

가
가
Pneumocystis Nocardia
가
6 buffy coat
3 , Q , adenovirus
7
8
가
4
1 10
Mycoplasma pneumoniae
가, 24
1-2 가 가 가
Legionnaire , Legionnaire
가
Mycoplasma 가 . 가 가
Q fever, tularemia, , Legionnaire
가가
Mycoplasma, pigmented cast가 가
creatinine phosphokinase가 가 ,
influenza virus , Legionnaire , 5)
가
5 lobar or segmental
consolidation, patch bronchopneumonia, nodules(, ,
), interstitial pattern

80% rigor) 가 (single 가 10 가 virus, mycoplasma, chlamydia, tularemia, legionella 가 6. 40% H. influenzae, S. aureus, gram-negative enteric bacilli 가 가 가

1). Mycoplasma

Legionella influenza가 1). crackles) 80% 가

Mycoplasma, Legionella, Chlamydia 가

Legionella bronchial breath sounds, egophony((consolidation)

AIDS 가 가 Mycoplasma pneumoniae 30% 4.

, H. influenzae, influenza C. pneumoniae 가

Legionella가 가 Mycoplasma pneumoniae 24 , P. carinii 10 30%, 가 가

3-6 Mycoplasma pneumoniae 가 4.

80%, 60 80%, 30%, 40 50%, (rigor) 15% 3% 28% 가 37.8

가 1.6, 100 68 78%, 24 45% 8. 3

3 85%

가 (Legionella, influenza virus, P. carinii)가
subsegmental, seg-
mental, lobar pneumonia
가 (patch peribronchial
multifocal)
(bronchopneumonia)

(,), (,)
5.

50-60% 80% 가

. Klebsiella pneumoniae가 가 가 85%

. Klebsiella 90%
41%

(horizontal) fissure가 (current jelly)
minor (bulging fissure) 가 1-2
, 2-5

Klebsiella 가 가 가

bulging fissure 가 Enterobacteriaceae S. aureus

serotype III Enterobacteriaceae, S.

zae, M. pneumoniae, virus . H. influenzae가

25 가
<5 (10) 8 가
30 가 9.

50%-60%, 95% . *L. pneumophila* .
 subgroup 1 가 15,000 30,000 /mm³ .
Legionella
 Gram
 4). *M. pneumoniae*, *Chlamydia pneumoniae*, respiratory
 cold agglutinin 1:64 *M. pneumo-* viruses, 1).
niae 가 30%-60%
 가 4). *M. pneumoniae* IgM 가 가 가
 1 가 2-12
 가 7-10
 3 . *Mycoplasma*
 mycoplasma 가
 plasma myco- 가
Chlamydia Legionella , *H. influenzae* 가
 Quellung
 . *C. pneumoniae* 1 , capsular polysaccharide 가
 IgM 3 , IgG 8
 가 C.
pneumoniae IgG 가 가 가 가
 가 가 IgM 가 가 가 가
 . *Legionella*
 가가 . 가가 1:256 1995 1996 6 1
 가 ,
 가 15% . IgM IgG 247 76 (31%)
 가 20 , 18 (7.3%), 3
 4). , 13 (*Klebsiella* 7), *Hemo-*
 polymerase chain reaction (PCR) *philus* 11 , *S. aureus* 5 , *Mycoplasma* 4 , *mucor-*
mycosis 1 .
 PPD 가 가
 가 PCR 가 가
 12).
 FDA AFB ,
 PCR 가 .
 4).
 (CBC), , 가
 , 1).
 가 , 가 ,
 가 , 60 .

11). *S. pneumoniae* 가 가 16).
S. pneumoniae penicillin 80%
 가 ,
 , 17, 18). Penicillin
 가 3
 11). 65 ,
 , penicillin S.
 pneumoniae cephalosporin beta-
 lactams, sulfamethoxazole/trimethoprim, macrolide
 1). 가 cefotaxime 81%, imipenem
 가 43% 가 17, 18).
 . 1 ug oxacillin disk
 가 99%
 , , 4가 , 가 80% 가
 , , 20% 4).
 1). MIC penicillin
 가 가 (MIC 0.12 1.0 ug/ml) penicillin
 가 amoxicillin cephalos-
 porins, macolides ceftria-
 xone, cefotaxime 가 MIC 2.0 ug/ml
 11). , vancomycin, imipenem/
 cilastin 4). penicillin MIC 4.0 ug/ml
 . vancomycin
 ceftriaxone, cefotaxime MIC 2.0 ug/ml
 , imipenem/
 cilastin 4).
 13). 가 fluoroquinolones 4).
 . fluoroquinolone levofloxacin, sparflo-
 xacin, grepafloxacin, trovafloxacin 4).
 가 penicillin 89% 가
 . 4).
 penicillin *Streptococcus pneumoniae* , 가 ,
 25% 가 80% , ,
 , dependent part 4).
 cefaclor, cefotaxime 60%
 cephalosporins 4), coliform bacteria .
 cephalosporins *S. pneumoniae*
 가 15). 1). transtracheal aspirate,

58 2 474 2000 -

가 30% (20-40%),
 가가 phosphorus ,
 7), CPK 가, lactic dehydrogenase >700 U/ml,
 clindamycin 가 4. Legionella
 penicillin G . metronidazole .
 microaerophilic strep- 2-6% . , ,
 tococci . metronidazole , , ,
 penicillin , amoxicillin/clavulanic acid , , erythromycin
 imipenem, meropenem, chloramphenicol, beta mg 1) , fluoroquinolone(ciprofloxacin 400 mg
 lactam/ beta lactam inhibitor . 8 750 mg 12 ,
 clindamycin 가 metronidazole levofloxacin 500 mg 1)
 penicillin amoxicillin/clavulanic acid 9). erythromycin
 4). . Azithromycin 500 mg 1 ,
 clarithromycin 500 mg 2
 .
 3
 10-14 4 9).
 21 가 . Azith-
 가 romycin 5-10 9). ,
 . , ,
 90%가 .
 40-65% , 40-45% 가 가 .
 . 가
 Prevootella melaninogenica, Bacteroides, Por
 -phyromonas, Fusobacterium, peptostreptococci, pepto-
 cocci, microaerophilic streptococci .
 Legionella sp. ,
 (40) ,
 , , , () , 1% Legionella sp.,

Table 2. 60 가 가 (1 5%)*

: Streptococcus pneumoniae, Mycoplasma pneumoniae, Respiratory viruses, Chlamidia pneumoniae, Hemophilus influenzae
 : Legionella sp., Staphyococcus aureus, Mycobaterium tuberculosis, aerobic gram negative bacilli
 : Macrolide † Tetracycline
 Macrolide, Fluoroquinolone, or Doxycycline (17-40 Doxycycline)

* 1/3 1/2
 † Erythromcin , H. influenzae roxithromycin, clarithromycin,
 azithromycin, dirithromycin macrolide
 S. pneumoniae 가 tetracyclines macrolides

Staphyococcus aureus, *Mycobaterium tuberculosis*, aerobic gram negative bacilli (Table 2).

1 5% , 1/3 1/2 1), penicillin beta- lactam *S. pneumoniae* beta- lactam penicillin cephalosporin beta- lactam *H. influenzae*가 50% 2), *Mycoplasma pneumoniae*, *Chlamydia pneumoniae*, *Legionella pneumophila* 가 30% beta- lactamase 1), erythromycin macrolide가 가 clavulanic acid, ampicillin/sulbactam, doxycycline, erythromycin *in vitro* *H. influenzae* fluoroquinolone , *S. pneumoniae*가 tetracyclines 3 macrolide clarithromycin, azithromycin, roxithromycin, dirithromycin *in vitro* cephalosporin sulfame- thoxazole/trimethoprim, azithromycin *M. pneumoniae*, *C. pneumoniae*, *L. pneumophila* *S. pneumoniae*, *H. influenzae* 가 , , 60 *H. influenzae*가 1), 가 , 가, 2. 60 가 가 가 *S. pneumoniae*, Respiratory viruses, *H. influenzae*, Aerobic gram- negative bacilli, *S. aureus* 1% *Moraxella catarrhalis*, *Legionella sp.*, *M. tuberculosis*

Table 3. 60 가 †

: *S. pneumoniae*, Respiratory viruses, *H. influenzae*, Aerobic gram- negative bacilli, *S. aureus*

: *Moraxella catarrhalis*, *Legionella sp.*, *M. tuberculosis*

: 2 cephalosporin Sulfamethoxazolem/trimethoprim Beta- lactam/ beta- lactamase inhibitor ± Erythromycin macrolide ‡

Macrolide, Fluoroquinolone, or Doxycycline ()

Fluoroquinolone

Amoxicillin/clavulanic acid

. HIV
 † 1/3 1/2
 ‡ *Legionella sp.*
 fluoroquinolone: levofloxacin, sparfloxacin, grepafloxacin, trovafloxacin

Table 4.

| | |
|----|--|
| 1. | 65 |
| 2. | : , , , , , , , , , , 1 |
| 3. | : 30 , 60 mmHg, 90 mmHg , 38.3 , |
| 4. | : 4,000/mm ³ , 30,000/mm ³ , 1,000/mm ³ , PaO ₂ 60 mmHg PaCO ₂ 50 mmHg , , creatinine > 1.2 mg/dL BUN 20 > mg/dL , 2 , , (, prothrombin time 가, partial thromboplastin time 가, , fibrin split products >1:40) |

(Table 3).

Gram negative bacilli, *M. catarrhalis*, *M. tuberculosis*
가

Legionella sp. 7).
5% ,
20% 1).
2 cephalosporin, sulfamethoxazole/
trimethoprim, Beta-lactam/beta-lactamase inhibitor
, *Legionella sp.*
erythromycin macrolide 가 1).

가 macrolide, fluoroquinolone, doxycy-
cline () 가
amoxicillin/clavulanic acid, 2 cephalos-
porin(cefuroxime, cefpodoxime, cefprozil)
fluoroquinolone,
amoxicillin/clavulanic acid, 17 - 40
doxycycline 4). Sulfametho-
xazole-trimethoprim *S. pneumoniae*가
10% 1).
cephalosporin *in vitro*
cefopodoxime > cefuroxime > cefprozil > cefixime
> cefaclor = loracarbef > cefadroxil = cephalixin

4).

3.

, Table 4

1).

4.

*S. pneu-
moniae*, *H. influenzae*, (),
gram-negative bacilli, *Legionella sp.*, *S. aureus*, *C.
pneumoniae*, Respiratory viruses
, *M. pneumoniae*, *Moraxella catarrhalis*, *M.
tuberculosis* (Table 5).

, *Legionella sp.*
가 .
가
60
5 25%
7 .
2/3 cephalosporin beta-
lactam/beta-lactamase inhibitor , *Legionel-
la sp.*
macrolide
*Legionella sp.*가 rifampin 1 600 1,200
mg 1 2 가 .

1).
cefotaxime ceftriaxone 3
cephalosporin ± macrolide, fluoroquinolone
, cefuroxime ±
macrolide, azithromycin 4).

Table 5. () †

| | |
|--|--|
| : <i>S. pneumoniae</i> , <i>H. influenzae</i> , Polymicrobial (including anaerobic bacteria), Aerobic gram-negative bacilli, <i>Legionella sp.</i> , <i>S. aureus</i> , <i>C. pneumoniae</i> , Respiratory viruses | |
| : <i>M. pneumoniae</i> , <i>Moraxella catarrhalis</i> , <i>M. tuberculosis</i> | |
| : 2/3 cephalosporin | Beta-lactam/beta-lactamase inhibitor ± Macrolide † |
| Fluoroquinolone | |
| . HIV | . |
| † 1/3 1/2 | . |
| ‡ <i>Legionella sp.</i> | macrolide ; <i>Legionella sp.</i> 가 |
| 가 | rifampin 1 900 1,200 mg 2 |
| : 5 25%, | 7 |
| | cefotaxime, ceftriaxone macrolide Fluoroquinolone |

Table 6. (1)

| | |
|----|------------------------------------|
| 1. | >30 |
| 2. | PaO2/FiO2 ratio <250 mmHg (FiO2:) |
| 3. | |
| 4. | , 48 가 50% 가 |
| 5. | (90 mmHg 60 mmHg). |
| 6. | 4 |
| 7. | 20 ml , 4 80ml , |

5. 가 Pseudomonas 가 3 cephalosporin imipenem/cilastatin, fluoroquinolones . *Legionella sp.*가 rifampin 가 . *P. aeruginosa* , 3 cephalosporin, imipenem, ciprofloxacin aminoglycoside (Table 7)l. *P. aeruginosa* 가 가 30 가 가 , BUN 19.6 mg/dL , 가 가 60 mmHg 2). l), *Streptococcus pneumoniae*, *Legionella pneumophila*가 가 , 가 가 . *Pseudomonas aeruginosa* 가 가 . *M. pneumoniae*, Respiratory viruses , *H. influenzae*, *M. tuberculosis* . 50% 가 가 *Legionella sp.* macrolide *Legionella sp.*, *Mycoplasma*,

Table 7. †

| | |
|---|--|
| | : <i>S. pneumoniae</i> , <i>Legionella sp.</i> , Aerobic gram-negative bacilli, <i>M. pneumoniae</i> , Respiratory viruses |
| | : <i>H. influenzae</i> , <i>M. tuberculosis</i> |
| | : Macrolide ‡ |
| | PLUS |
| 3 | cephalosporin with anti- <i>Pseudomonas</i> activity# antipseudomonal agents such as imipenem/cilastatin, fluoroquinolones |

| | |
|---|---|
| . HIV | . |
| † 1/3- 1/2 | . |
| ‡ <i>Legionella sp.</i> 가 | rifampin 가 |
| # <i>P. aeruginosa</i> aminoglycoside | , 3 cephalosporin, imipenem, ciprofloxacin |
| - 50% | |
| - | <i>Legionella sp.</i> 가 |
| <i>Chlamydia</i> , virus 가 | 6. 가 |
| erythromycin, azithromycin, fluoroquinolone cefotaxime, ceftriaxone, beta lactam/beta lactam inhibitor | , 가 . <i>Pseu- domonas aeruginosa</i> |
| | 4. |
| Pseudomonas penicillin, carbapenem, cefepime macrolide | , |
| fluoroquinolone aminoglycoside | 가 가 |
| 가 fluoroquinolone | . |
| clindamycin | . |
| fluoroquinolone clindamycin metronidazole | rifampin |
| , beta lactam/beta lactam inhibitor 4. | , legionella menig- cococcus mycoplasma, chlamydia, |
| Beta lactam/beta lactam inhibitor ampicillin/ sulbactam, ticarcillin/clavulanic acid, piperacillin/tazo- bactam | methicilline 가 . cycloserine , chlamydia 가 , aminoglycosides kanamycin, |
| ticarcillin/clavulanic acid, piperacillin/tazobactam 4. | amikacin 가 . Mycoplasma |
| 3 cephalosporins | , |
| 2 cephalosporin | , |
| cefotaxime ceftriaxone Table 5 | . |
| | 가 . quinolones, beta- lactam penicillins/lactamase inhibitor (: amoxicillin/clavulanic acid), macrolide, |
| <i>Pseudomonas aeruginosa</i> 가 ceftazidime | amikacin, cephalosporin(, ceforanide) |
| cefoperazone 가 3 cephalosporin , | 가 |
| 가 imipenem/cilastatin, ciprofloxacin | . |
| fluoroquinolones 1). | 가 가가 |
| aminoglycosides | , |

가 1-4. *S. pneumoniae* 7- 10 , 24 가
(72 , 5) 1,4. 가
M. pneumoniae, *C. pneumoniae* 14 95% 1,7).
(21) . *Legionnaires* 가
14 , 21
4). *Enterobacteriaceae*, *Pseudomonas*
21 , 42 , *Staphylococcus* 21 48 72
2). 14- 21
, 가 azithromycin 5 가 가 72
. Azithromycin half-life가 11- 14 eryth- 가
romycin 1.5- 3 , clarithromycin 3.8 2 4 , *S.*
가 *pneumoniae* 2.5
azithromycin *pneumoniae* 1- 2 6- 7 . *M.*
1). 42- 56 ,
4- 5 2). , *Legionella*
가 *Legionella*
5 가 4
가 , 20 40% 7
가 1,6).
doxycycline, minocycline, chloramphenicol, sulfame- *S. pneumoniae* 50
thoxazole/trimethoprim, fluoroquinolones X- ray 4 60% ,
가 1). 가 ,
가 X- ray 25% 4 X- ray
가 . *M. pneumoniae*
metronidazole, amoxicillin/clavulanic acid, amoxicillin, X- ray , *Legionella sp.*
clindamycin 가 가
가 가 2). (Pore of Kohn, channel of
Cefuroxime, ampicillin, erythromycin, flucloxacillin 가 Lambert 가)
가 ceftriaxone cefixime, cefotaxime 가
cefepodoxime 가
2). Ceftazidime ciprofloxacin 가 (red hepatization)
가 (gray hepatization) (consolidation)
가 가

