

Influence of Older Age and Other Risk Factors on Pneumonia Hospitalization in Switzerland in the Pneumococcal Vaccine Era

Werner Albrich, Frank Rassouli, Frederike Waldeck, Christoph Berger & Florent Baty

Pneumococcal pneumonia is a disease of the extremes of age. However, as other traditional risk factors for pneumococcal pneumonia also increase with older age, it is unclear if older age itself should be an indication for pneumococcal vaccination. Therefore, we assessed the effect of age on risk for hospitalization for pneumonia and for pneumococcal pneumonia. Using a national hospitalization dataset, all patients ≥ 16 years hospitalized in a Swiss hospital with a diagnosis of pneumonia or pneumococcal pneumonia between 2002 and 2015 were included. Multivariable logistic regression analysis was used to test the association between age (≥ 50 or ≥ 65 years) and hospitalization for pneumonia or pneumococcal pneumonia after adjusting for pneumococcal vaccine indications. Similar analyses were performed for effect of age on length of stay (LOS) and mortality. Among a total of 17,619,016 hospitalizations a diagnosis of pneumonia was present in 421,760 (2.4%) and a diagnosis of pneumococcal pneumonia in 21,610 (0.12%). Age ≥ 50 years (OR: 3.52 and 2.12, respectively; for both < 0.001) and age ≥ 65 years (OR: 2.98 and 1.80, respectively; for both < 0.001) as well as most Swiss pneumococcal vaccine indications were independent predictors of hospitalization with a pneumonia and pneumococcal pneumonia diagnosis, respectively. Older age with both age cut-offs were associated with increased LOS (≥ 50 years: aRR: 1.19 and 1.24, respectively; age ≥ 65 years: aRR: 1.60 and 1.20, respectively; < 0.001 for all) and mortality (≥ 50 years: aOR: 4.73 and 2.84, respectively; age ≥ 65 years: aOR: 2.38 and 2.69, respectively, < 0.001 for all) in patients with a pneumonia and pneumococcal pneumonia diagnosis, respectively. The effects of pneumococcal vaccine indications decreased with older age. The incidences of hospitalizations with a pneumonia diagnosis and a pneumococcal pneumonia diagnosis increased significantly from the pre-vaccine era to the PCV7 era and the PCV13 era (for trend for both analyses < 0.001). This study confirms the Swiss indications for pneumococcal vaccination as independent risk factors for pneumonia hospitalizations. Older age itself should be considered as an additional vaccine indication. Pneumonia and pneumococcal pneumonia in adults have increased despite pneumococcal vaccination in children.

Kantonsspital
St.Gallen



type	journal paper/review (English)
date of publishing	05-12-2019
journal title	Front Med (Lausanne) (6)
ISSN print	2296-858X
pages	286