New treatment reduces severity of asthma attacks in preschoolers

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The largest study of its kind on preschoolers has demonstrated that preventive treatment with high doses of inhaled corticosteroids is effective in reducing the severity and duration of asthma attacks triggered by colds. Dr. Francine Ducharme, assistant director of clinical research at the Sainte-Justine Hospital Research Center and a pediatrics professor at the Université de Montréal, led the study published in the *New England Journal of Medicine*.

The research team found that high doses of corticosteroids (fluticasone), when inhaled at the onset of a cold and taken for up to 10 days, reduces the number of moderate or severe asthma attacks that require emergency oral steroids. This is the first study whose findings clearly demonstrate the treatment's efficacy in young children requiring oral corticosteroids or hospital admission because of the severity of this type of asthma attack.

The breakthrough is all the more important, since this age group represents more than half (60 percent) of children that go to emergency departments or are admitted to hospital for asthma attacks. Although viral-induced asthma is frequent in preschool-aged children, optimal management of this disease remains elusive. That's why Dr. Ducharme has focused her research on improving treatment for asthmatic children, particularly those of preschool age.

The basic treatment for asthma, which consists of administering weak doses of inhaled steroids such as fluticasone on a daily basis, has not

proven to be effective in children with viral-induced asthma. For the purposes of the study, 2243 children were screened. Some 17 percent met the criteria for having asthma that was triggered solely by colds, no signs of allergy and had not experienced moderate to severe asthma attacks or symptoms between colds.

The new therapeutic approach was tested in 129 children aged 12 months to six years. By increasing the usual pediatric dose six-fold over a maximum of 10 days and beginning administration as soon as colds started, the team noted a 50 percent decrease in asthma attacks that required oral steroids in children.

A 20 percent reduction in the duration of the illness was also noted. The research team also noted that children who had received fluticasone had milder symptoms of shorter duration compared with the placebo group, thereby reducing the impact of the disease on the parents' quality of life.

The scientists were interested in evaluating both the efficacy of the treatment and its side-effects. Over the 40-week monitoring period, Dr. Ducharme observed a slightly slower growth rate (4 percent) in this group of children than in the placebo group.

In fact, the findings indicate that the average growth rate of the untreated children was about 6.5 cm as opposed to 6.0 cm in the children treated with fluticasone. This corresponds to what is seen when patients take the usual daily dose of fluticasone over 12 months.

A slower average weight gain was also noted in the children taking the placebo (approximately 2 kg) than in the children treated with corticosteroids (1.5 kg). Since this type of asthma is temporary and usually disappears before the age of 6, the treatment probably has a transient effect on growth. For the research team, it remains to be confirmed whether the children will be able to make up for this slight

growth retardation.

Source: University of Montreal