Cross-Country Comparison of Demographic and Clinical Characteristics of Patients Managed in Severe Asthma Services across USA, UK, Australia, South Korea, and Italy


Background

Aims

(A) Demographic and Clinical Characteristics

Table 1: Demographic and Clinical Characteristics for all patients and according to country/registry

<table>
<thead>
<tr>
<th>Country/Registry</th>
<th>Total (n=4,940)</th>
<th>USA (n=3,286)</th>
<th>South Korea (n=383)</th>
<th>UK (n=268)</th>
<th>Italy (n=230)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (mean [SD])</td>
<td>55.0 (15.9)</td>
<td>55.1 (15.3)</td>
<td>57.8 (21.2)</td>
<td>58.0 (30.4)</td>
<td>56.0 (18.7)</td>
</tr>
<tr>
<td>Females (%)</td>
<td>48.2</td>
<td>48.4</td>
<td>50.3</td>
<td>48.3</td>
<td>52.2</td>
</tr>
<tr>
<td>Ever Smoker (%)</td>
<td>27.0</td>
<td>27.9</td>
<td>34.4</td>
<td>24.1</td>
<td>21.4</td>
</tr>
<tr>
<td>Overweight BMI</td>
<td>25.2</td>
<td>25.4</td>
<td>27.6</td>
<td>26.2</td>
<td>25.4</td>
</tr>
<tr>
<td>GINA Step 5 (%)</td>
<td>7.7</td>
<td>8.0</td>
<td>13.8</td>
<td>22.3</td>
<td>22.3</td>
</tr>
<tr>
<td>FEV1 (&lt;30%)</td>
<td>9.0</td>
<td>9.5</td>
<td>11.5</td>
<td>9.7</td>
<td>9.9</td>
</tr>
<tr>
<td>Predicted FEV1</td>
<td>63.6</td>
<td>63.9</td>
<td>62.0</td>
<td>62.5</td>
<td>62.8</td>
</tr>
<tr>
<td>Bronchodilator %</td>
<td>19.0</td>
<td>20.6</td>
<td>26.2</td>
<td>21.4</td>
<td>17.8</td>
</tr>
</tbody>
</table>

Results

Key Biomarkers

Figure 3: Blood eosinophil count according to country/registry

- The majority of patients in USA (56.0%), South Korea (58.8%), and the SAWD registries (52.4%) had FeNO concentrations ≤0.15.
- A significant proportion of severe asthma patients in Italy (38.7%) and the UK (37.8%) had FeNO >0.45.
- Around one-third of patients in South Korea (35.7%), USA (35.4%) and the SAWD (30.7%) registries had FeNO concentrations >0.45.

Figure 4: FEV1 measurement according to country/registry

- Overall, 43.7% of severe asthma patients had FEV1 concentrations ≥80% and 8.7% had a concentration ≤50%.
- In USA, a larger proportion of patients had FEV1 concentrations ≥80% (49.1%) and ≤50% (59.6%) compared with South Korea (73.0%) and Italy (53.1%) had FEV1 concentrations ≥80%. However, most SAWD patients (60.3%) had FEV1 concentrations ≥80%.

Figure 5: Serum IgE measurement according to country/registry

- Serum IgE concentrations across countries were similar.
- Most severe asthma patients had IgE concentration of ≤150IU/mL (90.8%), for all countries, except Italy.

Figure 6: Medication usage across countries

- Overall, 26.6% patients were prescribed maintenance oral corticosteroids with the highest prescription in the UK.
- Prescription of monoclonal antibodies (Anti-IgE and Anti-IL-5) was predominantly high in Italy and the UK and the lowest in South Korea.

Conclusions

- Using a common dataset and definitions, this study is the first to describe severe asthma characteristics of a large cohort of patients included in national severe asthma registries.
- We observed a substantial variation in demographic and clinical characteristics of severe asthma patients across countries.
- This may reflect the differences in the organization of severe asthma referral centers, associated referral patients and requirements for reimbursability of new asthma therapies.
- The differences in biologic availability across countries and regions or country and impact of treatment.
- Future studies will contextualize the results within country-specific health systems and use the corresponding collected patient-level data.

References


Funding

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