

The Lebanese LSIDCM

Epidemiology of pneumococcal infections in hospitalised adult patients in Lebanon with a highlight on non-invasive disease

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Abstract

Introduction: *Streptococcus pneumoniae* causes a wide range of infections classified as invasive and non-invasive pneumococcal disease (non-IPD).

Methodology: We retrospectively reviewed over a decade the clinical course and outcome of 103 adult subjects infected with *S. pneumoniae*.

Results: The majority of the subjects (92%) were eligible for pneumococcal vaccination, however none were vaccinated. Most of the infective strains caused non-IPD (64%), with CAP being the leading primary infection (49%). Clinical success was achieved in 71% of the cases and microbiological success in 94% of the cases with available documented follow-up cultures. Yet, 19% of the subjects developed superinfections caused by extensive-drug resistant bacteria with the predominance of ventilator-associated pneumonia (13%). Total in-hospital mortality reached 27% and *S. pneumoniae* infection attributed mortality was 20%. Using multivariate logistic regression, kidney disease and septic shock were independent risk factors for mortality [Odd's Ratio (OR) = 14.96 (2.34–95.45), $p = 0.004$; OR = 5.09 (1.33–19.51), $p = 0.02$, respectively]. On comparing outcome between subjects with IPD and those with non-IPD, death attributed to *S. pneumoniae* infection was found to be significantly higher in subjects with IPD (23%, $p = 0.023$). Nevertheless, clinical success and total in-hospital mortality rates were not statistically different between the two groups ($p = 0.056$, $p = 0.174$, respectively).

Conclusion: *S. pneumoniae* remains a pathogen causing considerable mortality. In adults, non-IPD should be considered of comparable importance as IPD. Increasing pneumococcal vaccine awareness at the healthcare professional and patient levels is essential for increasing vaccine uptake, thus decreasing the incidence, severity and sequelae of pneumococcal disease.

Key words: bacteraemia; invasive pneumococcal disease; pneumonia; serotype; *Streptococcus pneumoniae*; vaccine.

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