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# P0910 Activity of minocycline and comparator agents against clinical *Stenotrophomonas maltophilia* isolates resistant to levofloxacin and/or sulfamethoxazole-trimethoprim

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**Background:** *Stenotrophomonas maltophilia* is an opportunistic pathogen intrinsically resistant to multiple classes of antibiotics. Sulfamethoxazole-trimethoprim and levofloxacin are considered first- and second-line agents but increasing resistance and therapy-limiting toxicities have created an urgent need to identify alternative effective agents. Few studies have evaluated the activity of antibiotics, including recently approved antibiotics, against *S. maltophilia* isolates resistant to levofloxacin and/or sulfamethoxazole-trimethoprim.

**Materials/methods:** The MICs of 37 clinical *S. maltophilia* isolates resistant to levofloxacin and/or trimethoprim/sulfamethoxazole were determined in triplicate according to CLSI guidelines. Modal MICs are reported. The MICs of eravacycline and omadacycline were determined via Etest. Susceptibility was assessed according to CLSI M100-S27 interpretive criteria of *S. maltophilia* for ceftazidime, levofloxacin, minocycline, and sulfamethoxazole-trimethoprim. Interpretative criteria of ceftazidime-avibactam were based on ceftazidime breakpoints for *S. maltophilia*. Agents without approved interpretative criteria for *S. maltophilia* were interpreted according to approved susceptibility breakpoints for Enterobacteriaceae (eravacycline, meropenem-vaborbactam, omadacycline, and tigecycline) or *Pseudomonas aeruginosa* (aztreonam, delafloxacin, and polymyxin B).

**Results:** The $MIC_{50}$ and $MIC_{90}$ for each agent are displayed in Table 1. Minocycline was the most active agent as 97% (36/37) of the isolates were susceptible. Polymyxin B and tigecycline were the only other agents with an $MIC_{50}$ below their respective extrapolated breakpoints. Delafloxacin demonstrated poor activity against most isolates, including those that were levofloxacin-susceptible. 16% (6/37) of isolates were susceptible to ceftazidime-avibactam and all isolates were resistant to meropenem-vaborbactam. Eravacycline and omadacycline displayed susceptibility rates of 22% (8/37) and 41% (15/37), respectively, although these results should be interpreted with caution given the difference in testing methodology.

**Conclusions:** Minocycline had the highest susceptibility rate against *S. maltophilia* isolates resistant to levofloxacin and/or sulfamethoxazole-trimethoprim. Based on this data, minocycline is the lead agent for further studies and should be considered for *S. maltophilia* infections, including those resistant to levofloxacin and/or sulfamethoxazole-trimethoprim.

| | $MIC_{50}$ | $MIC_{90}$ | % Susceptible |
|---|---|---|---|
| **Aztreonam** | >128 | >128 | 3 |
| **Ceftazidime** | 64 | >128 | 16 |
| **Ceftazidime-avibactam** | 64 | 128 | 16 |
| **Meropenem-vaborbactam** | >32 | >32 | 0 |
| **Delafloxacin** | 8 | 16 | 3 |
| **Levofloxacin** | 8 | >16 | 32 |
| **Eravacycline** | 2 | 4 | 22 |
| **Minocycline** | 2 | 4 | 97 |
| **Omadacycline** | 8 | >32 | 41 |
| **Tigecycline** | 1 | 4 | 83 |
| **Polymyxin B** | 0.5 | >8 | 76 |
| **Sulfamethoxazole-trimethoprim** | 8/152 | >8/152 | 38 |