



LETTERS TO THE EDITOR

Regarding Our June and July/August Issues

Asthma in the Pediatric Population

To the Editor:

The review of pediatric asthma treatment (Asthma in the Pediatric Population: An Urgent Care Approach, by Muhammad Waseem, MD, Nicholas Caputo, MD, Geeta Krishna, MD, Joel Gernsheimer, MD, *JUCM* June 2010) was excellent. I would add that patients with severe exacerbations who fail to respond adequately to a unit dose bronchodilator should receive repeated back-to-back or continuous nebulized albuterol, regardless of tachycardia or shakiness, and be considered for transfer to the ED.

In addition, I was wondering about one other related issue.

In several recent lectures, I have heard about the use of IM or SQ epinephrine (1:1,000, in doses similar to treating severe allergic reactions) in younger patients with very severe asthma exacerbations, and have found it to be useful in several similar situations myself. I realize, however, that this is an uncontrolled “study.”

Could the authors comment on any evidence or their experience with epi, which seems like it could readily useable in the urgent care center for the worsening patient, all other available treatments being rendered, while awaiting ambulance arrival?

Joseph Toscano, MD

San Ramon (CA) Regional Medical Center
Urgent Care Center, Palo Alto (CA) Medical Foundation
(Dr. Toscano is also a member of the *JUCM* Editorial Board.)

The authors respond: We appreciate Dr. Toscano’s kind words about our article and for his important comments and questions. We agree that patients who are still tight despite initial treatments with nebulized albuterol should continue to receive repeated doses of nebulized albuterol, or even continuous nebulized albuterol.¹ Also, it has been our experience, as well as the experience of others, that severe asthmatics are often tachycardic because they are still in distress; treating them with ne-

bulized albuterol will often decrease the heart rate as the patient begins to breathe better.² It should also be noted that adding nebulized ipratropium to the nebulized albuterol often helps severe asthmatics in the ED.³

We also agree that asthmatics who are still in distress after the initial treatments with albuterol should be transferred to the ED from the urgent care center, as they are at increased risk of going into respiratory failure.

Although there is no convincing evidence in the literature that epinephrine given subcutaneously is more effective than ne-

bulized albuterol, many physicians use it for very severe acute exacerbations of asthma that are not responding to the usual treatments. In fact, in the National Heart Lung and Blood Institutes Expert Panel 3, it is listed as a possible treatment for very severe asthma exacerbations; there is however, a comment that this treatment is not supported by convincing evidence in the literature.⁴ Epinephrine may act to decrease airway edema, inflammation, and mucus production through its α -adrenergic properties.⁵

One of the authors, Dr. Gernsheimer, has had significant personal experience using subcutaneous epinephrine in severe asthma, and has found it to be very useful. An alternative treatment, also not convincingly supported by the literature but one that many physicians have found useful, is subcutaneous terbutaline. It may have a slightly better adverse reaction profile than epinephrine. Nebulized epinephrine has also been used in the treatment of severe acute asthma.⁶

References

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2. Brenner BE. Asthma. *eMedicine—Emergency Medicine.* Updated Apr 23, 2010.
3. Plotnick LH, Ducharme FM. Combined inhaled anticholinergic agents

