

# Asthma and the host-microbe interaction

Daniel L. Gilstrap, MD, and Monica Kraft, MD *Durham, NC*

### INSTRUCTIONS

Credit can now be obtained, free for a limited time, by reading the review articles in this issue. Please note the instructions listed below:

1. Review the target audience, learning objectives and author disclosures.
2. Complete the pre-test online at [www.jacionline.org](http://www.jacionline.org) (click on the Online CME heading).
3. Follow the online instructions to read the full version of the article, including the clinical vignette and review components.
4. Complete the post-test. At this time, you will have earned 1.00 *AMA PRA Category 1 CME Credit*<sup>™</sup>.
5. Approximately 4 weeks later you will receive an online assessment regarding your application of this article to your practice. Once you have completed this assessment, you will be eligible to receive 2 MOC Part II Self-Assessment credits from the American Board of Allergy and Immunology.

**Date of Original Release:** May 2013. Credit may be obtained for these courses until April 30, 2014.

**Copyright Statement:** Copyright © 2013-2014. All rights reserved.

**Target Audience:** Physicians and researchers within the field of allergic disease.

**Accreditation/Provider Statements and Credit Designation:** The American Academy of Allergy, Asthma & Immunology (AAAAI) is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians. The

AAAAI designates this journal-based CME activity for a maximum of 1 *AMA PRA Category 1 Credit*<sup>™</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

**List of Design Committee Members:** Daniel L. Gilstrap, MD, and Monica Kraft, MD (authors), and James T. Li, MD, PhD (series editor)  
**Activity Objectives**

1. To understand the influence that early microorganism exposure and infection can have on the development of asthma and the atopic phenotype.
2. To appreciate that the respiratory and gastrointestinal tracts are populated with a diverse number of microorganisms that might play a role in asthma pathogenesis and progression.
3. To identify the role of microbes in asthma exacerbations and chronic disease burden.
4. To understand the role antimicrobial therapy might have in the management of asthma exacerbations and uncontrolled disease.

**Recognition of Commercial Support:** This CME activity has not received external commercial support.

**Disclosure of Significant Relationships with Relevant Commercial Companies/Organizations:** M. Kraft has received grants from the National Institutes of Health, Genentech, GlaxoSmithKline, Asthmatx (Boston Scientific), Eumedics, and Novartis and receives a stipend from the American Thoracic Society. D. L. Gilstrap declares no relevant conflicts of interest. J. T. Li has consulted for Abbott.

### CLINICAL VIGNETTE

A 34-year-old woman with moderate persistent asthma presents for evaluation of increased cough, wheezing, and shortness of breath with chest tightness. These symptoms began approximately 4 days ago after 5 days of nasal congestion and sore throat that resolved. She reports that her 4-year-old daughter had a similar “cold” recently but improved much more quickly than she did. Before her daughter began day care 1 year earlier, the patient’s symptoms were well controlled with an inhaled corticosteroid only. At her last clinic visit, 3 months prior, she denied nocturnal symptoms and only required her short-acting bronchodilator about once a week with a medium-dose inhaled glucocorticoid and long-acting

$\beta$ -agonist. She is currently using her short-acting bronchodilator 3 times daily with this recent illness. Despite these efforts, her peak expiratory flow measurements remain less than 70% of her personal best. She calls requesting prescriptions for prednisone and an antibiotic and is scheduled for a same-day appointment. She denies fevers, chills, or chest pain but reports minimal yellow sputum.

The patient was given a diagnosis of asthma as an infant after a hospitalization for respiratory syncytial virus (RSV) bronchiolitis but has not been hospitalized for asthma since that time. She believes that throughout her life it has generally taken her longer to recover from colds and has been frequently treated with antibiotics in addition to steroids for “bronchitis” complicating her asthma exacerbations but denies receiving a clear diagnosis of recurrent pneumonias, sinusitis, or otitis media. She has a history of eczema and known triggers for asthma symptoms, including upper respiratory tract infections, tobacco smoke, cats, and some tree pollens but denies these other exposures recently.

Her physical examination is remarkable for a temperature of 37.1°C, a heart rate of 92 beats/min, a respiratory rate of 22 breaths/min, and oxygen saturations of 96% while breathing ambient air. There are diffuse end-expiratory wheezes on examination but an otherwise unremarkable auscultatory examination and no dullness to chest percussion or increased work of breathing

From the Division of Pulmonary, Allergy and Critical Care Medicine, Duke University Medical Center.

Received for publication December 11, 2012; revised February 27, 2013; accepted for publication March 7, 2013.

Corresponding author: Daniel L. Gilstrap, MD, Division of Pulmonary, Allergy and Critical Care Medicine, Department of Medicine, Duke University, Box 2629, Durham, NC 27710. E-mail: [daniel.gilstrap@dm.duke.edu](mailto:daniel.gilstrap@dm.duke.edu).

0091-6749/\$36.00

© 2013 American Academy of Allergy, Asthma & Immunology

<http://dx.doi.org/10.1016/j.jaci.2013.03.004>

at rest. Spirometry reveals an FEV<sub>1</sub> of 62% of predicted value that increased to 69% of predicted value after inhaled bronchodilator therapy in the clinic. A chest radiograph appears normal.

The patient's most recent exacerbation is believed likely secondary to a previously resolved upper respiratory tract viral infection and not complicated by a bacterial cause. The indications for antibiotics during an asthma exacerbation are reviewed with the patient, as well as the potential adverse effects of antibiotics, including allergic and adverse reactions, increased antibiotic resistance, and its potential role in driving further

atopy. The patient is given a 7-day course of prednisone and reminded to use her inhaled bronchodilator regularly with appropriate technique and monitor her peak flow daily. She is scheduled for a follow-up appointment in 1 week's time and instructed to contact the provider sooner with any clinical concerns.

*The full version of this article, including a review of relevant issues to be considered, can be found online at [www.jacionline.org](http://www.jacionline.org). If you wish to receive CME or MOC credit for this article, please see the instructions above.*

Download English Version:

<https://daneshyari.com/en/article/3197885>

Download Persian Version:

<https://daneshyari.com/article/3197885>

[Daneshyari.com](https://daneshyari.com)