

EFFECTS OF STATINS USE ON CLINICAL OUTCOMES IN PATIENTS ADMITTED WITH COMMUNITY-ACQUIRED PNEUMONIA

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OBJECTIVE

- The objective of this study is to evaluate the effect of statins on patients admitted with CAP by assessing CRP levels and length of hospital stay (LOS).

BACKGROUND

- Statins have shown some beneficial impact on patients with community-acquired pneumonia (CAP).
- This was mainly attributed to their pleiotropic effects, which include anti-inflammatory, anti-oxidative, and immuno-modulatory regulation.

METHODS

- A retrospective cross-sectional observational study was carried out over 12 months (June 2016 through June 2017) at a tertiary care university affiliated hospital in Beirut.
- Inclusion criteria included being an adult inpatient admitted for CAP and having at least two CRP levels ordered at various days during hospitalization.
- The response to antibiotic therapy was evaluated by observing a decrease in CRP levels and LOS between the two studied groups.
- The study was performed in accordance with the Declaration of Helsinki and its later amendments and was approved by the institutional review board.

RESULTS

- 151 patients were included in this study: 90 were statin-users and 61 were non-users.
- Base on a Chi-Square test, statin-users had significantly more comorbid conditions such as diabetes, hypertension and renal insufficiency, and both groups had similar percentages of congestive heart failure, COPD, asthma and GERD.
- The severity of pneumonia based on the CURB-65 criteria was comparable between the two groups (using Pearson Chi-Square test).
- Based on an independent sample test, no statistical significance was shown when comparing CRP level (in mg/L) of statin users to nonusers.

	Statin	No statin	p-value
CRP level-DAY 1	17.48	16.45	0.65
CRP level-DAY 3	6.34	6.51	0.85

- The length of hospital stay (in days) was not positively impacted by the use of a statin.

	Statin	No statin	p-value
LOS	8.4	8.8	0.29

- Days to normalization for fever comparing both groups was calculated using cox regression.
- There was no statistically significant difference between statin users and non-users for the time to defervesce (p =0.85).

DISCUSSION

- In this retrospective study, statin use in community-acquired pneumonia did not show a positive impact on inflammatory response measured by using CRP, days to normalization of fever, and length of hospital stay.
- Findings from different studies were controversial: the measured clinical outcomes were 30-day mortality, length of hospital stay, inflammatory mediators, and intensive care unit admission due to pneumonia or a combination of outcomes.
- In most studies, the choice of the statin drug and the dose were not standardized.

CONCLUSION

- In this retrospective cross-sectional study, CAP patients using statin therapy did not show any improvement in their clinical outcomes measured by CRP levels and LOS, compared to patients not on statin therapy.
- Further randomized controlled trials are needed to clarify the role of statins in community-acquired pneumonia.

DISCLOSURE

All authors: Nothing to disclose



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