Oral corticosteroids on hand to treat the next asthma exacerbation?

Asthma exacerbations are a major cause of visits to an emergency room, especially for children. What is an asthma exacerbation? There is general agreement that acute symptoms of asthma become an exacerbation when they are more frequent or severe and do not improve sufficiently with usual inhaled bronchodilator treatment, such as albuterol. The result is prolonged cough and labored breathing that interfere with sleep and activity. Those symptoms can progress until urgent medical care and hospitalization are needed. Albuterol, the first medication used for acute symptoms of asthma, has no effect on the inflammatory component of airway obstruction that results in swelling of the lining of the airway and secretion of mucus. That narrows the airway and decreases the air that can get into the lung. Corticosteroids are essential to reverse that component of airway obstruction.

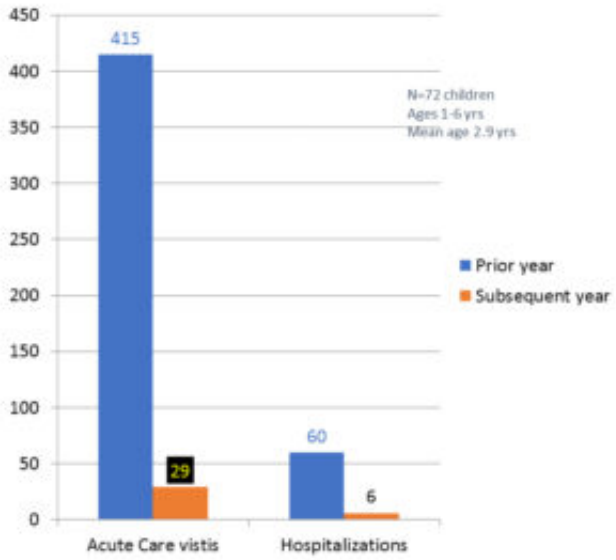

Fig. 1. Outcome of asthma the years before and after oral corticosteroids were provided to parents for treatment of the next exacerbation.

Treatment in the emergency room is primarily administration of an inhaled bronchodilator and corticosteroids, given by mouth or sometimes by injection. Children with asthma are particularly prone to recurrent exacerbations, and asthma is the most frequent medical indication for children to be hospitalized. Since both medications can be given at home, early use of these may prevent expensive and disruptive emergency room visits. In fact, albuterol for inhalation is already commonly provided by the physician for a child or adult with asthma. Oral corticosteroids, however, have not been routinely provided to have on hand. Since parents can generally identify early signs

of an exacerbation, oral corticosteroids, if available on hand at home, could be given prior to the need for urgent medical care. In most cases, that need for an urgent visit to an emergency room and possibly admission to a hospital could be avoided.

Studies of asthma in the emergency room have shown that the sooner oral corticosteroids are administered the sooner the child is sufficiently comfortable to go home and is less likely that admission to the hospital will be needed. Since oral corticosteroids take several hours for effect, administration at home provides earlier benefit that is more likely to prevent the need for the emergency room. In a study at the University of Iowa Children's Hospital, 72 children under the age of 6 had a total of 415 acute care visits and 60 hospitalization for asthma the year prior to being provided with oral corticosteroids at home. The year with oral corticosteroids at home was associated with only 29 urgent care visits and 6 hospitalizations occurred (Fig. 1).

Are there risks to having oral corticosteroids at home? Not if the patient's physician provides adequate instruction, verbally and in written form. Short term use of oral corticosteroids at relatively infrequent intervals has no clinically important adverse effects for children with normal immune systems and usual immunization history including chicken pox (Varicella). Since long term or excessively frequent use of oral corticosteroids has a potential for serious adverse effects, prescriptions should be limited to a 7 day course, an amount sufficient for a single exacerbation. The patient's physician should be notified of the use of the corticosteroid and no refills should be given without that contact. Regular follow-up with the patient's physician is also essential for safe and effective use of this strategy.

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