

Don't forget about risk of pertussis in children with asthma

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Objective. Pertussis, also known as "whooping cough", is a highly contagious respiratory disease, caused by *Bordetella pertussis*. Nowadays it primarily affects children too young to have completed the full course of vaccinations, children with chronic lung diseases, teenagers and adults whose immunity has faded. Incidence of pertussis among children 7–14 years old in Russia increased twice in 2019, compared with 2018, possibly due to fading immunity among vaccinated children. However, there is still no pertussis booster vaccination for children over 6 years of age in the Russian National Immunization Schedule.

Case Report. A 10-year-old boy, appealed to the department with complaints of paroxysmal nonproductive cough, becoming nocturnal for the last 14 days, without fever. The boy was diagnosed with asthma at age of 7 years, for the last 1.5 years he had asthma remission and hadn't received controller therapy. The boy was vaccinated according to the National Immunization Schedule of the Russian Federation. At the previous pediatrician examination there wasn't any additional sounds, normal breath during the lungs' auscultation. However, the doctor decided that it was asthma exacerbation caused by a viral disease. Boy was treated with inhaled salmeterol/fluticasone propionate combination without any significant effect: the

cough became worse, hacking, nocturnal with "whooping" sounds.

On physical examination difficulty breathing through the nose was detected. On auscultation, normal breath without any additional sounds were audible over both lungs. The remainder of the physical examination was unremarkable.

Epidemiological anamnesis: The mother of the child had frequent coughing paroxysms for the last 2 weeks.

Results. Pertussis was suspected because of the long-term coughing paroxysms, lack of response to bronchial asthma controller therapy, positive epidemiological anamnesis. *Bordetella pertussis* DNA was detected by PCR in nasopharynx mucus. Also, positive IgM (12.6 IU/mL) and IgG (60.8 IU/mL) antibodies to *B. pertussis* were found in the blood serum. The boy was treated with clarithromycin. Since the beginning of treatment there was significant improvement in health: the cough became rare without whooping.

Conclusion. Children with bronchial asthma and lack of response to controller therapy ought to be suspected with whooping cough. Particular attention should be given to schoolchildren and adolescents, especially with chronic lung diseases: vaccination against pertussis at the age of 6 and 12–13 years is recommended, possibly due to fading immunity among vaccinated children over 6 years of age.