BACKGROUND:

The aim of this study was to delineate mortality indicators in pneumococcal meningitis with special emphasis on therapeutic implications.

METHODS:

This retrospective, multicenter cohort study involved a 15-year period (1998-2012). Culture-positive cases (n=306) were included solely from 38 centers.

RESULTS:

Fifty-eight patients received ceftriaxone plus vancomycin empirically. The rest were given a third-generation cephalosporin alone. Overall, 246 (79.1%) isolates were found to be penicillin-susceptible, 38 (12.2%) strains were penicillin-resistant, and 22 (7.1%) were oxacillin-resistant (without further minimum inhibitory concentration testing for penicillin). Being a critical case (odds ratio (OR) 7.089, 95% confidence interval (CI) 3.230-15.557) and age over 50 years (OR 3.908, 95% CI 1.820-8.390) were independent predictors of mortality, while infection with a penicillin-susceptible isolate (OR 0.441, 95% CI 0.195-0.996) was found to be protective. Empirical vancomycin use did not provide significant benefit (OR 2.159, 95% CI 0.949-4.912).

CONCLUSIONS:

Ceftriaxone alone is not adequate in the management of pneumococcal meningitis due to penicillin-resistant pneumococci, which is a major concern worldwide. Although vancomycin showed a trend towards improving the prognosis of pneumococcal meningitis, significant correlation in statistical terms could not be established in this study. Thus, further studies are needed for the optimization of pneumococcal meningitis treatment.