Management of Meningitis due to Antibiotic-resistant Acinetobacter species.

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Acinetobacter meningitis is becoming an increasingly common clinical entity, especially in the postneurosurgical setting, with mortality from this infection exceeding 15%. Infectious Diseases Society of America guidelines for therapy of postneurosurgical meningitis recommend either ceftazidime or cefepime as empirical coverage against Gram-negative pathogens. However, assessment of the pharmacodynamics of these cephalosporins in cerebrospinal fluid suggests that recommended doses will achieve pharmacodynamic targets against fewer than 10% of contemporary acinetobacter isolates. Thus, these antibiotics are poor options for suspected acinetobacter meningitis. From in vitro and pharmacodynamic perspectives, intravenous meropenem plus intraventricular administration of an aminoglycoside may represent a superior, albeit imperfect, regimen for suspected acinetobacter meningitis. For cases of meningitis due to carbapenem-resistant acinetobacter, use of tigecycline is not recommended on pharmacodynamic grounds. The greatest clinical experience rests with use of polymyxins, although an intravenous polymyxin alone is inadvisable. Combination with an intraventricularly administered antibiotic plus removal of infected neurosurgical hardware appears the therapeutic strategy most likely to succeed in this situation. Unfortunately, limited development of new antibiotics plus the growing threat of multidrug-resistant acinetobacter is likely to increase the problems posed by acinetobacter meningitis in the future.