

# 1 SUMMARY

The prevalence of atopic disorders has been increasing at last years. One of the notions is that this is caused by unsatisfactory stimulation of immune system by infectious diseases (“the hygiene hypothesis”).

The aim of our study was determine the influence of infectious diseases, the adenoidectomy, tonsillectomy, using of antibiotics on the development of atopic diseases. We availed the questionnaire survey which included 2050 children born approximately on 1994, who attended a primary school at various places of Czech Republic. We separate them to allergic and nonallergic, according to certain criteria. We asked about three periods: the first two years of life, period when child moved from a kindergarten to a primary school (years 1999, 2000) and last two years before answer on our questionnaire.

We found, that the allergic children significantly more than the nonallergic suffered from: otitis media (49,6% vs. 42.5%; 44.5% vs. 25.7%; 13.3% vs. 6.0%), sinusitis (12.5% vs. 5.2%; 26.2% vs. 9.2%; 18.2% vs. 6.2%), nasopharyngitis or rhinitis (88.5% vs. 79.5%; 94.1% vs. 81.4%; 88.4% vs. 76.7%), bronchitis (65.8% vs. 38.4%; 72.9% vs. 35.3%; 46.0% vs. 20.8%), pneumonia (14.3% vs. 6.0%; 21.1% vs. 7.5%; 3.8% vs. 1.5%), influenza or other virosis with increased body temperature (80.4% vs. 72.0%; 91.3% vs. 84.3%; 83.5% vs. 77.3%), diarrhea or gastroenteritis (57.4% vs. 49.1%; 70.7% vs. 57.9%; 61.3% vs. 49.3%), some disease with fever (82.4% vs. 77.7%; 93.6% vs. 86.9%; 77.1% vs. 72.4%). The allergic children suffered from these diseases significantly more often than the nonallergic and there was a shorter interval between single diseases in allergic children. These diseases are associated with allergic rhinitis, asthma and atopic eczema. It is corresponding to some of the other studies.

Several studies suggested some protective effect of bacterial infections and viral infections of the herpes type. In our study it is streptococcal tonsillitis, scarlet fever and varicella, mononucleosis. We found association with allergy and tonsillitis, when it was repeated three times and more per year. We didn't find significant differences between allergic and nonallergic children in case of scarlet fever, varicella and mononucleosis, so we can't neither confirm nor rebut these hypotheses.

More allergic children than nonallergic have used antibiotics at least once (73.8% vs. 68.1%; 92.4% vs. 83.5%; 64.5% vs. 59.6%). Antibiotics were significantly associated with allergic rhinitis and asthma.

Adenoidectomy was associated with allergy (7.0% vs. 3.7%; 24.2% vs. 15.1%; 2.8% vs. 1.0%) and with allergic rhinitis, asthma and atopic eczema. We didn't find any association of tonsillectomy and allergy.

We can conclude that allergic children were more often ill than non allergic ones, but we are not sure, whether repeated diseases are a risk factor for development of allergy or it is conversely.