Anaerobic Gram Positive Cocci (LTR57854)

Edit Approved By: Dragan, Tatiana (09/21/2021) **Revision: 4.00**

Organism

Anaerobic Gram Positive Cocci

- *Anaerococcus spp.*
- *Anaerosphaera spp.*
- *Atopobium spp. (cocci/bacilli)*
- *Finegoldia spp.*
- *Murdochiella spp.*
- *Parvimonas spp.*
- *Peptostreptococcus spp*
- *Peptococcus spp*
- *Peptoniphilus spp*
- *Ruminococcus spp.*
- *Slackia spp. (cocci/bacilli)*
- *Staphylococcus saccharolyticus*

Clinical

These organisms are part of the normal flora of the skin and oropharynx and may be found in a variety of infections (monomicrobial or polymicrobial) including brain abscess, pleuropulmonary infections, chronic sinusitis, mastoiditis, bacteremia (immunocompromised/post-surgical), osteomyelitis, arthritis, prosthetic joint infections, endocarditis, meningitis and skin/soft tissue (including myositis/fasciitis) as well as obstetrical/gynecological and oral infections.

Usual susceptibility pattern

Most anaerobic cocci should be susceptible to penicillin although some resistance has been noted in *F. magna (*previously *P. magnus), P. micra, P. anaerobius* and *P asaccharolyticus.* Carbapenems are very active against anaerobic Gram positive cocci. Anaerobic gram positive cocci are usually metronidazole susceptible although some resistance has been reported. *S. saccharolyticus* is resistant to metronidazole. Clindamycin resistance is significant. Cephalosporins, macrolides, tetracyclines and quinolones do not have reliable activity, although newer quinolones may be more active.

Susceptibility method

Etest method using Laked Blood Agar incubated anaerobically at 35°C for 48-72 hours, depending on growth characteristics. (Clindamycin – read at 48 hours).

Note: Use 1.0 McFarland suspension in pre-reduced, enriched thioglycollate broth.

Susceptibility reporting

	CSF/ Brain	Blood	Sterile Body Site/ Deep Wound	Comments
Clindamycin			✓	
Meropenem	✓	2	2	2nd line if pen I/R
Metronidazole	✓	✓	✓	For *S. saccharolyticus* report as R **See Special Considerations**
Penicillin	✓	✓	✓	If pen I/R **see Special Considerations**
Piperacillin/ tazobactam		2	2	2nd line if pen I/R

Note: Consult microbiologist regarding the need for susceptibility testing.

Susceptibility testing is recommended if organism is sole isolate from sterile body site. For other sites, or if isolated with other organisms, clinical correlation and correlation with Gram stain is required. Generally, susceptibility testing is not recommended if multiple organisms isolated.

At microbiologist's discretion, add comment:

"These organisms are generally susceptible to penicillins, amoxicillin/clavulanate and metronidazole but have variable susceptibility to clindamycin." **(28328)**

Special consideration

<table>
<tr><td>Penicillin:</td><td>If penicillin I/R:
Perform β-lactamase test.
Do not report β-lactamase result.</td></tr>
<tr><td></td><td><table><tr><th>IF…</th><th>THEN…</th></tr><tr><td>β-lactamase positive</td><td>Report penicillin R</td></tr><tr><td>Penicillin I/R
and
β-lactamase negative</td><td>This may indicate an altered penicillin binding protein mechanism of resistance.
Consult microbiologist
If penicillin I/R and β-lactamase negative report pip/tazo as R.</td></tr></table></td></tr>
<tr><td>Metronidazole:</td><td>Anaerobic gram positive cocci are usually susceptible to metronidazole while aerotolerant gram positive cocci are resistant.
If metronidazole R:
Perform aerotolerance testing to ensure that organism is truly an anaerobe.
Consult microbiologist</td></tr>
<tr><td></td><td>Efficient anaerobiasis must be achieved within 1-2 hours of incubation. Failure to do so may result in false resistance result.</td></tr>
<tr><td></td><td>S. saccharolyticus – report metronidazole as resistant.</td></tr>
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Interpretation

For Etest, report actual MIC result. For interpretation (S, I, or R) report according to the nearest higher doubling dilution **(Appendix 1)**.

Use **CLSI** interpretive document for **Anaerobes.**