

October 4, 2016

Intermittent Use of Steroids On Children with Wheezing/Asthma Attacks

-Pho, Teresa

Recently throughout the years, many children under the age of 6 have experienced intermittent asthma or wheezing attacks that often result from a cold. Specifically speaking, 9 million children have asthma and half of that faces wheezing or asthma attacks according to the National Institute of Health. Prior to this, children must take inhaled steroids in order to alleviate their wheezing or asthma attacks, which may become fatal to the child and even leading to emergency treatment if severe. These inhaled steroids are much safer than when administered orally, since it goes directly to the lungs rather than gets delivered in large amounts to the blood stream. However, inhaled steroids have several side effects that involve the shortening of height growth. Due to these side effects, researchers have developed a study to uncover the connection between inhaled steroids and respiratory problems such as wheezing and asthma in order to find ways to limit the use of inhaled steroids on kids.

The subjects of this large randomized-controlled study, conducted by Sunitha V. Kaiser and other colleagues, were randomly selected children younger than 6 years old that had asthma or wheezing attacks within the past 2 years. There were 22 double-blinded studies facilitated in total, which contained about 4,550 subjects. At the start of the experiment, they gathered data from these subjects by searching through the Medline, Embase, and CENTRAL databases as well as taking note of the age, gender, atopy, family history, dose, frequency, and duration of these subjects. During this experiment, the subjects were either given a placebo or the inhaled corticosteroids (ICS). The subgroups that were separated and analyzed included those with persistent asthma or wheezing (nighttime awakenings and symptoms for more than 2 days a week) and those with intermittent asthma or wheezing for about 12 to 52 weeks. Researchers used different types of delivery systems and different types of ICS with medium doses for each ICS. The doses for each ICS were 0.4 mg/day for budesonide, 0.2 mg/day for fluticasone, 0.15 mg/day for beclomethasone, 0.16 mg/day for ciclesonide, 40 µg/kg/day flucinolide. This large experiment consisted of several studies that held subgroup analyses and compared subjects that took the inhaled steroid daily against those who took the placebo, subjects that took the inhaled steroid sporadically against those who took the placebo, and those that took the inhaled steroid daily against those who took it sporadically.

15 of those studies showed a comparison between children who took inhaled steroids daily (treatment group) and those who took the placebo (control group). In these studies, the data depicted a 30% reduction in exacerbations and extreme flare-ups. On the other hand, 6 of these studies focused on the intermittent use of inhaled steroids and showed a 35% reduction in exacerbations and extreme flare-ups compared to those in the control group who took the placebo. The researchers proceeded to obtain data from two of the studies in this large experiment where they specifically analyzed the results from subjects who had wheezing or asthma attacks from a cold. From these 2 studies, they differentiated and compared the results of

the subjects who took inhaled steroids daily from those who took inhaled steroids sporadically and found that there was no difference in the amount of exacerbations and flare-ups. As for the comparison between the daily and intermittent inhaled steroid intake from children with persistent asthma or wheezing, there was no study done for that.

As stated previously, the data strongly supports that there was no difference in the amount of exacerbations and flare-ups that occurred when subjects took the inhaled steroids regularly or occasionally. Therefore, children under the age of six with wheezing or asthma attacks from colds do not need to take the inhaled steroids on a day to day basis to alleviate their symptoms. This is also evident in other previous studies such as Dr. Shean's similar procedure where they found out that there was no difference between the number of attacks and flare-ups between the group that used inhaled steroids daily and the group that used it intermittently with 104 milligrams less medication over the years. Furthermore, they concluded that if doctors and patients are able to take inhaled steroids at a moderate and controlled level, there will not be a need to take the steroids daily.

References:

<https://www.ucsf.edu/news/2016/05/403056/sporadic-steroids-may-be-effective-daily-dose-some-preschoolers-wheezing>
<http://pediatrics.aappublications.org/content/early/2016/05/24/peds.2015-4496>
<https://consumer.healthday.com/respiratory-and-allergy-information-2/asthma-news-47/intermittent-steroid-use-called-ok-for-wheezing-preschoolers-659189.html>
<http://www.asthma.ca/adults/treatment/steroids.php>