Author's response to reviews

Title: Predictors of mortality and re-hospitalization in older adults with community-acquired pneumonia: a prospective cohort study

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We have made the following revisions with respect to vitamin E being protective:

Abstract

Hip fracture (odds ratio (OR) = 4.00, 95% confidence interval (CI) = (1.46, 10.96), P = .007), chronic obstructive pulmonary disease (OR = 2.31, 95% CI = (1.18, 4.50), P = .014), cerebrovascular disease (OR = 2.11, 95% CI = (1.03, 4.31), P = .040) were associated with mortality. Male sex (OR = 2.35, 95% CI = (1.13, 4.85), P = .022) was associated with re-hospitalization while vitamin E supplementation was protective (OR = 0.37 (0.16, 0.90), P = .028). Lower socioeconomic status, prior influenza and pneumococcal vaccinations, appropriate antibiotic prescription upon admission, and lower nutrition risk were not significantly associated with mortality or re-hospitalization.

Conclusion: Chronic comorbidities appear to be the most important predictors of death and re-hospitalization in older adults hospitalized with community-acquired pneumonia while vitamin E supplementation was protective.

Results:

Only male sex (OR = 2.35, 95% CI = (1.13, 4.85), P = .022) was significantly associated with re-hospitalization while vitamin E supplementation was protective (OR = 0.37 (0.16, 0.90), P = .028) (Table 3b).

Discussion

Taking vitamin E supplements was protective of re-hospitalization in our study. Vitamin E inadequacy leads to increased prostaglandin (PG)E2 production by alveolar macrophages, a hypothesized mechanism through which vitamin E deficiency may suppress T-cell–mediated immunity [29]. However, the clinical effect on outcomes is not well defined, with some studies showing benefit in those with deficiencies and other studies showing no benefit [30].
Conclusion
Chronic comorbidities appear to be the most important predictors of death and re-hospitalization in older adults hospitalized with community-acquired pneumonia. Vitamin E supplementation also appeared to be protective from (re)hospitalization for any disease following discharge from hospitals for pneumonia infection. Other variables that we tested as potentially modifiable to the in-hospital mortality and rehospitalization did not appear to have any associations.