

CONTINUING MEDICAL EDUCATION EXAMINATION

# **Response to Monoclonal Antibodies in Asthma: Definitions, Potential Reasons for Failure, and Therapeutic Options for Suboptimal Response**

Accreditation requested at the "Consejo Catalán de Formación Continuada de las Profesiones Sanitarias – Comisión de Formación Continuada del Sistema Nacional de Salud"

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## CME Items

- Which of the following options states the 4 main domains to be included in the definition of response to biologics?
  - Severe exacerbations, OCS use, symptoms, and FEV<sub>1</sub>
  - Mild exacerbations, ACT, adherence, smoking habit
  - Severe exacerbations, adherence, ACT, FVC
  - Exacerbations, adherence, FVC, inhaled corticosteroids
- How do we define a complete response?
  - The patient does not present severe exacerbations
  - OCS are not needed
  - The patient achieves symptom control and normal pulmonary function
  - All of the above
- Which of the following is true of the FEOS score?
  - It was developed to quantify response in severe asthma patients treated with mAbs.
  - It assigns relative weights to 4 clinically relevant domains (OCS dose, severe exacerbations, symptoms, and pulmonary function)
  - The range of responses runs from 0 (worsening) to 100 (best possible response).
  - All of the above
- Which is the most difficult task for clinicians who treat severe asthma with biologics?
  - Classifying a patient as a complete responder
  - Classifying a patient as a nonresponder
  - Deciding between maintaining or switching a mAb in cases of partial response
  - Annualizing the rate of exacerbations
- Which of the following is a potential cause of suboptimal response to mAbs?
  - Incorrect identification of a T2-high endotype, comorbidities, insufficient dose, infections, autoimmune phenomena, adverse effects
  - Sustained bronchodilator response, need for OCS, high rate of exacerbations, reduced lung function
  - Increased eNO, increased eosinophils in induced sputum, low lung function, comorbidities
  - Increased eosinophils in blood, increased total IgE, adverse effects, insufficient dose
- Which of the following statements is false with respect to the causes of suboptimal response to mAbs?
  - Obesity and ACO are frequent comorbidities that could lead to suboptimal responses
  - Transient eosinophilia is frequent in patients treated with dupilumab
  - Cases of EGPA have been associated with mAbs
  - Neutralizing antibodies are easily detected and monitored in clinical practice
- Which of the following can best be applied to mucus plugging?
  - It is quite uncommon in severe asthma
  - It is always associated with the presence of bronchiectasis
  - It is a potential cause of suboptimal response to mAbs
  - When detected, it should not be treated with biologics
- Which of the following statements is false with respect to the failure of mAbs to control asthma exacerbations?
  - Not all asthma exacerbations are caused by an increase in uncontrolled bronchial inflammation due to failed mAb therapy
  - Respiratory infections are an infrequent cause of asthma exacerbations
  - Infectious exacerbations are characterized by sputum neutrophilia and elevated blood CRP
  - FeNO measurement is the preferred method for discriminating between inflammation ( $\geq 50$  ppb) and infection ( $\leq 20$  ppb).
- In which of the following situations can combination therapy with mAbs be considered?
  - Severe, refractory, poorly controlled asthma that responds only partially to one of them
  - Typical comorbidities, such as atopic dermatitis, nasal polyposis, and chronic urticaria
  - When anti-IL-5/R treatment alone is insufficient to achieve asthma control or when symptomatic hypereosinophilia occurs during therapy with dupilumab (the combination of dupilumab and anti-IL-5/R might be an option)
  - All of the above
- Which of the following statements is true?
  - The best-known alarmins are TSLP, IL-25, and IL-33
  - These cytokines are released by the epithelial cells of the respiratory tract in response to stimulation with allergens, air pollutants, and viruses, inducing an increase in inflammatory activity at a high point in the inflammatory cascade
  - Tezepelumab, a human anti-TSLP monoclonal antibody, has recently been approved by regulatory agencies for treating severe asthma
  - All of the above