Effectiveness of pneumococcal polysaccharide vaccine in older adults.

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BACKGROUND: Streptococcus pneumoniae is the chief cause of pneumonia in older adults, but it remains unclear whether use of the pneumococcal polysaccharide vaccine alters the overall risk of community-acquired pneumonia. In a large population of older adults, we assessed the effectiveness of the pneumococcal vaccine. METHODS: In this retrospective cohort study, 47,365 Group Health Cooperative members 65 years of age or older were assessed over a three-year period. The primary outcomes were hospitalization because of community-acquired pneumonia (validated by chart review), pneumonia in patients who were not hospitalized ("outpatient pneumonia," determined from administrative data sources), and pneumococcal bacteremia. The association between pneumococcal vaccination and the risk of each outcome was evaluated by means of multivariate Cox proportional-hazards models, with adjustment for age, sex, nursing-home residence or nonresidence, smoking status, medical conditions, and receipt or nonreceipt of influenza vaccine. RESULTS: During the study period, 1428 cohort members were hospitalized with community-acquired pneumonia, 3061 were assigned a diagnosis of outpatient pneumonia, and 61 had pneumococcal bacteremia. Receipt of the pneumococcal vaccine was associated with a significant reduction in the risk of pneumococcal bacteremia (hazard ratio, 0.56; 95 percent confidence interval, 0.33 to 0.93) but a slightly increased risk of hospitalization for pneumonia (hazard ratio, 1.14; 95 percent confidence interval, 1.02 to 1.28). Pneumococcal vaccination did not alter the risk of outpatient pneumonia (hazard ratio, 1.04; 95 percent confidence interval, 0.96 to 1.13) or of any case of community-acquired pneumonia, whether or not it required hospitalization (hazard ratio, 1.07; 95 percent confidence interval, 0.99 to 1.14). **CONCLUSIONS: These findings support the effectiveness of the pneumococcal polysaccharide vaccine for the prevention of bacteremia, but they suggest that alternative strategies are needed to prevent nonbacteremic pneumonia, which is a more common manifestation of pneumococcal infection in elderly persons.**

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