Background: MICs of minocycline are the gold standard antimicrobial susceptibility test and the most predictive for survival in hospitals infected with Acinetobacter baumannii in the presence of levofloxacin or meropenem. The primary objective of this study was to assess whether PCR testing may be the basis for a surrogate test.

Methods:

1. In vitro testing was performed on 258 A. baumannii isolates collected from multiple geographic sources. These isolates were tested for minocycline susceptibility using broth microdilution reference methods and for the PCR test.

2. The full-length tetB gene was predicted to be minocycline resistant. Further PCR testing was done to determine whether the predicted resistance was due to a point mutation in the tetB gene.

Results:

- The tetB test had a sensitivity of 97.1% and a specificity of 89.4% for the prediction of resistant strains.
- The tetB tests had a positive predictive value (PPV) of 93.3%.
- The tetB test had a negative predictive value (NPV) of 90.8%.

Conclusion: PCR testing may be the basis for a surrogate test to predict minocycline resistance in A. baumannii isolates.

References:


