Summary

Introduction: Adenoids are common disease in childhood, especially at preschool age. The main symptoms of adenoids are nose obstruction, chronic rhinitis, cough, relapsing otitis media, sinusitis, sleeping disorders and otitis media with effusion. The nasal patency influences the nasal nitric oxid (nNO) concentration. However, there are only a few published data about concentration of nNO in patients with adenoids.

Aims: The prospective study explores the influence of adenoids on nNO in children. The investigated parameters in probands are the age, atopic diseases, allergic rhinitis and bronchial asthma. The results of nNO are compared with epipharyngoscopy, rhinomanometry and effect of adenoidectomy.

Methods: The study was carried out on children with adenoids (n=105) at the age from 5 to 18 years old. The control group consists of 38 healthy children. All children underwent epipharyngoscopy, allergology examination including prick test and measurement of nNO and fractional exhaled nitric oxide (FE\textsubscript{NO}) by the chemoluminescence analyzer.

Results: The concentration of nNO is lower in children with adenoids in comparison with healthy children. The nNO depression depends on size of adenoids. In 10 patients (9.5%) with adenoids the depression of nNO was under the screening limit for primary ciliary dyskinesia. The concentration of FE\textsubscript{NO} was not influenced by adenoids.

Conclusion: Adenoids influence the concentration of nNO. In larger size of adenoids the concentration of nNO decreases regardless of allergy and atopic personal history. The examination of nNO is easy, quick and non-invasive examination. However, the big variability of nNO results in patients with adenoids is the main limit for common use of the method. Important finding is low value of nNO in patients with obstructive adenoids which can be reason for false positive screening of primary ciliary dyskinesia.