A-133 ANTIMICROBIAL POTENCY AND SPECTRUM OF MEROPENEM VERSUS ELEVEN BROAD-SPECTRUM AGENTS: REPORT FROM THE UNITED STATES (US) MYSTIC PROGRAM (2003)

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ABSTRACT

Background: The Meropenem (MEM) Yearly Susceptibility Test Information Collection (MYSTIC) Program is a longitudinal global surveillance network of >100 sites that use carbapenems. In the US, 15 medical centers participate annually by forwarding 200 bacterial isolates to the central monitoring laboratory (JMI Laboratories, North Liberty, IA).

Methods: All bacterial strains were tested for susceptibility (S) to 12 broad-spectrum antimicrobials using National Committee for Clinical Laboratory Standards (NCCLS) reference methods and interpretive criteria. In 2003, 2,848 bacterial isolates were collected and tested for S against two carbapenems (CARB), 3 cephalosporins, aztreonam (AZT), piperacillin/tazobactam (P/T), 2 aminoglycosides, and 2 fluoroquinolones (FO)

Results: Against 1,439 Enterobacteriaceae (ENT) strains, MEM was the most potent antimicrobial agent (MIC₉₀, 0.06 and 0.03 μ g/ml, respectively). The rank order of % resistance (R) was MEM (0.0% R) < imipenem (IMP) < cefepime (CPM) < ceftriaxone < P/T < tobramycin (TOB) < AZT < ceftazidime < gentamicin < levofloxacin < ciprofloxacin (CIPRO; 8.6%). Against 621 non-fermentative Gram-negative bacilli (NFGNB; 90% P. aeruginosa and Acinetobacter spp.), MEM, IMP and TOB were the most active agents (MIC₉₀, 8 µg/ml). MEM demonstrated the highest % S rate at 87.8% followed by IMP, TOB and CPM. Against oxacillin-S staphylococci, all tested agents demonstrated >95% S rates except for FQs and AZT.

Conclusions: Year 2003 US MYSTIC Program results demonstrated the continued potent activity of the CARB class against all Gram-negative species compared to prior year results. A steady trend toward decreasing S was observed for CIPRO against ENT, NFGNB and oxacillin-S staphylococci. Continued surveillance of these antimicrobial agents appears warranted.

INTRODUCTION

In United States (US) hospital laboratories, up to 50% of all isolates recovered are Gram-negative bacilli and 80% of these belong to the Enterobacteriaceae group. Some of the resistance mechanisms in these organisms that can be monitored by antimicrobial surveillance programs include: B-lactamases, extendedspectrum B-lactamases (ESBLs), inhibitor-resistant ESBLs, stably derepressed AmpC cephalosporinases, KI enzyme hyperproducers, carbapenem-hydrolyzing ß-lactamases, DNA gyrase mutants, and topoisomerase alterations. The carbapenems have demonstrated the broadest antibacterial spectrum of the B-lactam agents available for therapy and retain activity against isolates producing ESBL, AmpC, KI, PER and other enzymes.

The Meropenem Yearly Susceptibility Test Information Collection (MYSTIC) Program is a global, longitudinal antimicrobial resistance surveillance program initiated in 1997 (1999 in the US) to perform post-market surveillance and monitor the continued potency and spectrum of meropenem. Regional monitoring is performed in Europe, North America, Latin America, and the Asia-Pacific with greater than 125 participating medical centers, representing more than 30 countries. The MYSTIC Program participant sites are medical centers actively utilizing meropenem for the treatment of serious infections.

In this study, we report on the antimicrobial activity of meropenem and 11 comparator broad-spectrum antimicrobial agents tested against groups of bacterial pathogens collected in 2003 within the MYSTIC Program. Included in this monitored year was the market leading fluoroquinolone, levofloxacin. These susceptibility results can be used to assist participant institutions with empiric treatment choices and to compare local resistance rates to national and international resistance frequencies.

MATERIALS AND METHODS

Participant Centers: Fifteen medical centers geographically distributed across the United States participated in the MYSTIC Program in 2003. All medical centers continued participation from the previous year and included six of the original 10 centers recruited in 1999.

Bacterial Isolates: Each center was requested to submit 140 Gram-negative and 60 Gram-positive aerobic strains isolated from serious infections to the central monitoring laboratory (JMI Laboratories, North Liberty, IA). Organism identifications were confirmed by colony morphology, biochemical tests and/or the Vitek System (bioMerieux, Hazelwood, MO). Only those isolates from species with known intrinsic mechanisms of resistance to carbapenems were excluded (Enterococcus species, oxacillin-resistant staphylococci, and Stenotrophomonas maltophilia). A total of 2,060 Gram-negative bacilli and 788 Gram-positive isolates were processed.

MATERIALS AND METHODS CONTINUED

Susceptibility Testing: Isolates were tested using National Committee for Clinical Laboratory Standards (NCCLS) reference methods with minimum inhibitory concentrations (MICs) being determined by procedures in M7-A6. MIC results were determined for meropenem, imipenem, ceftriaxone, ceftazidime, cefepime, aztreonam, ciprofloxacin, levofloxacin, piperacillin/tazobactam, gentamicin, tobramycin and oxacillin (Staphylococcus only). Susceptibility and resistance was determined by NCCLS interpretive criteria published in M100-S14. NCCLS screening criteria (MIC, $\geq 2 \mu g/ml$ against ceftazidime or ceftriaxone or aztreonam) for the presence of ESBL enzymes were applied to Escherichia coli and Klebsiella spp. Each screen-positive isolate was tested with a disk approximation method to show a synergistic clavulanic acid effect with either ceftazidime or cefotaxime. The Senda et al. [1996] criteria for resistance to carbapenems (MIC, > 8 µg/ml) and ceftazidime (MIC, > 16 µg/ml) were applied to Pseudomonas aeruginosa and Acinetobacter spp. to screen for the presence of metallo-B-lactamase (MBL) enzymes. Confirmation of a MBL was performed with a disk approximation method using imipenem and meropenem demonstrating a synergistic effect with EDTA or 2-mercaptopropionic acid. Quality control was assured by concurrent testing with American Type Culture Collection (ATCC) strains including Enterococcus faecalis ATCC 29212, E. coli ATCC 25922, P. aeruginosa ATCC 27853, Staphylococcus aureus ATCC 29213 and S. pneumoniae ATCC 49619.

RESULTS

- (Table I).
- (91.0%) > ciprofloxacin (89.9%; Table 1).
- below 90.0% (Table 1).
- to the carbapenems.
- Table 2).

- the pneumococci.

The two carbapenems demonstrated an excellent spectrum of activity for all Enterobacteriaceae species and groups, with only one strain (Klebsiella oxytoca) showing resistance to imipenem. Imipenem was routinely the least active carbapenem with meropenem four- to 32-fold more active by weight

The rank order of susceptibility against all Enterobacteriaceae isolates tested was: meropenem = imipenem (100.0% susceptible) > cefepime (99.6%) > piperacillin/tazobactam (95.5%) > ceftriaxone (95.4%) > aztreonam (94.8%) > ceftazidime = tobramycin (94.7%) > gentamicin (94.3%) > levofloxacin

The fluoroquinolones consistently demonstrated the lowest percent susceptibility rates of all the agents tested (3.0 - 10.9% resistance), with P. mirabilis, E. coli and Enterobacter spp. isolates falling

Both ceftazidime and aztreonam demonstrated reduced activity against *Enterobacter* isolates (15.2%) resistance) secondary to the hyper-expression of AmpC enzymes (Table 1).

A total of 2.1% of E. coli and 8.6% of Klebsiella species met NCCLS screening criteria for the presence of an ESBL. Sixteen of the 40 (40%) ESBL-screen-positive isolates demonstrated an inhibition by clavulanate and were confirmed as ESBL-producers. All ESBL-containing isolates were susceptible

Against non-fermentative Gram-negative bacilli, only piperacillin/tazobactam against P. aeruginosa and imipenem against Acinetobacter species demonstrated greater than 90.0% susceptibility rates (Table 2). Meropenem was more potent than imipenem against P. aeruginosa isolates with a two- to eightfold lower MIC50 and MIC90, and 3.7 - 59.0% greater susceptibility rate. Against the Acinetobacter species, imipenem was two-fold more potent than meropenem.

The combined rank order of susceptibility results for antimicrobial agents tested against the nonfermentative Gram-negative bacilli was: meropenem (87.8%) > imipenem (85.5%) > tobramycin (85.3%) > cefepime (80.2%) > ceftazidime (79.4%) > gentamicin (78.7%) > piperacillin/tazobactam (78.1%) > ciprofloxacin (65.2%) > levofloxacin (63.8%) > aztreonam (51.7%) > ceftriaxone (18.8%);

All carbapenems and piperacillin/tazobactam were uniformly active against oxacillin-susceptible S. aureus and coagulase-negative staphylococci (Table 3).

Ceftriaxone and cefepime showed comparable susceptibility rates (> 99.0% susceptibility). Significantly lower susceptibility rates were observed for ceftazidime (95.4 - 97.2%) and the aminoglycosides (94.7 - 98.2%) against all staphylococci isolates tested.

Against S. pneumoniae, only one strain (0.6%) was fluoroquinolone-resistant and none of the isolates were cephalosporin-resistant (Table 3). Imipenem was two-fold more potent than meropenem against

1,550 Enterobacternaceae (1		am, 2000).	
		MIC (µg/ml)	
Organism/Antimicrobial agent (no. tested)	50%	90%	Range
Citrobactor SDD $(4)^{b}$			0
Meropenem	0.03	0.03	<0.016-4
Imipenem	0.25	0.5	0.03-4
Ceftriaxone	≤0.25	32	≤0.25->32
Ceftazidime	0.25	>16	≤0.12->16
Cefepime	≤0.12		≤0.12->16
Aztreonam Dia erro eillin /Terro ha eterro	≤I 2	>16	≤I->I6 <i>I28</i>
Gentamicin	2 <1	10	≤1-2120 <1->8
Tobramycin	<	2	< ->8
Ciprofloxacin	 ≤0.25	-	<u>≤</u> 0.25->2
Levofloxacin	≤0.06	2	≤0.06->8
Enterobacter spp. (158)°			
Meropenem	0.03	0.12	≤0.016-2
Imipenem	0.25	I. I.	0.12-2
Ceftriaxone	≤0.25	32	≤0.25->32
Ceftazidime	0.25	>16	≤0.12->16
Cefepime	≤0.12	2	≤0.12->16
Aztreonam Pinorasillin /Tazahastam	≤I 2	>16 22	<u><</u> 1->16 <1.>120
Gentamicin	<	52	≤I->120 <i->8</i->
Tobramycin	<	2	< ->8
Ciprofloxacin	<u>≤</u> 0.25	2	<u>≤0.25->2</u>
Levofloxacin	≤0.06	4	≤0.06->8
F. coli (469)			
Meropenem	<0.016	0.03	<0.016-0.12
Imipenem	0.12	0.12	0.03-1
Ceftriaxone	≤0.25	≤0.25	≤0.25->32
Ceftazidime	≤0.12	0.25	≤0.12->16
Cefepime	≤0.12	≤0.12	≤0.12-4
Aztreonam	<u><</u>	<u> < </u>	≤ -8
Piperacillin/ Iazobactam	$\leq $	2	≤I->128 <i>9</i>
Tobramycin	<u> </u>	2 <1	≤I-20 <i->8</i->
Ciprofloxacin	<0.25	>2	<0.25->2
Levofloxacin	 ≤0.06	8	<u>≤0.06->8</u>
Klabsialla spp (303) ^e			
Meropenem	0.03	0.03	<0.016-8
Imipenem	0.12	0.25	0.06-16
Ceftriaxone	≤0.25	0.5	≤0.25->32
Ceftazidime	≤0.12	0.5	≤0.12->16
Cefepime	≤0.12	0.25	≤0.12->16
Aztreonam	≤I	≤I	≤I->I6
Piperacillin/ Iazobactam	2	8	≤I->128 <i>9</i>
Tobramycin	<u> </u>	<u>≥</u> 1 <1	≤1-20 <1->8
Ciprofloxacin	<0.25	0.5	<u><</u> 0.25->2
Levofloxacin	 ≤0.06	0.5	<u></u> ≤0.06->8
P. mirabilis (154)			
Meropenem	0.06	0.06	<0.016-0.12
Imipenem	0.5	2	0.12-4
Ceftriaxone	≤0.25	≤0.25	≤0.25-0.5
Ceftazidime	≤0.12	≤0.12	≤0.12-0.5
Cefepime	≤0.12	≤0.12	≤0.12-1
Aztreonam	<u>≤</u>	<u>≤</u>	≤
Piperacillin/ Iazobactam	<u>≤</u>	≤I 2	≤I-2 ≤L> 0
Gentamicin	≤ 1	2	≤1-28 <1.>9
Ciprofloxacin	≥ı <0.25	>2	<u>></u> 1-26 <0.25->2
Levofloxacin	<0.06	4	<0.06->8
Correction and (122)	_		_
Meropenem	50.0	0.06	0.03-0.12
Imipenem	0.5	1	0.25-2
Ceftriaxone	≤0.25	0.5	≤0.25->32
Ceftazidime	≤0.12	0.25	≤0.12->16
Cefepime	≤0.12	0.25	≤0.12-2
Aztreonam	≤ 1	≤ 1	≤ -> 6
Piperacillin/Tazobactam	≤I	4	≤I-32
Gentamicin	≤I 2	≤I ∡	≤I->8 <i>9</i>
Ciprofloxacin	<0.25	0.5	<0.25->2

able I. Antimicrobial activity of meropenem compared to 10 broad-spectrum antimicrobial ag

Criteria as published by the NCCLS [2004]

Levofloxacin

Includes C. amalonaticus (six strains), C. braakii (one strain), C. freundii (86 strains), C. koseri (33 strains), C. youngae (one strain), a

0.12

Includes E. aerogenes (46 strains), E. cloacae (94 strains), E. taylorae (one strain), and Enterobacter spp. (17 strains). Percentage of ESBL phenotypes using the NCCLS screening concentration of $\geq 2 \ \mu g/ml$ for ceftriaxone or ceftazidime or aztreonam. Includes K. oxytoca (46 strains), K. ozaenae (one strain), K. pneumoniae (235 strains) and Klebsiella spp. (21 strains). Includes S. liquifaciens (three strains), S. marcescens (112 strains), S. odorifera (one strain), S. rubidaea (one strain) and Serratia spp. (16 strains). Contact details: The JONES Group/JMI Laboratories North Liberty, IA, USA www.jmilabs.com Tel: 319.665.3370

Fax: 319.665.3371

E-mail: ronald-jones@jmilabs.com

International agent (no. tented) 50% 90% Range % susceptible/reature deragineser (no. tented) 50% 90% Range % susceptible/reature deragineser (no. tented) 1 9 0.03.5.716 88.07.3 Imperimin 2 2 26 0.03.5.716 88.07.10.8 Cardepine 4 16 0.03.5.716 85.746.2 Arterconari 2 88 <1.36 89.09.377 Geratamicin 2 88 <1.36 99.495.3 Geratamicin 0.5 8 0.03.32 97.472.3 Lewofoxadin 0.5 8 0.03.32 97.472.3 Cardinizone 16 >322 0.22.5.32 36.03.31 Cardinizone 16 >328 <1.28 61.31/18.0 Cardinizone 16 >328 <1.28 61.31/18.0 Cardinizone 16 >328 <1.28 61.31/18.0 Cardinizone 16 >328 <1.28 61.31/18.0 </th <th>565 non-fermentative Gran</th> <th></th> <th></th> <th></th> <th></th>	565 non-fermentative Gran				
rgansan (cf4) Heropanen Arrayona (cf4) Heropanen 1 8 0.014-312 Cathaxone 2 > 24 Cathaxone 2 = 2025-32 Cathaxone 2 = 2025-32 Cathax			MIC (µg/ml)	
arengtons (§5) Imperential interval i	Organism/Antimicrobial agent (no. tested)	50%	90%	Range	% susceptible/resistan
Heropenem 0.5 8 0.016-32 98.37.3 Imperem 1 8 0.03-32 94.69.5 11.916.30 Certrixione >32 >32 0.5-32 11.916.30 68.371.08 Certrixione 4 1.6 0.25-16 68.371.08 65.716.2 93.371.08 Cartonion 4 4.4 4.1-128 93.397 68.371.08 93.397 Cartonion -2 -8 <18	P. aeruginosa (454)				
Imperent I 8 0.03-32 94.69/3 Cefraxore >32 >32 0.5-32 94.69/3 Cefraxore 2 >16 0.25-16 83.7/16.2 Certraxore 4 6 0.25-16 83.7/16.2 Aztreenam 8 >16 c1-16 65.4/16.5 Deparacilin/Tacbactam 4 64 c1-128 99.0/9.7 Genamicin 0.25 -2 -0.25>-2 65.75.2 Cipte/Doxcin 0.55 8 0.03-32 87.47.2 Imperent 0.25 4 0.03-16 91.91.18 Meroperent 0.5 8 0.03-32 87.47.2 Imperent 0.25 4 0.03-16 63.1/16.0 Cefraixore 16 >32 <0.25-312	Meropenem	0.5	8	≤0.016->32	88.3/7.3
Cathritismic >32 >32 0.3-32 11.968.0 Cefazitine 2 >16 0.25-16 63.7/10.8 Cathoritine 4 16 0.25-16 65.7/16.2 Attreotam 4 64 \leq 1-12 90.397 Gentamicin 2 38 \leq 1-38 84.6/1.0 Cyperflowacin -0.5 8 \geq 0.06-78 65.72.2 66.72.5-2 Cyperflowacin -0.5 8 0.03-16 91.9/1.8 11.906.0 Catritisone 16 >32 20.25-52 36.037.1 Catritisone 16 >32 20.25-52 36.037.1 Catritisone 16 >32 20.25-52 36.037.1 Catritisone 51 8 \$1.1-16 81.1/6.2 Attreotam 8 12 \$2.3 \$2.3 \$2.3 Catritisone 51 78 \$3.1/16.2 \$3.1/16.2 Gentamicin 51 78.4 \$3.1/16.2 \$3.1/16.2	Imipenem	1	8	0.03-32	84.6/9.5
$\begin{tabular}{ c c c c c c c } \hline L2 > 16 & L2 & L$	Ceftriaxone	>32	>32	0.5->32	11.9/63.0
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	Ceftazidime	2	>16	0.25->16	83.7/10.8
Actronam 8 >16 $\leq 1 > 16$ 6.5.416.5 Gentaminion 2 >8 $\leq 1 > 28$ 84.411.0 Gentaminion 2.025 >2 20.25-2 68.722.3 Levoltoxacin 0.025 >2 20.25-2 68.722.3 Levoltoxacin 0.05 8 0.03.22 67.472 Import 0.25 4 0.03.12 67.472 Import 0.25 4 0.03.12 60.73.11 Certratione 16 >32 20.25-92 36.092.14 Certratione 16 >32 20.25-92 36.092.14 Certratione 8 >16 20.25-92 36.092.14 Certratione 8 >16 20.25-92 36.092.11.7 Cartratione 51 >8 21-98 61.31.16.0 Arcronam 51 >8 21-92 36.443.60 Cartration 5.1 >8 20.62-92 60.436.0 Cartration 0.12 0.03	Cefepime	4	16	0.25->16	85.7/6.2
Pertentilin lacobactam 4 64 $\leq 1 > 128$ 90.397 Gentamicin 2 36 $\leq 1 > 8$ $\leq 1 > 2 < 1 > 8 < 1 > 1 > 1 > 1 > 1 > 1 > 1 > 1 > 1 > 1$	Aztreonam	8	>16	≤ -> 6	65.4/16.5
Gentamicin 2 >8 $\leq 1 > 8$ $\leq 1 > 6$ $\leq 1 > 1 > 8$ $\leq 1 > 1 > 1 > 8$ $(1 > 1 > 1 > 1 > 1 > 1 > 1 > 1 > 1 > 1 >$	Piperacillin/Tazobactam	4	64	≤1->128	90.3/9.7
Iobrany:in <1 8 <1-34 9449.3 Ciprofloxacin 0.5 >2 <0.25>2 68.725.3 Levofloxacin 0.5 >8 <0.06>28 65.626.0 Initipation 0.25 4 0.03-16 91.91.8 Meropenen 0.25 4 0.03-16 91.91.8 Ceftratione 16 >32 <0.25>-12 66.0035.1 Ceftratione 8 >16 <0.12>-16 63.1/16.0 Ararenam 8 128 <1>-128 61.1/16.2 Gertamicin ≤1 >8 <1.6	Gentamicin	2	>8	≤1->8	84.6/11.0
Liprofloation 90.25 >2 90.25>-2 66.722.3 Levoltoxicin 0.5 >8 :006>-26 65.672.0 Indepenen 0.5 8 :003-16 91.712.3 Imperen 0.25 4 :003-16 91.718.8 Certrautine 8 >16 :0025-32 :36035.1 Certrautine 8 >16 :012>16 :61.718 Certrautine 8 >16 :012>16 :61.718 Certrautine :1 :8 :1>8 :61.7128 :61.316.2 Certrautine :1 :8 :1>8 :61.7128 :61.316.2 Certrautine :0.5 :2 :2025>2 :58.6405 Levoftoxacin :0.5 :2 :2025>2 :58.6405 Levoftoxacin :0.25 :8 :2006>2 :00.010.0 Instantion :0.12 :0.12 :0.06-0.5 :00.010.0 Instantion :0.12 :0.12 :0.06-0.5 :00.010.0 <td< td=""><td>lobramycin</td><td><u>≤</u>I</td><td>8</td><td>≤1->8</td><td>89.4/9.5</td></td<>	lobramycin	<u>≤</u> I	8	≤1->8	89.4/9.5
Levofloxacin 0.3 >8 20.08-90 65.6220 mippenem 0.5 8 0.03-32 87.47.2 mippenem 0.25 4 0.03-16 91.918.8 Ceftrixone 16 >32 -0.25-32 36.0135.1 Ceftrixone 8 >16 0.25-32 36.0135.1 Ceftrixone 8 >16 0.25-32 46.0135.1 Ceftrixone 8 >16 0.25-36 61.0136.2 Ceftrixone 8 128 ≤1->128 61.012.3 Ceftrixone 1 8 128 ≤1->128 61.012.4 Ceftrixone 3 8 128 ≤1->128 61.012.4 Ceftrixone 0.5 >2 20.25-32 58.6405.2 Levofloxacin 0.5 >2 20.25-32 58.6405.2 Centeria a published by dn NCCLS [D00]. Includes A baumonii (7.3 straine). A leafit (rine straine), and Ametebeter spp. (28 straine). ble 3. Activity of 10 antimicrobial agents tested against 778 Gram-positive coccl in the MYSTIC Program (2002 File 1 2 2 4 0.06-05 100.00.0 Ceftrixone 4 4 4 0.548 100.00.0 Ceftrixone 51 21 21 21 00.06-05 100.00.0 Ceftrixone 51 21 21 21 00.06-05 100.00.0 Ceftrixone 51 21 21 21 00.00.0 Ceftrixone 51 21 21 21-88 94.01.3 Ceftrixone 51 21 21-88 94.01.3 Ceftrixone 51 21 21 21-88 94.01.3 Ceftrixone 51 2.516 97.40.0 Ceftrixone 51 2.518 97.40.0 Ceftrixone 51 2.518 97.40.0 Ceftrixone 51 2.5016-1 83.46.4 Impenem 20.016 0.025 2.0016-1 83.46.4 Impenem 20.016 0.025 2.0016-1 83.46.4 Impenem 20.016 0.03 0.006-1 89.40.0 Ceftrixone 51 2.5016-1	Ciprofloxacin	≤0.25	>2	<u>≤0.25->2</u>	68.7/25.3
Different 0.5 8 0.03-12 87.472 Imperen 0.25 4 0.03-16 91.91.8 Ceftraixone 16 >12 90.25-32 36.003.1 Ceftraixone 16 >12 90.25-32 36.003.1 Ceftraixone 8 >16 0.25-32 36.003.1 Ceftraixone 8 >16 0.025-32 36.003.1 Azrrenam >16 >12 <6.31/18.0	Levofloxacin	0.5	>8	≤0.06->8	65.6/26.0
Meropenen 0.5 8 0.03-42 97.47/2 Impenen 0.25 4 0.03-16 91.971.8 Carbriatone 16 >32 90.25>-32 36.035.1 Carbriatone 8 >16 0.25>-16 64.032.4 Carbriatone 8 >16 0.25>-16 64.032.4 Carbriatone 8 128 ≤1>-128 61.3716.2 Gentamicin ≤1 >8 ≤1->8 63.012.4 Ciprofloxacin 0.5 >2 ≤0.25>-2 58.6400.5 Carbria spublished by the NCCLS [204]. Indudes A beamanni (73 strains). A juni (one strain), A weffi (time strain), and Aonetabeter spp. (28 strains). susceptible/resistra stacilin-susceptible 5. aureus (284) 100.000.0 Imipanen 0.03 0.03 50.016-012 100.000.0 Carbriaxone 4 4 0.54 100.000.0 Imipanen 0.03 0.012 0.00.00.0 100.000.0 Carbriaxone 4 4 0.54 100.000.0	Acinetobacter spp. (111) ^o	0.5	•		
Imperent 0.25 4 0.03-16 91.91.8 Ceftraixone 16 232 2035-32 36.0035.1 Ceftraixone 8 >16 025-716 64.0032.4 Ceftraixone 8 >16 0212-16 61.116.0 Arrenoum >16 >128 61.316.2 61.316.2 Gentamicin <1	Meropenem	0.5	8	0.03-32	8/.4/7.2
Certration 10 >32 Qu23>32 gaturd Solution Certratine 8 >16 Qu23>16 64.012.4 Certratine 8 >16 Qu12>16 61.011.6 Azreonam >16 >1-16 81.07.6 81.07.6 Paper atlin/Tacobactam 8 128 <1>128 61.316.2 Gentamicin ≤1 >8 ≤1>8 63.102.4 Tohranyoin ≤1 >8 ≤1>8 80.011.7 Ciprofloxacin 0.25 >8 20.06>8 60.473.0 Creteria as published by the NCCLS [2094]. Includes A Jaunanna (12) strains), A Janf (one strains), and Adisenducter spp. (28 strains). 50.8 90% Range % susceptible/resistar Activity of 10 antimicrobial agents tested against 778 Gram-positive coccl in the MYSTIC Program (2002) 100.000.0 100.000.0 Imigenem 0.03 0.03 ≤0.016-0.12 100.000.0 Certeratine 8 2.16 97.20.0 100.000.0 Certeratine 9 8 2.1-2 100.000.0	Imipenem	0.25	4	0.03-16	91.9/1.8
Cettagine B >16 0.12>16 61.02 61.02 61.	Ceftriaxone	16	>32	<u><0.25->32</u>	36.0/35.1
Letterprint s ≥ 16 ≤0.12/16 63.11/8.0 Aztronam >> 16 >16 ≤1->16 81.167.6 Piperacilin/Tacobactam 8 128 ≤1->16 81.07.6 Gentamicin ≤1 >8 ≤1->8 82.0/11.7 Ciperificacin 0.5 >2 ≤0.25->2 83.6/40.5 Levelfoxacin 0.25 >8 <0.06->8 60.4/36.0 Criteria a published by the NCCLS (2004). Indudes A bournamit (73 straim). A junit (one straim). and Acheteobacter spp. (28 strains). Activity of 10 antimicrobial agents tested against 778 Gram-positive cocci in the MYSTIC Program (2002 regeneration (Antimicrobial agent, (no. tested) 50% 90% Range % susceptible/resistan vacillin-susceptible 5. aureus (284) 100.00.0 Ceftraixone 4 4 0.5-8 100.00.0 Ceftraixone 2 4 0.5-4 100.00.0 Ceftraixone 2 4 0.5-4 100.00.0 Ceftriaxone 2 4	Certazidime	8	>16	0.25->16	64.0/32.4
Activation >16 >16 ≤1-518 61.167.6 81.167.6 Gentamicin <1	Cetepime	8	>16	<u><</u> 0.12->16	63.1/18.0
riperaction c 1.28 ≤1-2.8 61.316.2 Gentamicin <1	Aztreonam	>16	>16	≤I->16 <i>100</i>	8.1/67.6
Generation ≤1 ≥8 ≤1-≥8 63.1/32.4 Tobramycin ≤1 >8 ≤1-≥8 62.01-7 Ciprofloxacin 0.5 >2 ≤0.25-22 58.6440.5 Civerofloxacin 0.25 >8 ≤0.06-28 60.4/36.0 Criteria as published by the NCCLS [2004]. Includes A baumonni (73 strains). A Juni (one strains). and Adinetobacter spp. (28 strains). stable 3. Activity of 10 antimicrobial agents tested against 778 Gram-positive coccl in the MYSTIC Program (2002) regarding Number of the strains). A Juni (one strains). A Moffi (nine strains). and Adinetobacter spp. (28 strains). strains). stable 3. Activity of 10 antimicrobial agents tested against 778 Gram-positive coccl in the MYSTIC Program (2002) regarding Number of the strains). Strains). Strains). meropenem 0.12 0.12 0.06-0.5 00.00.0 Imperem 0.03 0.03 <0.016-0.12	Piperacillin/ lazobactam	8	128	<u>≤1->128</u>	61.3/16.2
Looranycin ≤1 >28 ≤1-28 62.025-2 58.640.05 Ciprofloxacin 0.25 >8 ≤0.06->8 60.4/36.0 Creatia a published by the NCCLS [2004]. Includer: A baumannii (73 strains). A lonif (nine strains), and Acinetobacter spi. (28 strains). . sble 3. Activity of I 0 antimicrobial agents tested against 778 Gram-positive coccl in the MYSTIC Program (2002) rganism/Antimicrobial agent (no. tested) 50% 90% Range % susceptible/resistar viacillin-susceptible 5. ourcus (284) Meropenen 0.12 0.12 0.06-0.5 . . . Ceferiazone 4 4 0.5-3 Ceferiazone 2 4 0.5-4 Piperacillin/Tazobactam ≤1 2 ≤1-88 Imponem .0.06 .0.12 .0.02-5> 	Gentamicin	≤I	>8	≤1->8	63.1/32.4
Leprotoxacin 0.5 >2 ≤0.25>2 58.64/0.5 Levofloxacin 0.25 >8 ≤0.06>8 60.4/36.0 Criteria as published by the NCCLS [2004]. Includes A. bournonnii (73 strains). A <i>lunii</i> (one strains). and Adineobactor spp. (28 strains). table 3. Activity of 10 antimicrobial agents tested against 778 Gram-positive coccl in the MYSTIC Program (2003 Microsoft 10 antimicrobial agents tested against 778 Gram-positive coccl in the MYSTIC Program (2003) maintering of the strains of the	lobramycin	≤I	>8	≤1->8	82.0/11.7
Levoloxacin 0.25 >8 2006-28 60.4/36.0 Criteria as published by the NCCLS [2004]. Includes A baumannii (73 strains), A juni (one strains), and Acinetobacter spp. (28 strains).	Ciprofloxacin	0.5	>2	<u>≤0.25->2</u>	58.6/40.5
Criteria as published by the NCCLS [2004]. Includes A bournommi (23 straim). A lumfi (nine straim), and Adinetoboeter spp. (28 straim). Activity of 10 antimicrobial agents tested against 778 Gram-positive cocci in the MYSTIC Program (2003) MIC (µg/m) rganism/Antimicrobial agent (no. tested) 50% 90% Range % susceptible/resistar MIC (µg/m) Gene (2 4 0.54 100.000.0 Cefapine 2 4 0.05 200.00.00 Gene (2 4 0.54 100.000.0 Gene (2 5 1 5) 20.25-22 9.15/6.7 Colspan= 20.25 2 2 <td>Levofloxacin</td> <td>0.25</td> <td>>8</td> <td><u>≤0.06->8</u></td> <td>60.4/36.0</td>	Levofloxacin	0.25	>8	<u>≤0.06->8</u>	60.4/36.0
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Gentamicin ≤ 1 ≤ 1 $\leq 1 ->8$ $98.2/1.4$ Tobranycin ≤ 1 ≤ 1 $\leq 1->8$ $94.7/4.2$ Ciprofloxacin ≤ 0.25 1 $\leq 0.25 > 2$ $91.5/6.7$ Levofloxacin $c 0.12$ 0.5 $c 0.6->8$ $94.7/4.2$ Stadillin-susceptible CoNS (173)* 0.12 0.5 $c 0.06->8$ $94.7/4.2$ Meropenem 0.06 0.12 $0.03-0.5$ $100.0/0.0$ Imipenem ≤ 0.016 $\leq 0.016-0.06$ $100.0/0.0$ Ceftriaxone14 $0.5-16$ $99.4/0.0$ Ceftazidime48 $2->16$ $95.4/0.6$ Cefepime 0.5 2 $c 1.2-16$ $99.4/0.0$ Gentamicin ≤ 1 $\leq 1-2$ $100.0/0.0$ Gentamicin ≤ 0.25 ≥ 2 $c 0.25-2$ $82.1/1.7.9$ Levofloxacin 0.025 8 $c 0.06->8$ $83.8/13.3$ pneumoniae (157) $Meropenem$ ≤ 0.016 0.5 $\leq 0.016-1$ $83.4/6.4$ Imipenem ≤ 0.016 0.5 $\leq 0.016-1$ $85.4/1.3$ Ceftriaxone ≤ 0.25 1 $\leq 0.25-2$ $94.9/0.0$ Levofloxacin 1 <td>Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftazidime Cefepime</td> <td>agents tested a 50% 0.12 0.03 4 8 2</td> <td>lgainst 778 Gram- MIC (μg/ml 90% 0.12 0.03 4 8 4</td> <td>•positive cocci in the Range 0.06-0.5 ≤0.016-0.12 0.5-8 2-16 0.5-4</td> <td>MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0</td>	Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftazidime Cefepime	agents tested a 50% 0.12 0.03 4 8 2	lgainst 778 Gram- MIC (μg/ml 90% 0.12 0.03 4 8 4	•positive cocci in the Range 0.06-0.5 ≤0.016-0.12 0.5-8 2-16 0.5-4	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0
Tobramycin $\leq I$ $\leq I$ $\leq I ->8$ $94.7/4.2$ Ciprofloxacin $\subseteq 0.25$ I $\subseteq 0.25 ->2$ $91.5/6.7$ Levofloxacin 0.12 0.5 $\leq 0.06->8$ $94.0/3.9$ vxacillin-susceptible CoNS (173)* </td <td>Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftazidime Cefepime Piperacillin/Tazobactam</td> <td>agents tested a 50% 0.12 0.03 4 8 2 ≤I</td> <td>lgainst 778 Gram- MIC (μg/ml 90% 0.12 0.03 4 8 4 2</td> <td>Positive cocci in the Range 0.06-0.5 ≤0.016-0.12 0.5-8 2-16 0.5-4 ≤1-2</td> <td>MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 100.0/0.0 100.0/0.0</td>	Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftazidime Cefepime Piperacillin/Tazobactam	agents tested a 50% 0.12 0.03 4 8 2 ≤I	lgainst 778 Gram- MIC (μg/ml 90% 0.12 0.03 4 8 4 2	Positive cocci in the Range 0.06-0.5 ≤0.016-0.12 0.5-8 2-16 0.5-4 ≤1-2	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 100.0/0.0 100.0/0.0
Ciprofloxacin ≤ 0.25 1 $\leq 0.25 > 2$ $91.5/6.7$ Levofloxacin 0.12 0.5 $\leq 0.06 > 8$ $94.0/3.9$ xacillin-susceptible CoNS (173)* </td <td>Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftazidime Cefepime Piperacillin/Tazobactam Gentamicin</td> <td>agents tested a 50% 0.12 0.03 4 8 2 ≤I ≤I</td> <td>ngainst 778 Gram- MIC (μg/ml) 90% 0.12 0.03 4 8 4 8 4 2 ≤1</td> <td>Positive cocci in the Range 0.06-0.5 ≤0.016-0.12 0.5-8 2-16 0.5-4 ≤1-2 ≤1-2 ≤1->8</td> <td>MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 100.0/0.0 98.2/1.4</td>	Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftazidime Cefepime Piperacillin/Tazobactam Gentamicin	agents tested a 50% 0.12 0.03 4 8 2 ≤I ≤I	ngainst 778 Gram- MIC (μg/ml) 90% 0.12 0.03 4 8 4 8 4 2 ≤1	Positive cocci in the Range 0.06-0.5 ≤0.016-0.12 0.5-8 2-16 0.5-4 ≤1-2 ≤1-2 ≤1->8	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 100.0/0.0 98.2/1.4
Levofloxacin 0.12 0.5 $\leq 0.06 > 8$ $94.0/3.9$ bxacillin-susceptible CoNS (173)*Meropenem 0.06 0.12 $0.03 - 0.5$ $100.0/0.0$ Imipenem ≤ 0.016 $\leq 0.016 - 0.06$ $100.0/0.0$ Ceftraixone14 $0.5 - 16$ $99.4/0.0$ Ceftraizdime48 $2 - 16$ $95.4/0.6$ Ceforine0.52 $\leq 0.12 - 16$ $99.4/0.0$ Piperacillin/Tazobactam ≤ 1 ≤ 1 $\leq 1 - 2$ $100.0/0.0$ Gentamicin ≤ 1 ≤ 1 $\leq 1 - 2$ $100.0/0.0$ Gentamicin ≤ 1 ≤ 1 $\leq 1 - 2$ $100.0/0.0$ Gentamicin ≤ 1 ≤ 1 $\leq 1 - 2$ $100.0/0.0$ Gentamicin ≤ 1 ≤ 1 $\leq 1 - 2$ $100.0/0.0$ Gentamicin ≤ 1 ≤ 1 $\leq 1 - 2$ $100.0/0.0$ Gentamicin ≤ 1 ≤ 1 $\leq 1 - 2$ $100.0/0.0$ Gentamicin ≤ 1 ≤ 1 $\leq 1 - 2$ $100.0/0.0$ Gentamicin ≤ 1 ≤ 1 $\leq 1 - 2$ $100.0/0.0$ Ineuroniae (157) \mathbf{M} \mathbf{M} \mathbf{M} \mathbf{M} Meropenem ≤ 0.016 0.5 $\leq 0.016 - 1$ $\mathbf{83.4/6.4}$ Imipenem ≤ 0.12 1 $\leq 0.25 - 2$ $94.9/0.0$ Cefepime ≤ 0.12 1 $\leq 0.25 - 2$ $94.9/0.0$ Cefepime ≤ 0.016 0.3 $\leq 0.016 - 1$ $98.8/.4$ Imipenem ≤ 0.025 ≤ 1 $\leq 0.25 - 2$ $94.9/0.0$ <	Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftazidime Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin	agents tested a 50% 0.12 0.03 4 8 2 ≤I ≤I ≤I	Igainst 778 Gram- MIC (μg/ml 90% 0.12 0.03 4 8 4 8 4 2 ≤I ≤I	Positive cocci in the Range 0.06-0.5 ≤0.016-0.12 0.5-8 2-16 0.5-4 ≤1-2 ≤1->8 ≤1->8	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 97.2/1.4 98.2/1.4 94.7/4.2
Macropenem 0.06 0.12 0.03-0.5 100.0/0.0 Imipenem ≤ 0.016 ≤ 0.016 ≤ 0.016 -0.06 100.0/0.0 Ceftriaxone I 4 0.5-16 99.4/0.0 Ceftriaxone I 4 0.5-16 99.4/0.0 Ceftriaxone I 4 0.5-16 99.4/0.0 Ceftraidime 4 8 2->16 99.4/0.0 Ceftraidime 4 8 2->16 99.4/0.0 Ceftraidime 4 8 2->16 99.4/0.0 Piperacillin/Tazobactam ≤ 1 $\leq 1 - 2$ 100.0/0.0 Gentamicin ≤ 1 $\leq 1 - 2$ 100.0/0.0 Gentamicin ≤ 1 $\leq 1 - 2$ 96.0/1.2 Tobranycin ≤ 1 2 $\leq 1 - 8$ 96.0/1.2 Levofloxacin 0.25 8 $\leq 0.05 - 52$ 8 $83.8/1.33$ pneumoniae (157) Imipenem < 0.016 0.25 $\leq 0.016 - 1$ $85.4/1.3$ Ceftriaxone < 0.25 1 $< 0.25 - 2 94.9/0.0 C$	Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftazidime Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin	agents tested a 50% 0.12 0.03 4 8 2 ≤I ≤I ≤I ≤0.25	lgainst 778 Gram- MIC (μg/ml 90% 0.12 0.03 4 8 4 2 ≤I ≤I ≤I I	Positive cocci in the 0.06-0.5 ≤0.016-0.12 0.5-8 2-16 0.5-4 ≤1-2 ≤1->8 ≤1->8 ≤0.25->2	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 100.0/0.0 98.2/1.4 94.7/4.2 91.5/6.7
Meropenem0.060.120.03-0.5100.0/0.0Imipenem ≤ 0.016 ≤ 0.016 $\leq 0.016-0.06$ 100.0/0.0Ceftriaxone140.5-1699.4/0.0Ceftazidime482.>1695.4/0.6Cefepime0.52 $\leq 0.12-16$ 99.4/0.0Piperacillin/Tazobactam ≤ 1 ≤ 1 $\leq 1-2$ 100.0/0.0Gentamicin ≤ 1 ≤ 1 $\leq 1-2$ 100.0/0.0Gentamicin ≤ 1 ≤ 1 $\leq 1-8$ 96.0/1.2Tobranycin ≤ 1 2 $\leq 1-8$ 97.1/1.7Ciprofloxacin ≤ 0.25 >2 $\leq 0.25-22$ $\otimes 2.1/17.9$ Levofloxacin 0.25 8 $\leq 0.06-88$ $\otimes 3.8/13.3$ pneumoniae (157) $Meropenem$ ≤ 0.016 0.5 $\leq 0.016-1$ $8.4/6.4$ Imipenem ≤ 0.016 0.25 $\leq 0.016-1$ $8.4/6.4$ Imipenem ≤ 0.016 0.03 $\leq 0.016-1$ $9.4/0.6$ Cefepime ≤ 0.12 1 $< 0.25-2$ $94.9/0.0$ Cefepime < 0.016 0.03 $\leq 0.016-1$ $9.8.8/-d$ Imipenem < 0.016 0.03 $< 0.016-1$ $-/-$ Ceftriaxone < 0.025 < 0.25 $< 0.25-16$ $9.8.2/0.6$ Ceftriaxone < 0.025 <	Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftazidime Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin	agents tested a 50% 0.12 0.03 4 8 2 ≤1 ≤1 ≤1 ≤1 ≤0.25 0.12	ngainst 778 Gram- MIC (μg/ml) 90% 0.12 0.03 4 8 4 2 ≤I ≤I ≤I I 0.5	Positive cocci in the 0.06-0.5 ≤0.016-0.12 0.5-8 2-16 0.5-4 ≤1-2 ≤1-28 ≤1-28 ≤1-28 ≤1-28 ≤1-28 ≤0.25-22 ≤0.06->8	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 100.0/0.0 98.2/1.4 94.7/4.2 91.5/6.7 94.0/3.9
Imipenem ≤ 0.016 ≤ 0.016 $\leq 0.016 - 0.06$ $100.0/0.0$ Ceftriaxone14 $0.5 - 16$ $99.4/0.0$ Ceftazidime48 $2 - > 16$ $95.4/0.6$ Cefepime 0.5 2 $\leq 0.12 - 16$ $99.4/0.0$ Piperacillin/Tazobactam ≤ 1 ≤ 1 $\leq 1 - 2$ $100.0/0.0$ Gentamicin ≤ 1 ≤ 1 $\leq 1 - 2$ $100.0/0.0$ Gentamicin ≤ 1 ≤ 1 $\leq 1 - 2$ $100.0/0.0$ Gentamicin ≤ 1 ≤ 1 $\leq 1 - 2$ $100.0/0.0$ Gentamicin ≤ 1 ≤ 1 $\leq 1 - 2$ $100.0/0.0$ Gentamicin ≤ 1 ≤ 1 $\leq 1 - 2$ $100.0/0.0$ Gentamicin ≤ 1 ≤ 1 $\leq 1 - 2$ $100.0/0.0$ Gentamicin ≤ 1 ≤ 1 $\leq 1 - 2$ $100.0/0.0$ Gentamicin ≤ 1 ≤ 1 $\leq 1 - 2$ $100.0/0.0$ Gentamicin ≤ 0.25 ≥ 2 $\leq 0.25 - 2$ $82.1/17.9$ Levofloxacin 0.016 0.25 $\leq 0.016 - 1$ $83.4/6.4$ Imipenem ≤ 0.016 0.25 $\leq 0.016 - 1$ $85.4/1.3$ Ceftriaxone ≤ 0.25 1 $\leq 0.25 - 2$ $94.9/0.0$ Cefepime ≤ 0.12 1 $< 0.12 - 2$ $96.2/0.0$ Levofloxacin 1 1 $0.5 - 8$ $99.4/0.6$ Ceftriaxone < 0.03 0.06 $\leq 0.016 - 4$ $98.8/-d$ Imipenem < 0.016 0.03 $\leq 0.016 - 4$ $98.8/-d$ Imipenem <td>Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftraidime Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin Oxacillin-susceptible CoNS (173)^b</td> <td>agents tested a 50% 0.12 0.03 4 8 2 ≤1 ≤1 ≤1 ≤1 ≤0.25 0.12</td> <td>lgainst 778 Gram- MIC (μg/ml 90% 0.12 0.03 4 8 4 2 ≤I ≤I 5 1 0.5</td> <td>Positive cocci in the Range 0.06-0.5 ≤0.016-0.12 0.5-8 2-16 0.5-4 ≤1-2 ≤1-28 ≤1->8 ≤1->8 ≤0.25->2 ≤0.06->8</td> <td>MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 98.2/1.4 94.7/4.2 91.5/6.7 94.0/3.9</td>	Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftraidime Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin Oxacillin-susceptible CoNS (173) ^b	agents tested a 50% 0.12 0.03 4 8 2 ≤1 ≤1 ≤1 ≤1 ≤0.25 0.12	lgainst 778 Gram- MIC (μg/ml 90% 0.12 0.03 4 8 4 2 ≤I ≤I 5 1 0.5	Positive cocci in the Range 0.06-0.5 ≤0.016-0.12 0.5-8 2-16 0.5-4 ≤1-2 ≤1-28 ≤1->8 ≤1->8 ≤0.25->2 ≤0.06->8	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 98.2/1.4 94.7/4.2 91.5/6.7 94.0/3.9
CeftriaxoneI40.5-1699.4/0.0Ceftazidime482->1695.4/0.6Cefepime0.52 $\leq 0.12-16$ 99.4/0.0Piperacillin/Tazobactam ≤ 1 ≤ 1 $\leq 1-2$ 100.0/0.0Gentamicin ≤ 1 ≤ 1 $\leq 1-2$ 100.0/0.0Gentamicin ≤ 1 ≤ 1 $\leq 1-2$ 96.0/1.2Tobranycin ≤ 1 2 $\leq 1-8$ 97.1/1.7Ciprofloxacin ≤ 0.25 >2 $\leq 0.25->2$ 82.1/17.9Levofloxacin0.258 $\leq 0.06->8$ 83.8/13.3pneumoniae (157) W W W W Meropenem ≤ 0.016 0.25 $\leq 0.016-1$ 85.4/1.3Ceftriaxone ≤ 0.25 1 $\leq 0.25-2$ 94.9/0.0Cefepime ≤ 0.12 1 $\leq 0.12-2$ 96.2/0.0Levofloxacin11 $0.5->8$ 99.4/0.6Crther Streptococcus spp. (164) ^c W W W Meropenem ≤ 0.016 0.03 $\leq 0.016-1$ $-/-$ Meropenem ≤ 0.016 0.03 $\leq 0.016-1$ $-/-$ Imipenem ≤ 0.016 0.03 $\leq 0.016-1$ $-/-$ Ceftriaxone ≤ 0.25 ≤ 0.25 $\leq 0.25-16$ $98.2/0.6$ Cefepime ≤ 0.12 ≤ 0.12 $\leq 0.12-8$ $98.2/1.6$ Ceftriaxone ≤ 0.25 $\leq 0.25-16$ $98.2/0.6$ Ceftriaxone ≤ 0.25 $\leq 0.12-8$ $98.2/0.6$ Cefepime ≤ 0.15 $\leq 0.12-8$ <	Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftazidime Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin Oxacillin-susceptible CoNS (173) ^b Meropenem	agents tested a 50% 0.12 0.03 4 8 2 ≤I ≤I ≤I ≤0.25 0.12 0.06	ngainst 778 Gram- MIC (μg/ml) 90% 0.12 0.03 4 8 4 2 ≤I ≤I 5 1 0.5 0.12	Positive cocci in the 0.06-0.5 ≤0.016-0.12 0.5-8 2-16 0.5-4 ≤1-2 ≤1->8 ≤1->8 ≤0.25->2 ≤0.06->8 0.03-0.5	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 98.2/1.4 94.7/4.2 91.5/6.7 94.0/3.9 100.0/0.0
Ceftazidime48 $2->16$ $95.4/0.6$ Cefepime 0.5 2 $\leq 0.12-16$ $99.4/0.0$ Piperacillin/Tazobactam ≤ 1 ≤ 1 $\leq 1-2$ $100.0/0.0$ Gentamicin ≤ 1 ≤ 1 $\leq 1-2$ $100.0/0.0$ Gentamicin ≤ 1 ≤ 1 $\leq 1-2$ $100.0/0.0$ Tobranycin ≤ 1 2 $\leq 1-28$ $97.1/1.7$ Ciprofloxacin ≤ 0.25 >2 $\leq 0.25->2$ $82.1/17.9$ Levofloxacin 0.25 8 $\leq 0.06->8$ $83.8/13.3$ pneumoniae (157) W W W W Meropenem ≤ 0.016 0.5 $\leq 0.016-1$ $85.4/1.3$ Ceftriaxone ≤ 0.25 1 $\leq 0.25-2$ $94.9/0.0$ Cefepime ≤ 0.12 1 $\leq 0.12-2$ $96.2/0.0$ Levofloxacin 1 1 $0.5->8$ $99.4/0.6$ Ceftriaxone ≤ 0.12 1 $\leq 0.12-2$ $96.2/0.0$ Levofloxacin 1 1 $0.5->8$ $99.4/0.6$ ther Streptococcus spp. (164)* W W W Meropenem 0.03 0.06 $\leq 0.016-1$ $-/-$ Imipenem ≤ 0.016 0.03 $\leq 0.016-1$ $-/-$ Ceftriaxone ≤ 0.25 ≤ 0.25 $\leq 0.25-16$ $98.2/0.6$ Cefepime ≤ 0.12 ≤ 0.12 $\leq 0.12-8$ $98.2/1.8$ Imipenem ≤ 0.12 $\leq 0.12-2$ $\leq 0.12-2$ $\leq 0.25-16$	Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftazidime Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Evofloxacin Oxacillin-susceptible CoNS (173) ^b Meropenem Imipenem	agents tested a 50% 0.12 0.03 4 8 2 ≤1 ≤1 ≤1 ≤0.25 0.12 0.06 ≤0.016	ngainst 778 Gram- MIC (μg/ml 90% 0.12 0.03 4 8 4 2 ≤I ≤I 1 0.5 0.12 ≤0.016	Positive cocci in the Range 0.06-0.5 ≤0.016-0.12 0.5-8 2-16 0.5-4 ≤1-2 ≤1->8 ≤1->8 ≤1->8 ≤0.25->2 ≤0.06->8 0.03-0.5 ≤0.016-0.06	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 100.0/0.0 98.2/1.4 94.7/4.2 91.5/6.7 94.0/3.9 100.0/0.0 100.0/0.0
Cefepime0.52 $\leq 0.12 - 16$ $99.4/0.0$ Piperacillin/Tazobactam ≤ 1 ≤ 1 $\leq 1 - 2$ $100.0/0.0$ Gentamicin ≤ 1 ≤ 1 $\leq 1 - 28$ $96.0/1.2$ Tobramycin ≤ 1 2 $\leq 1 - 28$ $97.1/1.7$ Ciprofloxacin ≤ 0.25 >2 $\leq 0.25 - 22$ $82.1/17.9$ Levofloxacin 0.25 8 $\leq 0.06 - 28$ $83.8/13.3$ pneumoniae (157) $Meropenem$ ≤ 0.016 0.5 $\leq 0.016 - 1$ $83.4/6.4$ Imipenem ≤ 0.016 0.25 $\leq 0.016 - 1$ $85.4/1.3$ Ceftriaxone ≤ 0.25 1 $\leq 0.25 - 2$ $94.9/0.0$ Cefepime ≤ 0.12 1 $\leq 0.25 - 2$ $94.9/0.0$ Levofloxacin11 $0.5 - 28$ $99.4/0.6$ ther Streptococcus spp. (164)^c $Neropenem$ 0.03 0.06 $\leq 0.016 - 1$ Meropenem ≤ 0.016 0.03 $\leq 0.016 - 1$ $98.8/c^4$ Imipenem ≤ 0.016 0.03 $\leq 0.016 - 1$ $98.8/c^4$ Imipenem ≤ 0.016 0.03 $\leq 0.016 - 1$ e^{-2} Ceftriaxone ≤ 0.25 ≤ 0.25 $\leq 0.25 - 16$ $98.2/0.6$ Ceftriaxone ≤ 0.25 ≤ 0.12 $\leq 0.12 - 8$ $98.2/1.8$ Leveflowating 0.5 e^{-1} e^{-1} e^{-1}	Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftazidime Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin Meropenem Imipenem Ceftriaxone Ceftriaxone Ceftriaxone Gentamicin Tobramycin Ciprofloxacin Levofloxacin Meropenem Imipenem Ceftriaxone	agents tested a 50% 0.12 0.03 4 8 2 ≤1 ≤1 ≤1 ≤0.25 0.12 0.06 ≤0.016 1	lgainst 778 Gram- MIC (μg/ml 90% 0.12 0.03 4 8 4 2 ≤I ≤I I 0.5 0.12 ≤0.016 4	Positive cocci in the Range 0.06-0.5 ≤0.016-0.12 0.5-8 2-16 0.5-4 ≤1-2 ≤1-28 ≤1-28 ≤1-28 ≤0.25-22 ≤0.06->8 0.03-0.5 ≤0.016-0.06 0.5-16	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 100.0/0.0 98.2/1.4 94.7/4.2 91.5/6.7 94.0/3.9 100.0/0.0 100.0/0.0 100.0/0.0 99.4/0.0
Piperacillin/Tazobactam ≤ 1 ≤ 1 $\leq 1 - 2$ $100.0/0.0$ Gentamicin ≤ 1 ≤ 1 $\leq 1 - 2$ $100.0/0.0$ Gentamicin ≤ 1 ≤ 1 $\leq 1 - 2$ $96.0/1.2$ Tobramycin ≤ 1 2 $\leq 1 - 2$ $96.0/1.2$ Ciprofloxacin ≤ 0.25 >2 $\leq 0.25 - 2$ $82.1/17.9$ Levofloxacin 0.25 8 $\leq 0.06 - 28$ $83.8/13.3$ pneumoniae (157) $Meropenem$ ≤ 0.016 0.5 $\leq 0.016 - 1$ $83.4/6.4$ Imipenem ≤ 0.016 0.25 $\leq 0.016 - 1$ $85.4/1.3$ Ceftriaxone ≤ 0.25 1 $\leq 0.25 - 2$ $94.9/0.0$ Cefepime ≤ 0.12 1 $\leq 0.12 - 2$ $96.2/0.0$ Levofloxacin 1 1 $0.5 - 88$ $99.4/0.6$ other Streptococcus spp. (164)^c $Meropenem$ 0.03 0.066 $\leq 0.016 - 1$ Meropenem 0.03 0.066 $\leq 0.016 - 1$ $4/2 - 2$ Imipenem ≤ 0.016 0.03 $\leq 0.016 - 1$ $4/2 - 2$ Meropenem 0.03 0.066 $\leq 0.016 - 1$ $4/2 - 2$ Imipenem ≤ 0.016 0.03 $\leq 0.016 - 1$ $4/2 - 2$ Meropenem ≤ 0.25 $\leq 0.25 - 60.25 - 16$ $98.2/0.6$ Ceftriaxone ≤ 0.25 $\leq 0.25 - 16$ $98.2/0.6$ Ceftpine ≤ 0.12 $\leq 0.12 - 2$ $92.2/1.8$ Levoflowarin ≤ 0.5 $\leq 0.12 - 2$ $92.2/1.2$	Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftazidime Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin Oxacillin-susceptible CoNS (173) ^b Meropenem Imipenem Ceftriaxone Ciprofloxacin Evofloxacin Ocacillin-susceptible CoNS (173) ^b Meropenem Imipenem Ceftriaxone Ceftriaxone Ceftazidime	agents tested a 50% 0.12 0.03 4 8 2 ≤1 ≤1 ≤1 ≤0.25 0.12 0.06 ≤0.016 1 4	lgainst 778 Gram- MIC (μg/ml) 90% 0.12 0.03 4 8 4 2 ≤1 ≤1 1 0.5 0.12 ≤0.016 4 8	Positive cocci in the 0.06-0.5 ≤0.016-0.12 0.5-8 2-16 0.5-4 ≤1-2 ≤1->8 ≤1->8 ≤0.25->2 ≤0.06->8 0.03-0.5 ≤0.016-0.06 0.5-16 2->16	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 100.0/0.0 98.2/1.4 94.7/4.2 91.5/6.7 94.0/3.9 100.0/0.0 100.0/0.0 100.0/0.0 99.4/0.0 95.4/0.6
Gentamicin ≤ 1 ≤ 1 $\leq 1 ->8$ $96.0/1.2$ Tobramycin ≤ 1 2 $\leq 1->8$ $97.1/1.7$ Ciprofloxacin ≤ 0.25 >2 $\leq 0.25 ->2$ $82.1/17.9$ Levofloxacin 0.25 8 $\leq 0.06 ->8$ $83.8/13.3$ pneumoniae (157) $Meropenem$ ≤ 0.016 0.5 $\leq 0.016 - 1$ $83.4/6.4$ Imipenem ≤ 0.016 0.25 $\leq 0.016 - 1$ $83.4/6.4$ Imipenem ≤ 0.016 0.25 $\leq 0.016 - 1$ $85.4/1.3$ Ceftriaxone ≤ 0.25 1 $\leq 0.25 - 2$ $94.9/0.0$ Cefepime ≤ 0.12 1 $\leq 0.12 - 2$ $96.2/0.0$ Levofloxacin11 $0.5 ->8$ $99.4/0.6$ other Streptococcus spp. (164)° $Meropenem$ 0.03 0.06 $\leq 0.016 - 1$ Meropenem 0.03 0.06 $\leq 0.016 - 1$ $98.8/.^d$ Imipenem ≤ 0.016 0.03 $\leq 0.016 - 1$ $-/-$ Ceftriaxone ≤ 0.25 $\leq 0.25 - 5$ $\leq 0.25 - 16$ $98.2/0.6$ Ceftriaxone ≤ 0.25 $\leq 0.25 - 5$ $\leq 0.25 - 16$ $98.2/1.8$ Inviefianceir 0.5 ≤ 0.12 $\leq 0.12 - 2$ $98.2/1.8$	Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftraidime Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin Oxacillin-susceptible CoNS (173) ^b Meropenem Imipenem Ceftriaxone Ceftriacin Cotacillin-susceptible CoNS (173) ^b Meropenem Imipenem Ceftriaxone Ceftriaxone Ceftraidime Ceftraipenem Ceftraipenem Imipenem Ceftraipenem Ceftraipenem <	agents tested a 50% 0.12 0.03 4 8 2 ≤1 ≤1 ≤1 ≤0.25 0.12 0.06 ≤0.016 1 4 0.5	ngainst 778 Gram- MIC (μg/ml 90% 0.12 0.03 4 8 4 2 ≤I ≤I 1 0.5 0.12 ≤0.016 4 8 2	Positive cocci in the 0.06-0.5 ≤0.016-0.12 0.5-8 2-16 0.5-4 ≤1-2 ≤1->8 ≤0.25->2 ≤0.016-0.06 0.5-16 2->16 0.03-0.5 ≤0.12-16	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 100.0/0.0 98.2/1.4 94.7/4.2 91.5/6.7 94.0/3.9 100.0/0.0 100.0/0.0 99.4/0.0 95.4/0.6 99.4/0.0
Tobramycin ≤ 1 2 $\leq 1->8$ $97.1/1.7$ Ciprofloxacin ≤ 0.25 >2 $\leq 0.25->2$ $82.1/17.9$ Levofloxacin 0.25 8 $\leq 0.06->8$ $83.8/13.3$ pneumoniae (157) $=$ $=$ $=$ $=$ Meropenem ≤ 0.016 0.5 $\leq 0.016-1$ $=$ Meropenem ≤ 0.016 0.25 $\leq 0.016-1$ $=$ Ceftriaxone ≤ 0.016 0.25 $\leq 0.016-1$ $=$ Ceftriaxone ≤ 0.25 1 $\leq 0.25-2$ $=$ Cefepime ≤ 0.12 1 $\leq 0.12-2$ $=$ Levofloxacin11 $0.5->8$ $=$ other Streptococcus spp. (164)° $=$ $=$ $=$ Meropenem 0.03 0.06 $\leq 0.016-1$ $=$ Imipenem ≤ 0.016 0.03 $\leq 0.016-1$ $=$ Ceftriaxone ≤ 0.25 ≤ 0.25 $\leq 0.25-16$ $=$ Ceftriaxone ≤ 0.25 $\leq 0.25-16$ $=$ $=$ Ceftriaxone ≤ 0.12 ≤ 0.12 $\leq 0.12-8$ $=$ Meropenem ≤ 0.12 ≤ 0.12 $\leq 0.12-8$ $=$ Meropenem ≤ 0.12 $\leq 0.12-8$ $=$ $=$ Meropenem ≤ 0.12 $\leq 0.12-8$ $=$ $=$ Displane ≤ 0.12 $\leq 0.12-8$ $=$ $=$ </td <td>Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftazidime Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin Oxacillin-susceptible CoNS (173)* Meropenem Imipenem Ceftriaxone Ceftriacin Dotacillin-susceptible CoNS (173)* Meropenem Imipenem Ceftriaxone Ceftriaxone Peropenem Imipenem Ceftriaxone Ceftriaxone Peropenem Imipenem Ceftriaxone Ceftepime Piperacillin/Tazobactam</td> <td>agents tested a 50% 0.12 0.03 4 8 2 ≤1 ≤1 ≤0.25 0.12 0.06 ≤0.016 1 4 0.5 ≤1</td> <td>lgainst 778 Gram- MIC (μg/ml 90% 0.12 0.03 4 8 4 2 ≤I ≤I 1 0.5 0.12 ≤0.016 4 8 2 ≤I ≤I</td> <td>Positive cocci in the Range 0.06-0.5 $\leq 0.016-0.12$ 0.5-8 2-16 0.5-4 $\leq 1-2$ $\leq 1-8$ $\leq 1-2$ $\leq 1-8$ $\leq 0.25-2$ $\leq 0.06-8$ 0.03-0.5 $\leq 0.016-0.06$ 0.5-16 2->16 $\leq 0.12-16$ $\leq 1-2$</td> <td>MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 98.2/1.4 94.7/4.2 91.5/6.7 94.0/3.9 100.0/0.0 100.0/0.0 100.0/0.0 99.4/0.0 95.4/0.6 99.4/0.0 100.0/0.0</td>	Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftazidime Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin Oxacillin-susceptible CoNS (173)* Meropenem Imipenem Ceftriaxone Ceftriacin Dotacillin-susceptible CoNS (173)* Meropenem Imipenem Ceftriaxone Ceftriaxone Peropenem Imipenem Ceftriaxone Ceftriaxone Peropenem Imipenem Ceftriaxone Ceftepime Piperacillin/Tazobactam	agents tested a 50% 0.12 0.03 4 8 2 ≤1 ≤1 ≤0.25 0.12 0.06 ≤0.016 1 4 0.5 ≤1	lgainst 778 Gram- MIC (μg/ml 90% 0.12 0.03 4 8 4 2 ≤I ≤I 1 0.5 0.12 ≤0.016 4 8 2 ≤I ≤I	Positive cocci in the Range 0.06-0.5 $\leq 0.016-0.12$ 0.5-8 2-16 0.5-4 $\leq 1-2$ $\leq 1-8$ $\leq 1-2$ $\leq 1-8$ $\leq 0.25-2$ $\leq 0.06-8$ 0.03-0.5 $\leq 0.016-0.06$ 0.5-16 2->16 $\leq 0.12-16$ $\leq 1-2$	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 98.2/1.4 94.7/4.2 91.5/6.7 94.0/3.9 100.0/0.0 100.0/0.0 100.0/0.0 99.4/0.0 95.4/0.6 99.4/0.0 100.0/0.0
Ciprofloxacin ≤ 0.25 >2 $\leq 0.25 > 2$ $82.1/17.9$ Levofloxacin 0.25 8 $\leq 0.06 > 8$ $83.8/13.3$ pneumoniae (157) $83.4/6.4$ Imipenem ≤ 0.016 0.5 $\leq 0.016 - 1$ $83.4/6.4$ Imipenem ≤ 0.016 0.25 $\leq 0.016 - 1$ $85.4/1.3$ Ceftriaxone ≤ 0.25 1 $\leq 0.25 - 2$ $94.9/0.0$ Cefepime ≤ 0.12 1 $\leq 0.12 - 2$ $96.2/0.0$ Levofloxacin11 $0.5 - > 8$ $99.4/0.6$ ether Streptococcus spp. (164) ^c $98.8/-d$ Imipenem 0.03 0.06 $\leq 0.016 - 1$ $-/-$ Ceftriaxone ≤ 0.25 ≤ 0.25 $\leq 0.25 - 16$ $98.2/0.6$ Ceftriaxone ≤ 0.25 $\leq 0.25 - 20.25 - 16$ $98.2/0.6$ Cefepime ≤ 0.12 $\leq 0.12 - 20.12 - 8$ $98.2/1.8$	Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftazidime Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin Oxacillin-susceptible CoNS (173)* Meropenem Imipenem Ceftriaxone Ceftriaxone Defenem Imipenem Ceftriaxone Ceftriaxone Ceftriaxone Meropenem Imipenem Ceftriaxone Ceftazidime Ceftazidime Ceftazidime Ceftazidime Ceftazidime Ceftazidime Ceftazidime Ceftazidime Cefepime Piperacillin/Tazobactam Gentamicin	agents tested a 50% 0.12 0.03 4 8 2 ≤1 ≤1 ≤0.25 0.12 0.06 ≤0.016 1 4 0.5 ≤1 ≤1 ≤1 ≤1.2 0.05	lgainst 778 Gram- MIC (μg/ml) 90% 0.12 0.03 4 8 4 2 ≤1 ≤1 1 0.5 0.12 ≤0.016 4 8 2 ≤1 ≤1 ≤1 ≤1	Positive cocci in the Range 0.06-0.5 $\leq 0.016-0.12$ 0.5-8 2-16 0.5-4 $\leq 1-2$ $\leq 1-8$ $\leq 1-8$ $\leq 0.25-2$ $\leq 0.06-8$ 0.03-0.5 $\leq 0.016-0.06$ 0.5-16 2->16 $\leq 0.12-16$ $\leq 1-2$ $\leq 1-8$	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 97.2/0.0 100.0/0.0 98.2/1.4 94.7/4.2 91.5/6.7 94.0/3.9 100.0/0.0 100.0/0.0 99.4/0.0 95.4/0.6 99.4/0.0 100.0/0.0 96.0/1.2
Levofloxacin 0.25 8 $\leq 0.06->8$ $83.8/13.3$ pneumoniae (157) \leq \leq 0.016 0.5 \leq $0.016-1$ $83.4/6.4$ Imipenem \leq 0.016 0.25 \leq $0.016-1$ $83.4/6.4$ Imipenem \leq 0.016 0.25 \leq $0.016-1$ $83.4/6.4$ Ceftriaxone \leq 0.25 1 \leq $0.25-2$ $94.9/0.0$ Cefepime \leq 0.12 1 \leq $0.25-2$ $94.9/0.0$ Levofloxacin 1 1 $0.5->8$ $99.4/0.6$ other Streptococcus spp. (164)° 1 1 $0.5->8$ $99.4/0.6$ Meropenem 0.03 0.06 \leq $0.016-4$ $98.8/-d$ Imipenem \leq 0.016 0.03 \leq $0.016-1$ $-/-$ Ceftriaxone \leq 0.25 \leq $0.25-16$ $98.2/0.6$ Cefepime \leq 0.12 \leq 0.12 \leq $0.12-8$ $98.2/1.8$	Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftraidime Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Evofloxacin Oxacillin-susceptible CoNS (173) ^b Meropenem Imipenem Ceftriaxone Ceftriaxone Definition Oxacillin-susceptible CoNS (173) ^b Meropenem Imipenem Ceftriaxone Ceftazidime Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin	agents tested a 50% 0.12 0.03 4 8 2 ≤1 ≤1 ≤0.25 0.12 0.06 ≤0.016 1 4 0.5 ≤1 ≤1 ≤1 ≤1 ≤1 ≤1 ≤1 ≤1 ≤1 ≤1	lgainst 778 Gram- MIC (μg/ml) 90% 0.12 0.03 4 8 4 2 ≤I ≤I 1 0.5 0.12 ≤0.016 4 8 2 ≤I ≤I ≤I 2	Positive cocci in the Range 0.06-0.5 $\leq 0.016-0.12$ 0.5-8 2-16 0.5-4 $\leq 1-2$ $\leq 1-8$ $\leq 1-8$ $\leq 0.25-2$ $\leq 0.06->8$ 0.03-0.5 $\leq 0.016-0.06$ 0.5-16 2->16 $\leq 0.12-16$ $\leq 1-2$ $\leq 1-8$ $\leq 1-8$	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 100.0/0.0 98.2/1.4 94.7/4.2 91.5/6.7 94.0/3.9 100.0/0.0 100.0/0.0 99.4/0.0 95.4/0.6 99.4/0.0 100.0/0.0 95.4/0.6 99.4/0.0 100.0/0.0 96.0/1.2 97.1/1.7
pneumoniae (157)Meropenem ≤ 0.016 0.5 $\leq 0.016-1$ $83.4/6.4$ Imipenem ≤ 0.016 0.25 $\leq 0.016-1$ $85.4/1.3$ Ceftriaxone ≤ 0.25 1 $\leq 0.25-2$ $94.9/0.0$ Cefepime ≤ 0.12 1 $\leq 0.12-2$ $96.2/0.0$ Levofloxacin11 $0.5->8$ $99.4/0.6$ other Streptococcus spp. (164) ^c V V V Meropenem 0.03 0.06 $\leq 0.016-4$ $98.8/-d$ Imipenem ≤ 0.016 0.03 $\leq 0.016-1$ $-/-$ Ceftriaxone ≤ 0.25 ≤ 0.25 $\leq 0.25-16$ $98.2/0.6$ Cefepime ≤ 0.12 ≤ 0.12 $\leq 0.12-8$ $98.2/1.8$	Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftraixone Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin Oxacillin-susceptible CoNS (173) ^b Meropenem Imipenem Ceftriaxone Ceftriaxone Ceftriaxone Gentamicin Tobramycin Ciprofloxacin Meropenem Imipenem Ceftriaxone Gentamicin Tobranycin Ciprofloxacin Gentamicin Tobranycin Ciprofloxacin	agents tested a 50% 0.12 0.03 4 8 2 ≤1 ≤1 ≤1 ≤0.25 0.12 0.06 ≤0.016 1 4 0.5 ≤1 ≤1 ≤1 ≤1 ≤1 ≤1 ≤1 ≤0.25 0.12	lgainst 778 Gram- MIC (μg/ml) 90% 0.12 0.03 4 8 4 2 ≤1 ≤1 1 0.5 0.12 ≤0.016 4 8 2 ≤1 ≤1 ≤1 ≤1 ≤1 2 >2	Positive cocci in the Range 0.06-0.5 $\leq 0.016-0.12$ 0.5-8 2-16 0.5-4 $\leq 1-2$ $\leq 1-8$ $\leq 1-28$ $\leq 1-88$ $\leq 0.25-22$ $\leq 0.06->8$ 0.03-0.5 $\leq 0.016-0.06$ 0.5-16 2->16 $\leq 0.12-16$ $\leq 1-2$ $\leq 1-88$ $\leq 1-28$ $\leq 1-88$ $\leq 0.12-16$ $\leq 1-2$ $\leq 1-88$ $\leq 1->8$ $\leq 0.25->2$	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 97.2/0.0 100.0/0.0 98.2/1.4 94.7/4.2 91.5/6.7 94.0/3.9 100.0/0.0 100.0/0.0 99.4/0.0 95.4/0.6 99.4/0.0 100.0/0.0 95.4/0.6 99.4/0.0 100.0/0.0 96.0/1.2 97.1/1.7 82.1/17.9
Meropenem ≤ 0.016 0.5 $\leq 0.016 - 1$ $83.4/6.4$ Imipenem ≤ 0.016 0.25 $\leq 0.016 - 1$ $85.4/1.3$ Ceftriaxone ≤ 0.25 1 $\leq 0.25 - 2$ $94.9/0.0$ Cefepime ≤ 0.12 1 $\leq 0.12 - 2$ $96.2/0.0$ Levofloxacin11 $0.5 - 88$ $99.4/0.6$ other Streptococcus spp. (164)° $=$ $=$ $=$ Meropenem 0.03 0.06 $\leq 0.016 - 4$ $98.8/ - 4$ Imipenem ≤ 0.016 0.03 $\leq 0.016 - 1$ $-/-$ Ceftriaxone ≤ 0.25 ≤ 0.25 $\leq 0.25 - 16$ $98.2/0.6$ Cefepime ≤ 0.12 ≤ 0.12 $\leq 0.12 - 8$ $98.2/1.8$	Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftazidime Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin Oxacillin-susceptible CoNS (173) ^b Meropenem Imipenem Ceftraixone Ceftraixone Ceftriaxone Ceftriaxone Ceftriaxone Ceftraixone Ceftraixone Ceftraixone Ceftopime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin Ciprofloxacin Levofloxacin	agents tested a 50% 0.12 0.03 4 8 2 ≤I ≤I ≤0.25 0.12 0.06 ≤0.016 I 4 0.5 ≤I ≤I ≤I ≤I ≤I ≤0.25 0.25 0.25 0.25	lgainst 778 Gram- MIC (μg/ml) 90% 0.12 0.03 4 8 4 2 ≤1 ≤1 1 0.5 0.12 ≤0.016 4 8 2 ≤1 ≤1 ≤1 2 ≤1 2 2 8	Positive cocci in the Range 0.06-0.5 $\leq 0.016-0.12$ 0.5-8 2-16 0.5-4 $\leq 1-2$ $\leq 1-8$ $\leq 1-28$ $\leq 1-28$ $\leq 1-28$ $\leq 0.25-22$ $\leq 0.06-88$ 0.03-0.5 $\leq 0.016-0.06$ 0.5-16 2->16 $\leq 0.12-16$ $\leq 1-2$ $\leq 1-28$ $\leq 1-28$ $\leq 0.12-16$ $\leq 1-2$ $\leq 1-88$ $\leq 1-28$ $\leq 0.25-22$ $\leq 0.06-88$	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 98.2/1.4 94.7/4.2 91.5/6.7 94.0/3.9 100.0/0.0 100.0/0.0 100.0/0.0 99.4/0.0 99.4/0.0 99.4/0.0 99.4/0.0 99.4/0.0 100.0/0.0 99.4/0.0 99.4/0.0 100.0/0.0 95.4/0.6 99.4/0.0 100.0/0.0 96.0/1.2 97.1/1.7 82.1/17.9 83.8/13.3
Imipenem ≤ 0.016 0.25 $\leq 0.016-1$ $85.4/1.3$ Ceftriaxone ≤ 0.25 1 $\leq 0.25-2$ $94.9/0.0$ Cefepime ≤ 0.12 1 $\leq 0.12-2$ $96.2/0.0$ Levofloxacin11 $0.5-88$ $99.4/0.6$ other Streptococcus spp. (164)° $=$ $=$ $=$ Meropenem 0.03 0.06 $\leq 0.016-4$ $98.8/-d$ Imipenem ≤ 0.016 0.03 $\leq 0.016-1$ $-/-$ Ceftriaxone ≤ 0.25 ≤ 0.25 $\leq 0.25-16$ $98.2/0.6$ Cefepime ≤ 0.12 ≤ 0.12 $\leq 0.12-8$ $98.2/1.8$	Table 3.Activity of 10 antimicrobialOrganism/Antimicrobial agent (no. tested)Oxacillin-susceptible S. aureus (284)MeropenemImipenemCeftriaxoneCeftrazidimeCefepimePiperacillin/TazobactamGentamicinTobramycinCiprofloxacinLevofloxacinOxacillin-susceptible CoNS (173)bMeropenemImipenemCeftriaxoneCeftriaxoneCeftriaxoneGentamicinTobramycinCiprofloxacinGentamicinCoffepimePiperacillin/TazobactamGentamicinCofrazidimeCefepimePiperacillin/TazobactamGentamicinTobramycinCiprofloxacinLevofloxacinLevofloxacinS. pneumoniae (157)	agents tested a 50% 0.12 0.03 4 8 2 ≤1 ≤1 ≤0.25 0.12 0.06 ≤0.016 1 4 0.5 ≤1 ≤1 ≤1 ≤1 ≤0.25 0.12	lgainst 778 Gram- MIC (μg/ml) 90% 0.12 0.03 4 8 4 2 ≤I ≤I 1 0.5 0.12 ≤0.016 4 8 2 ≤I ≤I ≤I 2 ≤I ≤I 2 2 >2 8	Positive cocci in the Range $0.06-0.5 \le 0.016-0.12$ $0.5-8$ $2-16$ $0.5-4$ $\leq 1-2$ $\leq 1-8$ $\leq 1-8$ $\leq 0.25-2$ $\leq 0.06-8$ $0.03-0.5$ $\leq 0.016-0.06$ $0.5-16$ $2->16$ $\leq 0.12-16$ $\leq 1-2$ $\leq 1-8$ $\leq 1-8$ $\leq 1-8$ $\leq 0.25-2$ $\leq 0.06-8$	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 98.2/1.4 94.7/4.2 91.5/6.7 94.0/3.9 100.0/0.0 100.0/0.0 100.0/0.0 100.0/0.0 99.4/0.0 99.4/0.0 95.4/0.6 99.4/0.0 100.0/0.0 96.0/1.2 97.1/1.7 82.1/17.9 83.8/13.3
Ceftriaxone ≤ 0.25 I $\leq 0.25-2$ $94.9/0.0$ Cefepime ≤ 0.12 I $\leq 0.12-2$ $96.2/0.0$ LevofloxacinII $0.5->8$ $99.4/0.6$ other Streptococcus spp. (164)°VVVMeropenem 0.03 0.06 $\leq 0.016-4$ $98.8/-d$ Imipenem ≤ 0.016 0.03 $\leq 0.016-1$ $-/-$ Ceftriaxone ≤ 0.25 ≤ 0.25 $\leq 0.25-16$ $98.2/0.6$ Cefepime ≤ 0.12 ≤ 0.12 $\leq 0.12-8$ $98.2/1.8$	Table 3.Activity of 10 antimicrobialOrganism/Antimicrobial agent (no. tested)Oxacillin-susceptible S. aureus (284)MeropenemImipenemCeftriaxoneCeftriaxoneCeftazidimeCefepimePiperacillin/TazobactamGentamicinTobramycinCiprofloxacinLevofloxacinOxacillin-susceptible CoNS (173)*MeropenemImipenemCeftriaxoneCeftazidimeCeftazidimeCeftazidimeCeftazidimeCeftazidimeCeftazidimeCiprofloxacinBripenemCiprofloxacinCupofloxacinCiprofloxacinCiprofloxacinCiprofloxacinCiprofloxacinS. pneumoniae (157)Meropenem	agents tested a 50% 0.12 0.03 4 8 2 ≤1 ≤1 ≤0.25 0.12 0.06 ≤0.016 1 4 0.5 ≤1 ≤1 ≤1 ≤1 ≤0.25 0.25 0.25 0.25 0.25 0.25	lgainst 778 Gram- MIC (μg/ml) 90% 0.12 0.03 4 8 4 2 ≤I ≤I 1 0.5 0.12 ≤0.016 4 8 2 ≤I ≤I ≤I 2 ≥2 8 0.5	Positive cocci in the Range 0.06-0.5 $\leq 0.016-0.12$ 0.5-8 2-16 0.5-4 $\leq 1-2$ $\leq 1-8$ $\leq 1-2$ $\leq 1-8$ $\leq 0.25-2$ $\leq 0.06-8$ 0.03-0.5 $\leq 0.016-0.06$ 0.5-16 2->16 $\leq 0.12-16$ $\leq 1-2$ $\leq 1-8$ $\leq 0.12-16$ $\leq 1-2$ $\leq 1-8$ $\leq 0.25-2$ $\leq 0.06-8$ $\leq 0.05-8$ $\leq 0.016-1$	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 100.0/0.0 98.2/1.4 94.7/4.2 91.5/6.7 94.0/3.9 100.0/0.0 100.0/0.0 99.4/0.0 99.4/0.0 99.4/0.0 95.4/0.6 99.4/0.0 100.0/0.0 96.0/1.2 97.1/1.7 82.1/17.9 83.8/13.3 83.4/6.4
Cefepime ≤ 0.12 I $\leq 0.12-2$ 96.2/0.0LevofloxacinII0.5->899.4/0.6other Streptococcus spp. (164)° $=$ $=$ $=$ Meropenem0.030.06 $\leq 0.016-4$ 98.8/-dImipenem ≤ 0.016 0.03 $\leq 0.016-1$ -/-Ceftriaxone ≤ 0.25 ≤ 0.25 $\leq 0.25-16$ 98.2/0.6Cefepime ≤ 0.12 ≤ 0.12 $\leq 0.12-8$ 98.2/1.8	Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftraixone Ceftazidime Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin Oxacillin-susceptible CoNS (173) ^b Meropenem Imipenem Ceftriaxone Ceftriaxone Ceftriaxone Ceftriaxone Ceftriaxone Ceftriaxone Ceftopime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin S. pneumoniae (157) Meropenem Imipenem	agents tested a 50% 0.12 0.03 4 8 2 ≤1 ≤1 ≤0.25 0.12 0.06 ≤0.016 1 4 0.5 ≤1 ≤1 ≤1 ≤1 ≤0.25 0.12 0.06 ≤0.016 1 ≤1 ≤1 ≤1 ≤1 ≤0.25 0.12 0.03 4 8 2 ≤1 ≤1 ≤0.25 0.12 0.06 ≤0.016 1 ≤1 ≤1 ≤1 ≤1 ≤1 ≤0.25 0.12 0.03 4 8 2 ≤1 ≤1 ≤0.25 0.12 0.06 ≤0.016 1 4 0.5 ≤1 ≤1 ≤1 ≤1 ≤1 ≤0.25 0.12 0.06 ≤0.016 1 4 0.5 ≤1 ≤1 ≤1 ≤1 ≤1 ≤0.25 0.12 0.06 ≤0.016 1 4 0.5 ≤1 ≤1 ≤1 ≤1 ≤1 ≤1 ≤1 ≤1 ≤1 ≤1	Igainst 778 Gram- MIC (μg/ml) 90% 0.12 0.03 4 8 4 2 ≤1 ≤1 1 0.5 0.12 ≤0.016 4 8 2 ≤1 ≤1 2 ≤1 ≤1 2 2 8 0.5 0.25	Positive cocci in the Range 0.06-0.5 $\leq 0.016-0.12$ 0.5-8 2-16 0.5-4 $\leq 1-2$ $\leq 1-8$ $\leq 1-28$ $\leq 1-88$ $\leq 0.25-22$ $\leq 0.06-88$ 0.03-0.5 $\leq 0.016-0.06$ 0.5-16 2->16 $\leq 0.12-16$ $\leq 1-2$ $\leq 1-88$ $\leq 1-28$ $\leq 0.12-16$ $\leq 1-2$ $\leq 1-88$ $\leq 1-88$ $\leq 0.25-22$ $\leq 0.06-88$ $\leq 0.016-1$ $\leq 0.016-1$	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 98.2/1.4 94.7/4.2 91.5/6.7 94.0/3.9 100.0/0.0 100.0/0.0 100.0/0.0 100.0/0.0 99.4/0.0 99.4/0.0 95.4/0.6 99.4/0.0 100.0/0.0 95.4/0.6 99.4/0.0 100.0/0.0 96.0/1.2 97.1/1.7 82.1/17.9 83.8/13.3 83.4/6.4 85.4/1.3
Levofloxacin I I 0.5->8 99.4/0.6 other Streptococcus spp. (164)° - - - - Meropenem 0.03 0.06 ≤0.016-4 98.8/-d -/- Imipenem ≤0.016 0.03 ≤0.016-1 -/- -/- Ceftriaxone ≤0.25 ≤0.25 ≤0.25-16 98.2/0.6 -/- Cefepime ≤0.12 ≤0.12 ≤0.12-8 98.2/1.8 -/- -/-	Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftraidime Ceftazidime Ceftoramcin Tobramycin Ciprofloxacin Levofloxacin Oxacillin-susceptible CoNS (173)* Meropenem Imipenem Ceftraixone Ceftraixone Ceftraixone Ceftraixone Gentamicin Tobramycin Ciprofloxacin Beropenem Imipenem Ceftraixone Ceftepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin S. pneumoniae (157) Meropenem Imipenem Ceftriaxone	agents tested a 50% 0.12 0.03 4 8 2 ≤1 ≤1 ≤0.25 0.12 0.06 ≤0.25 0.12 0.06 ≤0.016 1 4 0.5 ≤1 ≤1 ≤1 ≤1 ≤0.25 0.25 0.25 0.25 0.25 0.25 0.25	against 778 Gram- MIC (μg/ml) 90% 0.12 0.03 4 8 4 2 ≤1 ≤1 1 0.5 0.12 ≤0.016 4 8 2 ≤1 ≤1 2 ≤1 ≤1 2 ≥2 8 0.5 0.25 1	Positive cocci in the Range $0.06-0.5 \le 0.016-0.12 \\ 0.5-8 \\ 2-16 \\ 0.5-4 \\ \le 1-2 \\ \le 1-8 \\ \le 1-8 \\ \le 0.25-2 \\ \le 0.06->8 \\ 0.03-0.5 \\ \le 0.016-0.06 \\ 0.5-16 \\ 2->16 \\ \le 0.12-16 \\ \le 1-2 \\ \le 1->8 \\ \le 1->8 \\ \le 1->8 \\ \le 1->8 \\ \le 0.25->2 \\ \le 0.06->8 \\ \le 0.016-1 \\ \le 0.25-2 \\ \le 0.016-1 \\ \le 0.25-2 \\ \le 0.25-2 \\ \le 0.016-1 \\ \le 0.25-2 \\ \le 0.25-2 \\ \le 0.016-1 \\ \le 0.25-2 \\ \le 0.25-2 \\ \le 0.016-1 \\ \le 0.25-2 \\ \le 0.25-2 \\ \le 0.25-2 \\ \le 0.016-1 \\ \le 0.25-2 \\ \le 0.016-1 \\ \le 0.25-2 \\ \le 0.25-2 \\ \le 0.25-2 \\ \le 0.016-1 \\ \le 0.25-2 \\ \le 0.25-2 \\ \le 0.016-1 \\ \le 0.25-2 \\ \le 0.25-2 \\ \le 0.25-2 \\ \le 0.25-2 \\ \le 0.016-1 \\ \le 0.25-2 \\ = 0.25$	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 98.2/1.4 94.7/4.2 91.5/6.7 94.0/3.9 100.0/0.0 100.0/0.0 100.0/0.0 100.0/0.0 99.4/0.0 99.4/0.0 95.4/0.6 99.4/0.0 100.0/0.0 96.0/1.2 97.1/1.7 82.1/17.9 83.8/13.3 83.4/6.4 85.4/1.3 94.9/0.0
Meropenem 0.03 0.06 ≤0.016-4 98.8/-d Imipenem ≤0.016 0.03 ≤0.016-1 -/- Ceftriaxone ≤0.25 ≤0.25 ≤0.25-16 98.2/0.6 Cefepime ≤0.12 ≤0.12 ≤0.12-8 98.2/1.8	Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftraidime Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin Oxacillin-susceptible CoNS (173)* Meropenem Imipenem Ceftriaxone Ceftriaxone Ceftriaxone Gentamicin Tobramycin Ciprofloxacin Bornem Imipenem Ceftraixone Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin S. pneumoniae (157) Meropenem Imipenem Ceftriaxone Cefepime Imipenem Ceftriaxone Cefepime	agents tested a 50% 0.12 0.03 4 8 2 ≤1 ≤1 ≤0.25 0.12 0.06 ≤0.25 0.12 0.06 ≤0.016 1 4 0.5 ≤1 ≤1 ≤1 ≤0.25 0.12	Igainst 778 Gram- MIC (μg/ml) 90% 0.12 0.03 4 8 4 2 ≤1 ≤1 ≤0.016 4 8 2 ≤1 ≤1 2 ≤1 ≤1 2 ≤1 2 ≥1 2 ≥1 2 ≤1 2 >2 8 0.5 0.25 1 1	Positive cocci in the Range 0.06-0.5 $\leq 0.016-0.12$ 0.5-8 2-16 0.5-4 $\leq 1-2$ $\leq 1-8$ $\leq 1-8$ $\leq 0.25-2$ $\leq 0.06-88$ 0.03-0.5 $\leq 0.016-0.06$ 0.5-16 2->16 $\leq 0.12-16$ $\leq 1-2$ $\leq 1-8$ $\leq 0.12-16$ $\leq 1-2$ $\leq 1-88$ $\leq 0.25-2$ $\leq 0.06-88$ $\leq 0.016-1$ $\leq 0.016-1$ $\leq 0.25-2$ $\leq 0.016-1$ $\leq 0.25-2$ $\leq 0.016-1$	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 100.0/0.0 98.2/1.4 94.7/4.2 91.5/6.7 94.0/3.9 100.0/0.0 100.0/0.0 99.4/0.0 95.4/0.6 99.4/0.0 95.4/0.6 99.4/0.0 100.0/0.0 96.0/1.2 97.1/1.7 82.1/17.9 83.8/13.3 83.4/6.4 85.4/1.3 94.9/0.0 96.2/0.0
Meropenem 0.03 0.06 $\leq 0.016-4$ $98.8/-^d$ Imipenem ≤ 0.016 0.03 $\leq 0.016-1$ $-/-$ Ceftriaxone ≤ 0.25 ≤ 0.25 $\leq 0.25-16$ $98.2/0.6$ Cefepime ≤ 0.12 ≤ 0.12 $\leq 0.12-8$ $98.2/1.8$	Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftriaxone Ceftraidime Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin Oxacillin-susceptible CoNS (173) ^b Meropenem Imipenem Ceftriaxone Ceftriaxone Ceftozidime Ceftriaxone Ceftozidime Ceftozidime Ceftozidime Ceftozidime Ciprofloxacin Boramycin Ciprofloxacin Levofloxacin S. pneumoniae (157) Meropenem Imipenem Ceftriaxone Cefepime Levofloxacin S. pneumoniae (157) Meropenem Imipenem Ceftriaxone Cefepime Levofloxacin Cef	agents tested a 50% 0.12 0.03 4 8 2 ≤1 ≤1 ≤0.25 0.12 0.06 ≤0.25 0.12 0.06 ≤0.016 1 4 0.5 ≤1 ≤1 ≤1 ≤0.25 0.12 0.06 0.016 1 4 0.5 0.25 0.25 0.25 0.12 0.06 0.016 1 4 0.5 0.25 0.12 1 1 1 1 1 1 1 1 1 1 1 1 1	Igainst 778 Gram- MIC (μg/ml) 90% 0.12 0.03 4 8 4 2 ≤1 ≤1 1 0.5 0.12 ≤0.016 4 8 2 ≤1 ≤1 ≤1 2 ≥2 8 0.5 0.25 1 1 1	Positive cocci in the Range 0.06-0.5 $\leq 0.016-0.12$ 0.5-8 2-16 0.5-4 $\leq 1-2$ $\leq 1-8$ $\leq 1-2$ $\leq 1-8$ $\leq 0.25-2$ $\leq 0.06-88$ 0.03-0.5 $\leq 0.016-0.06$ 0.5-16 2->16 $\leq 0.12-16$ $\leq 1-2$ $\leq 1-2$ $\leq 1-8$ $\leq 1-2$ $\leq 1-8$ $\leq 0.25-2$ $\leq 0.06-88$ $\leq 0.016-1$ $\leq 0.016-1$ $\leq 0.25-2$ $\leq 0.12-2$ ≤ 0.1	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 98.2/1.4 94.7/4.2 91.5/6.7 94.0/3.9 100.0/0.0 100.0/0.0 100.0/0.0 99.4/0.0 99.4/0.0 95.4/0.6 99.4/0.0 100.0/0.0 96.0/1.2 97.1/1.7 82.1/17.9 83.8/13.3 83.4/6.4 85.4/1.3 94.9/0.0 96.2/0.0 99.4/0.6
Imipenem ≤0.016 0.03 ≤0.016-1 -/- Ceftriaxone ≤0.25 ≤0.25 ≤0.25-16 98.2/0.6 Cefepime ≤0.12 ≤0.12 ≤0.12-8 98.2/1.8	Table 3.Activity of 10 antimicrobialOrganism/Antimicrobial agent (no. tested)Oxacillin-susceptible S. aureus (284)MeropenemImipenemCeftriaxoneCeftriaxoneCeftriaxoneCefepimePiperacillin/TazobactamGentamicinTobramycinCiprofloxacinLevofloxacinOxacillin-susceptible CoNS (173)*MeropenemImipenemCeftazidimeCefepimePiperacillin/TazobactamGentamicinTobramycinCiprofloxacinLevofloxacinGentamicinTobramycinCiprofloxacinLevofloxacinLevofloxacinS. pneumoniae (157)MeropenemImipenemCeftriaxoneCefepimeLevofloxacinS. pneumoniae (157)MeropenemImipenemCefepimeLevofloxacinOther Streptococcus spp. (164)°	agents tested a 50% 0.12 0.03 4 8 2 ≤1 ≤1 ≤0.25 0.12 0.06 ≤0.016 1 4 0.5 ≤1 ≤1 ≤1 ≤1 ≤0.25 0.12 1	Igainst 778 Gram- MIC (µg/ml) 90% 0.12 0.03 4 8 4 2 ≤1 ≤1 ≤1 ≤1 ≤1 ≤1 ≤1 ≤1 ≤2 ≤1 ≤1 ≤1 ≤1 ≥1 ≤1 ≥1 >	Positive cocci in the Range 0.06-0.5 $\leq 0.016-0.12$ 0.5-8 2-16 0.5-4 $\leq 1-2$ $\leq 1-8$ $\leq 0.25-2$ $\leq 0.06-88$ 0.03-0.5 $\leq 0.016-0.06$ 0.5-16 2->16 $\leq 0.12-16$ $\leq 1-2$ $\leq 1-8$ $\leq 0.12-16$ $\leq 1-2$ $\leq 1-8$ $\leq 1-28$ $\leq 0.25-22$ $\leq 0.06-88$ $\leq 0.25-22$ $\leq 0.06-88$ $\leq 0.25-22$ $\leq 0.06-88$ $\leq 0.25-22$ $\leq 0.06-88$ $\leq 0.016-1$ $\leq 0.25-2$ $\leq 0.12-2$ 0.5-88	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 98.2/1.4 94.7/4.2 91.5/6.7 94.0/3.9 100.0/0.0 100.0/0.0 100.0/0.0 99.4/0.0 99.4/0.0 95.4/0.6 99.4/0.0 100.0/0.0 96.0/1.2 97.1/1.7 82.1/17.9 83.8/13.3 83.4/6.4 85.4/1.3 94.9/0.0 96.2/0.0 99.4/0.6
Ceftriaxone ≤0.25 ≤0.25 ≤0.25-16 98.2/0.6 Cefepime ≤0.12 ≤0.12 ≤0.12-8 98.2/1.8	Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftraidime Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin Oxacillin-susceptible CoNS (173)* Meropenem Imipenem Ceftriaxone Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin Gentamicin Tobramycin Ciprofloxacin Levofloxacin S. pneumoniae (157) Meropenem Imipenem Ceftriaxone Cefepime Levofloxacin S. pneumoniae (157) Meropenem Imipenem Ceftriaxone Cefepime Levofloxacin Other Streptococcus spp. (164) ^c	agents tested a 50% 0.12 0.03 4 8 2 ≤1 ≤1 ≤0.25 0.12 0.06 ≤0.25 0.12 0.06 ≤0.016 1 4 0.5 ≤1 ≤1 ≤1 ≤0.25 0.12 1 0.016 0.016 0.03	Igainst 778 Gram- MIC (μg/ml 90% 0.12 0.03 4 8 4 2 ≤1 ≤1 1 0.5 0.12 ≤0.016 4 8 2 ≤1 ≤1 2 ≥2 8 0.5 0.25 1 1 1 1 1 1 0.06	Positive cocci in the Range 0.06-0.5 $\leq 0.016-0.12$ 0.5-8 2-16 0.5-4 $\leq 1-2$ $\leq 1-8$ $\leq 1-8$ $\leq 0.25-2$ $\leq 0.06-88$ 0.03-0.5 $\leq 0.016-0.06$ 0.5-16 2->16 $\leq 0.12-16$ $\leq 1-2$ $\leq 1-88$ $\leq 1-28$ $\leq 1-28$ $\leq 0.12-16$ $\leq 1-2$ $\leq 1-88$ $\leq 1-28$ $\leq 0.25-22$ $\leq 0.06-88$ $\leq 0.016-1$ $\leq 0.016-1$ $\leq 0.25-2$ $\leq 0.016-1$ $\leq 0.25-2$ $\leq 0.016-1$ $\leq 0.25-2$ $\leq 0.016-1$ $\leq 0.25-2$ $\leq 0.016-1$ $\leq 0.25-2$ $\leq 0.016-1$ $\leq 0.25-2$ $\leq 0.016-1$	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 98.2/1.4 94.7/4.2 91.5/6.7 94.0/3.9 100.0/0.0 100.0/0.0 100.0/0.0 99.4/0.0 99.4/0.0 99.4/0.0 100.0/0.0 96.0/1.2 97.1/1.7 82.1/17.9 83.8/13.3 83.4/6.4 85.4/1.3 94.9/0.0 96.2/0.0 99.4/0.6
Cefepime ≤ 0.12 ≤ 0.12 $\leq 0.12.8$ 98.2/1.8 Levelloyeein $\circ 0.5$ $\circ 0.62.2$ $\circ 0.62.2$ $\circ 0.62.2$	Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftraixone Ceftazidime Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin Oxacillin-susceptible CoNS (173) ^b Meropenem Imipenem Ceftriaxone Ceftoriaxone Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin Gentamicin Tobramycin Ciprofloxacin Levofloxacin S. pneumoniae (157) Meropenem Imipenem Ceftriaxone Cefepime Levofloxacin S. pneumoniae (157) Meropenem Imipenem Ceftriaxone Cefepime Levofloxacin	agents tested a 50% 0.12 0.03 4 8 2 ≤1 ≤1 ≤0.25 0.12 0.06 ≤0.016 1 4 0.5 ≤1 ≤1 ≤1 ≤0.25 0.12 1 0.016 0.016 0.03 0.03 0.016	Igainst 778 Gram- MIC (μg/ml) 90% 0.12 0.03 4 8 4 2 ≤1 ≤1 ≤1 ≤1 ≤1 ≤1 ≤1 2 ≤1 ≤1 ≤1 ≤1 ≤1 ≤1 ≥1 ≥1 ≤1 ≥1 ≥1 ≥1 ≥1 ≥1 ≥1 ≥1 ≥1 ≥1 ≥1 ≥1 ≥2 8 0.5 0.25 1 1 1 1 1 0.06 0.03	Positive cocci in the Range 0.06-0.5 $\leq 0.016-0.12$ 0.5-8 2-16 0.5-4 $\leq 1-2$ $\leq 1-8$ $\leq 1-2$ $\leq 1-8$ $\leq 0.25-2$ $\leq 0.06-88$ 0.03-0.5 $\leq 0.016-0.06$ 0.5-16 2->16 $\leq 0.12-16$ $\leq 1-2$ $\leq 1-8$ $\leq 1-28$ $\leq 1-88$ $\leq 1-88$ $\leq 0.25-2$ $\leq 0.06-88$ $\leq 0.016-1$ $\leq 0.016-1$ $\leq 0.25-2$ $\leq 0.12-2$ $\leq 0.016-1$ $\leq 0.25-2$ $\leq 0.12-2$ $\leq 0.12-2$ $\leq 0.016-1$ $\leq 0.25-2$ $\leq 0.12-2$ $\leq 0.12-2$ $\leq 0.016-1$ $\leq 0.25-2$ $\leq 0.016-4$ < 0.016-1	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 98.2/1.4 94.7/4.2 91.5/6.7 94.0/3.9 100.0/0.0 100.0/0.0 99.4/0.0 95.4/0.6 99.4/0.0 100.0/0.0 96.0/1.2 97.1/1.7 82.1/17.9 83.8/13.3 83.4/6.4 85.4/1.3 94.9/0.0 96.2/0.0 99.4/0.6 98.8/-d -/-
	Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftriaxone Ceftazidime Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin Oxacillin-susceptible CoNS (173) ^b Meropenem Imipenem Ceftriaxone Ceftriaxone Ceftriaxone Ceftriaxone Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin S. pneumoniae (157) Meropenem Imipenem Ceftriaxone Cefepime Levofloxacin Other Streptococcus spp. (164) ^c Meropenem Imipenem Ceftriaxone Cefepime Levofloxacin Other Streptococcus spp. (164) ^c Merope	agents tested a 50% 0.12 0.03 4 8 2 ≤1 ≤1 ≤0.25 0.12 0.06 ≤0.25 0.12 0.06 ≤0.016 1 4 0.5 ≤1 ≤1 ≤1 ≤1 ≤0.25 0.12 1 0.016 0.016 0.016 0.016 0.016 0.016 0.016 0.03 0.016 0.03 0.016	Igainst 778 Gram- MIC (μg/ml) 90% 0.12 0.03 4 8 4 2 ≤1 ≤1 1 0.5 0.12 ≤0.016 4 8 2 ≤1 ≤1 2 ≥2 8 0.5 0.25 1 1 1 1 1 1 0.06 0.03 <0.25	Positive cocci in the Range 0.06-0.5 $\leq 0.016-0.12$ 0.5-8 2-16 0.5-4 $\leq 1-2$ $\leq 1-8$ $\leq 1-28$ $\leq 1-88$ $\leq 0.25-22$ $\leq 0.06-88$ 0.03-0.5 $\leq 0.016-0.06$ 0.5-16 2->16 $\leq 0.12-16$ $\leq 1-2$ $\leq 1-88$ $\leq 1-28$ $\leq 1-288$ $\leq 1-2888$ $\leq 1-2888$ $\leq 1-2888$ $\leq 1-2888$ $\leq 1-2888$ $\leq 1-2888$ $\leq 1-2888$ $\leq 1-28888$ $\leq 1-2888888888888888888888888888888888888$	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 98.2/1.4 94.7/4.2 91.5/6.7 94.0/3.9 100.0/0.0 100.0/0.0 100.0/0.0 99.4/0.0 95.4/0.6 99.4/0.0 100.0/0.0 96.0/1.2 97.1/1.7 82.1/17.9 83.8/13.3 83.4/6.4 85.4/1.3 94.9/0.0 96.2/0.0 99.4/0.6 98.8/-d -/- 98.2/0.6
	Table 3. Activity of 10 antimicrobial Organism/Antimicrobial agent (no. tested) Oxacillin-susceptible S. aureus (284) Meropenem Imipenem Ceftriaxone Ceftraidime Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin Oxacillin-susceptible CoNS (173) ^b Meropenem Imipenem Ceftriaxone Ceftriaxone Ceftriaxone Ceftriaxone Ceftriaxone Cefepime Piperacillin/Tazobactam Gentamicin Tobramycin Ciprofloxacin Levofloxacin S. pneumoniae (157) Meropenem Imipenem Ceftriaxone Cefepime Levofloxacin S. pneumoniae (157) Meropenem Imipenem Coftriaxone Cefepime Levofloxacin Other Streptococcus spp. (164) ^c Meropenem <	agents tested a 50% 0.12 0.03 4 8 2 ≤1 ≤1 ≤0.25 0.12 0.06 ≤0.25 0.12 0.06 ≤0.016 1 4 0.5 ≤1 ≤1 ≤1 ≤0.25 0.12 1 0.016 0.016 0.016 0.016 0.016 0.016 0.016 0.012 0.012 0.016 0.012 0.016 0.012 0.016 0.012 0.016 0.012 0.016 0.012 0.016 0.012 0.016 0.012 0.016 0.016 0.016 0.016 0.016 0.016 0.016 0.025 0.12	Igainst 778 Gram- MIC (μg/ml 90% 0.12 0.03 4 8 4 2 ≤1 ≤1 1 0.5 0.12 ≤0.016 4 8 2 ≤1 ≤1 ≤1 2 >2 8 0.5 0.25 1 1 1 1 1 1 0.06 0.03 ≤0.25 <0.12	Positive cocci in the Range 0.06-0.5 $\leq 0.016-0.12$ 0.5-8 2-16 0.5-4 $\leq 1-2$ $\leq 1-8$ $\leq 1-28$ $\leq 2-25-2$ $\leq 0.06-28$ 0.03-0.5 $\leq 0.016-0.06$ 0.5-16 2->16 $\leq 0.12-16$ $\leq 1-2$ $\leq 1-28$ $\leq 1-28$ $\leq 1-28$ $\leq 0.25-22$ $\leq 0.06-28$ $\leq 0.016-1$ $\leq 0.25-2$ $\leq 0.016-1$ $\leq 0.25-2$ $\leq 0.016-1$ $\leq 0.25-2$ $\leq 0.12-2$ 0.5-28 $\leq 0.016-4$ $\leq 0.016-1$ $\leq 0.25-16$ < 0.12-8	MYSTIC Program (2003 % susceptible/resistan 100.0/0.0 100.0/0.0 100.0/0.0 97.2/0.0 100.0/0.0 98.2/1.4 94.7/4.2 91.5/6.7 94.0/3.9 100.0/0.0 100.0/0.0 100.0/0.0 99.4/0.0 99.4/0.0 95.4/0.6 99.4/0.0 100.0/0.0 96.0/1.2 97.1/1.7 82.1/17.9 83.8/13.3 83.4/6.4 85.4/1.3 94.9/0.0 96.2/0.0 99.4/0.6 98.8/-d -/- 98.2/0.6 98.2/1.8

≤0.06-8

1

strain), and CoNS (128 strains).

Includes B-haemolytic Streptococcus spp. (135 strains), viridans group streptococci (28 strains) and S. bovis (one strain).

- = no interpretive criteria for this category.

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CONCLUSIONS

The MYSTIC Program (US) 2003 surveillance sample from 15 participant sites demonstrated the continued, wide spectrum and high potency of meropenem, especially against Enterobacteriaceae and non-fermentative Gram-negative

There has been no significant increase in carbapenem resistance among Gramnegative bacilli or Gram-positive isolates over the five-year monitored period

The carbapenems (meropenem > imipenem) were fully active against ESBLand AmpC-producing enteric bacilli, and monitoring for the possible emergence of MBLs should continue within medical centers actively utilizing carbapenems for the treatment of serious infections.

MYSTIC PROGRAM SITES

insas Children's Hospital (R Jacobs/T Beavers-May); Christiana Care (L Steele-Moore); Columbia byterian Medical Center (P Della-Latta); Creighton University, St. Joseph Hospital (S Cavalieri/M tetter); Denver Health Medical Center (MWilson/A Graepler); Iowa Methodist Medical Center (A ing/L Roller); Kaiser Permanente Medical Group (| Fusco); Ochsner Clinic Foundation (G Pankey/D craft); University Hospitals of Cleveland (M Jacobs/S Bajaksouzian); University of Kentucky Hospital (s/S Overman); University of Texas, MD Anderson Cancer Center (K Rolston/R Prince); University of , ARUP Laboratories, Inc. (A Croft); Veterans' Affairs Medical Center, Portland (D Sewell); Vanderbilt ical Center (C Stratton/R Verrall); and Winthrop University Hospital (P Schoch).

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