Pneumonia in Young Adults With Asthma: Impact on Subsequent Asthma Exacerbations

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BACKGROUND

• We previously reported an increased incidence of all-cause and pneumococcal pneumonia among young adults with asthma and hypothesized that community-acquired pneumonia (CAP) in this group might have a prolonged impact on their asthma/respiratory status as measured by additional emergency department (ED) visits or hospitalizations over the subsequent year.
• Exacerbations were more frequent in asthma patients with hospitalized CAP compared to CAP treated in an ambulatory setting. This potentially reflects a greater risk of exacerbation following more severe pneumonia.
• Prevention of pneumonia has the potential to impact the incidence of exacerbations in young adults with asthma and thereby asthma morbidity. These interventions should be incorporated into management strategies.

METHODS

• Study design: Retrospective matched-cohort design
• Data source: 20 million private health plans insurance records (January 2009 through June 2013) maintained by Policy Analysis Inc. (PAI), Brookline, MA
• Study population: 28,957 matched pairs, 4048 were aged 18–49 years, had no other known chronic conditions, and were included in the 1-year period.
• Exacerbations were ascertained over the 1-year period beginning 30 days after the index date (ie, 30 days after CAP diagnosis), defined as:
  - ≥ 1 acute-care inpatient diagnosis; or
  - ≥ 1 emergency department (ED) visit with a diagnosis of asthma in any position

RESULTS

Figure 1. Cumulative Incidence of Asthma-Related Exacerbations (Hospitalizations or ED Visits) Among Patients Aged 18–49 Years With Asthma in Their Only Chronic Condition Who Were Hospitalized in the Prior Year for CAP and Matched Comparison Patients

Table 1. Incidence of Asthma-Related Exacerbations (Hospitalizations or ED Visits) Among Patients Aged 18–49 Years With Asthma in Their Only Chronic Condition Who Were Hospitalized in the Prior Year for CAP and Matched Comparison Patients

<table>
<thead>
<tr>
<th></th>
<th>All Cases</th>
<th>CAP Patients</th>
<th>Comparison Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma as only known comorbidity</td>
<td>13.7</td>
<td>3.0</td>
<td>2.4</td>
</tr>
<tr>
<td>Asthma as other known comorbidity</td>
<td>22.8</td>
<td>17.9</td>
<td>15.2</td>
</tr>
<tr>
<td>Sensitivity of matched-pair design (matched pairs: n=932)</td>
<td>84.0</td>
<td>71.7</td>
<td>68.0</td>
</tr>
</tbody>
</table>

CONCLUSIONS

Asthma exacerbations were more frequent in those with CAP than in those without CAP. These findings support a prolonged impact of CAP on asthma status.

LIMITATIONS

• Among young adults with asthma who were otherwise healthy, the exacerbation rate was more frequent in those with CAP than in those without CAP. The findings support a prolonged impact of CAP on asthma status.

REFERENCE