	drug-resistance
.	가	<i>S. pneumoniae</i> (DRSP)	therapeutic working group	
		ceftriaxone 50 mg/kg	3	
가	10)		5, 18)	
	가	ceftriaxone		가
. Beta-lactamase	<i>H. influenzae</i>	<i>M.</i>	가	가
<i>catarrhalis</i> 가	가	amoxi-	가	가
	가	prozil	cefpodoxime	PRSP
illin/clavulanate 90 mg/6.4 mg/kg/day			amoxicillin/clavulanate	
oxime axetil 30 mg/kg/day			가	가
lin/clavulanate	clavulanate	DRSP working group		
10 mg/kg/day				
	가	가	5, 16)	erythromycin
Ceftriaxone 50 mg/kg	1	MEF	new macrolides	20%
가	48	19 ± 7.2 µg/	49%, trimethoprim-sulfamethoxazole	
mL	<i>H. influenzae</i>		40%	80%
	(penicillin MIC 0.1 1 µg/mL)	가		PRSP
amoxicillin/calavulanate	90/ 10 mg/kg/			Clindamycin PRSP
day 10				
17) . FDA	ceftriaxone 50 mg/kg	1		. Cefaclor, ce-
PSSP		가	fixime, loracarbef,	cefibuten PRSP
	ceftriaxone	3		
1				tym-
가	, PRSP	panocentesis		

Myringotomy, Oligosaccharide alpha-hemolytic streptococcus

myringotomy

10

2 5

19, 20, 21)

amoxicillin amoxicillin/clavulanate

PRSP

가

가 8.9, 7.0, 9.3 20.1%

22)

가 57%,

가 34%, 6%

23)

influenza A

virus가 influenza virus

35%가

24), Influenza vaccine

가

Influenza A B virus neuraminidase inhibitor

zanamivir oseltamivir influenza A B virus

가 가

zanamivir oseltamivir

가 , 가 RSV

ribavirin aerosol

25)

xylitol

가

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