EFFECTIVENESS AND SAFETY OF ANTI-IL-5 BIOLOGIC AGENTS IN SEVERE EOSINOPHILIC ASTHMA

COMPLEJO HOSPITALARIO DE NAVARRA, PHARMACY DEPARTMENT, PAMPLONA, SPAIN.

BACKGROUND

- Severe uncontrolled asthma is characterised by poor control despite the treatment with inhaled glucocorticoids (IGC) and beta2 adrenergic agonists (LABA) at high doses, and/or oral glucocorticoids (OGC).
- This type of asthma comprises a heterogeneous group of phenotypes treated with targeted therapy.
- Anti-IL-5 monoclonal antibodies (mepolizumab, reslizumab and benralizumab) are indicated in severe eosinophilic asthma (SEA).

AIM AND OBJECTIVES

Assess the effectiveness and safety of anti IL-5 biologic agents in a tertiary-level hospital.

MATERIALS AND METHODS

- Retrospective observational study included patients with SEA under treatment with anti IL-5 agents from June 2017 to August 2019.
- Electronic clinical record was used to obtain:
  ✓ Sociodemographic variables (age, sex, concomitant medicines and previous biologicals).
  ✓ Effectiveness (reduction of eosinophil blood levels, change in levels of exhaled nitric oxide (FeNO), forced expiratory volume in the first second (FEV¹) and score in the asthma control test (ACT)).
  ✓ Safety (reported adverse effects).

RESULTS

- 34 patients were included: 67.6 % (23) women. Mean age: 56.2 (41-69) years.
- 56% of patients were diagnosed with SEA and 44% had mixed eosinophilic-allergic phenotype.
- All patients received IGC + LABA at high doses. 13 patients were taking montelukast and 2 OGC at low doses.
- 53% (18) received omalizumab previously.

EFFECTIVENESS

<table>
<thead>
<tr>
<th></th>
<th>Average duration (weeks)</th>
<th>Eosinophils (cells/µl)</th>
<th>▲FeNO (ppb)</th>
<th>▲FEV¹ (ml)</th>
<th>▲ACT (points)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Previous</td>
<td>After</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mepolizumab (n=20)</td>
<td>40</td>
<td>840.6 (400-2012)</td>
<td>143.75 (0-500)</td>
<td>-17.14 (0-89)</td>
<td>0.325 (0.12-0.65)</td>
</tr>
<tr>
<td>Reslizumab (n=4)</td>
<td>27.7</td>
<td>420 (100-1000)</td>
<td>50 (0-100)</td>
<td>-24.5 (0-35)</td>
<td>0.4 (0.17-0.45)</td>
</tr>
<tr>
<td>Benralizumab (n=9)</td>
<td>19.9</td>
<td>622.2 (0-1900)</td>
<td>66.6 (0-600)</td>
<td>-22.6 (0-43)</td>
<td>0.36 (0.07-0.84)</td>
</tr>
</tbody>
</table>

SAFETY

- Mepolizumab: 2 patients (10%) developed respiratory infection and 1 patient (5%) back pain.
- Benralizumab: 2 patients developed myalgias (22.2%) and 1 patient (11.1%) diarrhea.

CONCLUSIONS

- Anti-IL5 therapy is effective and safe.
- Adequate monitoring is needed in order to optimize the treatment.