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Coastal ASPIRES Antimicrobial Stewardship

Antimicrobial Stewardship is...RIGHT diagnosis, RIGHT drug,
RIGHT dose, RIGHT route, RIGHT interval, RIGHT duration!

IN THIS ISSUE:

- Updated Coastal Antibigram
- Moving Past the Routine Use of Macrolides for all patients with Community-Acquired Pneumonia

COASTAL SITE ENGAGEMENTS:

- 01 Nov 2018 - SGH Pharmacy
- 15 Jan 2019 - Powell River Hospital
- 16 Jan 2019 - Sechelt Hospital

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Question? Call 604-417-8921



Antibiogram Jan - Dec 2017 Sea to Sky CoC



GRAM POSITIVE ORGANISMS

	N	Penicillin *	Ampicillin/Amoxicillin †	ceFAZolin/cephalexin	Ceftriaxone	Doxycycline	Macrolides	Clindamycin	TMP-SMX	Moxifloxacin	Vancomycin	Ciprofloxacin (urine)
<i>Staphylococcus aureus</i> (all)	1386		83		98		82	97	76	100		
methicillin-susceptible	N/A		100		99		85	98	84	100		
methicillin-resistant	N/A		0		97		53	93	43	100		
<i>Staphylococcus lugdenensis</i>	120		99		100		85	99	93	100		
<i>Staphylococcus epidermidis</i>	45		48		85		52	64	77	100		
Viridans group <i>Streptococcus</i>	91	94	94		100	76		86		99	100	
<i>Streptococcus pneumoniae</i>	47	100	100		100	69	78			100	100	
<i>S. pneumoniae</i> (meningitis)	VCH	83			100						100	
<i>Streptococcus pyogenes</i> (GAS)	259	100	100		100	61	73			100	100	
<i>Streptococcus agalactiae</i> (GBS)	158	100	100		100	25	57	61		97	100	
<i>Enterococcus faecalis</i>	505		100								99	55
<i>Enterococcus faecium</i>	59		17								59	5
vancomycin-susceptible	VCH		19								100	1
vancomycin-resistant	VCH		0								0	0

* penicillin predicts all beta lactams for streptococci †= ampicillin predicts piperacillin and imipenem for enterococcus

‡ cefazolin predicts cloxacillin, piperacillin-tazobactam and carbapenems for staphylococci

GRAM NEGATIVE ORGANISMS

	N	Amoxicillin/Ampicillin	Amoxicillin-Clavulanate	Cefazolin*	Ceftriaxone	Ceftazidime	TMP-SMX	Ciprofloxacin	Gentamicin	Piperacillin-Tazobactam	Meropenem	Nitrofurantoin (urine)
<i>Escherichia coli</i>	2533	63	87	90	93		79	83	93	99	100	98
<i>Klebsiella pneumoniae</i>	326	0	94	94	95		94	97	98	98	100	36
<i>Klebsiella oxytoca</i>	80	0	90	83	95		98	98	100	95	99	81
<i>Citrobacter species</i>	94	0	28	3	86		91	97	96	99	100	70
<i>Enterobacter aerogenes</i>	51	0	0	0	88		98	98	100	90	100	8
<i>Enterobacter cloacae</i>	42	0	0	0	73		100	95	98	81	100	18
<i>Proteus mirabilis</i>	230	82	97	47	98		85	87	93	100	100	0
<i>Morganella morganii</i>	50	0	0	0	100		80	86	92	100	100	0
<i>Serratia marcescens</i>	37	0	0	0	89		100	97	100	95	97	0
<i>Pseudomonas aeruginosa</i>	177	0	0	0	0	95		95	97	96	91	0
<i>Acinetobacter</i> (all)	43	0	0	0	0	81	86	93	95	95	98	0

*cefazolin predicts ceftriaxone if not reported

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Azithromycin - Master of Lingerin

Oral Bioavailability/Absorption	Moderate (~40%)
Dosing Regimen (for Atypical Pneumonia)	A total treatment dose of 1.5g (PO/IV) <ul style="list-style-type: none"> • 500mg PO/IV daily x 3 days • 500mg PO/IV x 1 day, then 250mg PO x 4 days
Half-Life	68 to 72 hours
Renal Dose Adjustment	No



Total dose of 1.5g equals 7 days of effective therapy!

What:

- Incidence of atypical pneumonia is **< 2 cases/10,000 adults** in the community.¹
- **Combination of beta-lactam/macrolide therapy** was recommended based on low-quality observational/retrospective studies.¹

So What:

- Recent randomized controlled trials have shown that **beta-lactam monotherapy** is not inferior to **combination of beta-lactam/macrolide therapy** for clinical outcomes such as 90-day mortality and length of stay in hospital.^{1,2,3}

Now What:

- Consider **beta-lactam monotherapy** (ie. Ceftriaxone IV or Cefuroxime PO/IV) for patients with mild-moderate (non-ICU) CAP
 - Mild-Moderate: Pneumonia Severity Index (PSI) class I-III
 - PSI Calculator: <https://www.mdcalc.com/psi-port-score-pneumonia-severity-index-cap>
- Limit **azithromycin** course to **total of 1.5g**

1. Current Infectious Disease Reports (2018) 20:45

2. N Engl J Med. 2015;372:1312

3. Respir Med. 2017;129:145-51

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