

Asthma in boys may be just a phase, but for girls it may be there to stay

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Boys may be more apt than girls to have childhood asthma, but, when compared to girls, they are also more likely to grow out of it in adolescence and have a decreased incidence of asthma in the post-pubertal years. This indicates that there may be a buried mechanism in asthma development, according to a prospective study that analyzed airway responsiveness (AR) in more than 1,000 children with mild to moderate asthma over a period of about nine years.

"We wanted to investigate what was behind the observed sex differences in asthma rates and AR," says lead researcher, Kelan G. Tantisira, M.D., M.P.H., of Brigham and Women's Hospital and Harvard Medical School. "This is the first study to prospectively examine the natural history of sex differences in asthma in this manner."

Their results appeared in the second issue for August of the *American Journal of Respiratory and Critical Care Medicine*, published by the American Thoracic Society.

Dr. Tantisira and colleagues used data from the ongoing Childhood Asthma Management Program (CAMP) that enrolled 1041 children from 5 to 12 years of age with mild to moderate persistent asthma and performed annual spirometric testing with methacholine challenges to quantify their AR.

After an average of 8.6 years and each individual had undergone eight to nine annual methacholine challenges, the researchers were able to

identify a clear pattern: when it came to the amount of methacholine it took to provoke airway constriction, the girls' reactivity did not change markedly over the years. In contrast, boys became increasingly tolerant over time to larger and larger doses of methacholine, suggesting a possible decrease in disease severity. By the age of 16, it took more than twice as much methacholine to provoke a 20 percent constriction in the boys' airway on average as it did with the girls.

What's more, by age 18, only 14 percent of the girls did not demonstrate any significant degree of airways responsiveness, compared to 27 percent of boys.

"While our results were not unexpected, they do point to intriguing potential mechanisms, to explain the gender differences in asthma incidence and severity. Especially intriguing is that the differences in gender begin at the time of transition into early puberty." said Dr. Tantisira.

This study into the natural history and sex differences in asthma marks the beginning of what many hope will be a long investigation into the subject.

"It will be of great interest to follow these children over time to see what happens with AR and severity of asthma in adulthood," wrote Jorrit Gerritson, M.D., Ph.D., in an accompanying editorial.

This is precisely Dr. Tantisira's next step: Dr. Tantisira and colleagues now have 12 years of data for the cohort, and is looking into investigating the characteristics of the individuals who attained clinically "normal" AR during follow-up. "Most of the original cohort has now reached adulthood," said Dr. Tantisira. "We are now able to perform a secondary analysis with an emphasis on those who have reached clinical 'normalcy.'"

Source: American Thoracic Society

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