Asthma exacerbation and large doses of inhaled corticosteroids

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There is no evidence that increasing the dose of inhaled corticosteroids at the onset of an asthma exacerbation, as part of a patient-initiated action plan, reduces the need for rescue oral corticosteroids. This is the conclusion of work published in *The Cochrane Library* this month.

There are two mechanisms acting in the lungs of people with asthma. The first is called bronchoconstriction, which is when people's airways constrict during an asthma attack, making it much harder for them to move air in and out of their lungs. The first line treatment for this sort of acute exacerbation is to try and re-open the airways by inhaling bronchodilator drugs.

The second mechanism involved in asthma is an underlying inflammation in the lungs. This is often treated by a daily dose of inhaled steroids. The amount of inflammation varies, and respiratory virus infections, allergens and other irritants all increase inflammation leading to greater obstruction of the airways. In theory, such increased inflammation could be treated with higher doses of inhaled corticosteroids. There are occasions, however, when the patient does not respond sufficiently to treatment and may need to use rescue oral corticosteroids.

Currently many doctors recommend that patients minimise or abort the flare-up by doubling their usual dose of inhaled corticosteroids at the first sign of an asthma attack. However, while very common, this strategy has not been shown to be effective in recent randomized

controlled trials.

"We wanted to know whether the strategy of increasing the dose of inhaled corticosteroids was safe and effective, compared to continuing the same usual dose of inhaled corticosteroids. If this strategy is not effective, doubling the dose may in fact provide false reassurance. Moreover, keeping to a constant dose would reinforce the effectiveness of taking daily inhaled corticosteroids, not only during exacerbations and/or encourage the search for more effective strategies," says lead researcher Francine Ducharme, who works at the University of Montreal, Canada.

After searching published literature, the researchers found only five studies that addressed this question. These studies involved 28 children and 1222 adults with mild to moderate asthma. The daily dose of inhaled corticosteroids was on average 500 mg per day and was increased to either 1000 mg or 2000 mg per day. Contrary to common belief, there was no indication that the high doses reduced the need for rescue oral corticosteroids and there was insufficient evidence to determine if this strategy was safe or not.

"More paediatric studies are needed to guide treatment of exacerbations. In the meantime, the best approach is to prevent an exacerbation by ensuring regular use of inhaled corticosteroids," says Ducharme.

Provided by Wiley

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