Supplement 1. Survey Questionnaire

Basic information

1. What is your age? (________________)

2. What is your gender?
   1) male
   2) female

3. What is your specialty board?
   1) allergy
   2) pulmonology
   3) other specialty board
   4) not a specialist

4. What kind of institution do you practice in?
   1) university hospital
   2) general hospital
   3) hospital
   4) private clinic
   5) other

5. Which age group do you usually see in your practice?
   1) children
   2) adults
   3) both

I. Diagnosis of severe asthma

1. What percentage of patients with severe asthma in your practice have the following clinical features? (The sum of the subtypes may be over 100%.)
   
<table>
<thead>
<tr>
<th>Clinical Feature</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncontrolled asthma symptoms despite gina step 4-5 treatment</td>
<td>__________%</td>
</tr>
<tr>
<td>Controlled asthma symptoms at gina step 4-5, but symptoms are aggravated by stepping down</td>
<td>__________%</td>
</tr>
<tr>
<td>Serious exacerbation (≥ 1 hospitalization per year)</td>
<td>__________%</td>
</tr>
<tr>
<td>Frequent exacerbation (≥ 2 uses of oral corticosteroid rescue per year)</td>
<td>__________%</td>
</tr>
</tbody>
</table>

2. What is the approximate percentage of patients with severe asthma among the total number of asthma patients in your practice? (__________%)

3. The phenotype of severe asthma is known to be diverse. Please indicate the usual tests for the classification of severe asthma phenotypes in your practice.

<table>
<thead>
<tr>
<th>Test</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum total ige</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peripheral blood cell count</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Induced sputum eosinophil count</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exhaled nitric oxide</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allergen skin tests or serum specific ige measurement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chest computed tomography (ct)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aspirin provocation test</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. What percentage of patients with severe asthma in your practice have the following diseases?

<table>
<thead>
<tr>
<th>Disease</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allergic rhinitis</td>
<td></td>
</tr>
<tr>
<td>Gastro-oesophageal reflux disease (GERD)</td>
<td></td>
</tr>
<tr>
<td>Obesity</td>
<td></td>
</tr>
<tr>
<td>Sleep apnoea</td>
<td></td>
</tr>
<tr>
<td>Depression or anxiety disorder</td>
<td></td>
</tr>
<tr>
<td>Aspirin intolerance</td>
<td></td>
</tr>
</tbody>
</table>

II. Treatment of severe asthma

1. Of the patients with severe asthma you are seeing, what percentages use the following drugs as controller medications in addition to high-dose inhaled corticosteroids (ICS) / long-acting beta-2 agonists (LABA) and leukotriene receptor antagonists?

<table>
<thead>
<tr>
<th>Drug</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very high dose ics</td>
<td></td>
</tr>
<tr>
<td>Two or more ics</td>
<td></td>
</tr>
<tr>
<td>Oral corticosteroids (≥ 20 mg/day)</td>
<td></td>
</tr>
<tr>
<td>Oral corticosteroids (&lt; 20 mg/day)</td>
<td></td>
</tr>
<tr>
<td>Anti-ige</td>
<td></td>
</tr>
<tr>
<td>Theophylline</td>
<td></td>
</tr>
<tr>
<td>Tiotropium</td>
<td></td>
</tr>
<tr>
<td>Roflumilast</td>
<td></td>
</tr>
<tr>
<td>Methotrexate</td>
<td></td>
</tr>
<tr>
<td>Cyclosporine</td>
<td></td>
</tr>
</tbody>
</table>

2. What is most difficult when you see patients with severe asthma? (Multiple answers possible)
   1) no effective add-on drugs
   2) concern over misdiagnosis
   3) difficulty with the patient relationship
   4) insurance cuts
   5) low patient compliance
   6) high medical expenses
   7) concern over adverse drug reactions
   8) lack of severe asthma guidelines

III. Asthma-COPD overlap syndrome (ACOS)

1. What is the approximate percentage of patients with ACOS among the total number of asthma patients in your practice? (__________%)

2. What is the approximate percentage of patients with severe asthma among the total number of asthma patients in your practice? (__________%)

3. What is the approximate percentage of the patients with ACOS among the total number of COPD patients in your practice? (__________%)
4. This question is about **the ACOS criteria** among patients initially diagnosed with and treated for **asthma**. The list includes possible items which can be considered in the diagnosis of ACOS among asthma patients. Please check if each item in the list could be a major or minor criterion or not.

<table>
<thead>
<tr>
<th>Diagnostic criterion</th>
<th>Major</th>
<th>Minor</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Older age of onset (≥ 40 years old)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>History of smoking</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>No personal history of allergic diseases</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>No family history of allergic diseases</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Negative skin prick test</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Low serum total IgE</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Persistently low FEV1 &lt; 80% predicted</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Low FEV1 variation over time</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Negative bronchodilator response</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>No sputum eosinophilia (&lt;3%)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Low exhaled nitric oxide (&lt;25 ppb)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Emphysema on chest images</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

5. This question is about **the ACOS criteria** among patients initially diagnosed with and treated for **COPD**. The list includes possible items considered in the diagnosis of ACOS among asthma patients. Please check if each item in the list could be a major or minor criterion or not.

<table>
<thead>
<tr>
<th>Diagnostic criterion</th>
<th>Major</th>
<th>Minor</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Younger age of onset (&lt; 40 years old)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Wheeze</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>No history of smoking</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Personal history of allergic diseases</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Family history of allergic diseases</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Positive skin prick test</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>High serum total IgE</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>High FEV1 variation over time</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Positive bronchodilator response (12% and 200 mL)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Positive airway hyper-responsiveness test</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Sputum eosinophilia (&gt;3%)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>High exhaled nitric oxide (&gt;50 ppb)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Lack of emphysema on chest images</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

6. Do you agree that asthma patients diagnosed with ACOS are the same population as COPD patients diagnosed with ACOS?
   1) Yes
   2) No