Background Ps. aeruginosa pulmonary infection in children with cystic fibrosis (CF) is a major problem with negative impact on the evolution of disease and quality of life in these patients.

Aim Elucidate the efficacy of the inhalation therapy with Colistimethate sodium in infants with CF and Ps. aeruginosa pulmonary infection.

Methods The study included 15 children with CF and Ps. aeruginosa pulmonary infection aged 1.5 to 4-year, who underwent bacteriological examination of bronchial secretion before and after treatment with titration diagnosis of germ.

Results In the step of including in inhalation therapy with Colistimethate sodium 13 children (86.6%) had BMI 14.48 ± 0.15, which during 1–1.5 years increased significantly to 16.32 ± 0.2 (p < 0.036). All children included in the study suffered from pulmonary infection with Ps. aeruginosa diagnostic titer from 10^6 to 10^7 micr/ml. After the treatment with Colistin the infection was eradicated in 6 children (40%), in 8 children (53.3%) the concentration decreased up to 10^2–10^5 micr/ml and in only one case the titer of Ps.aeruginosa bronchial secretions remained unchanged (10^6 micr/ml).

Conclusion Antibacterial inhalator therapy with Colistimethate sodium in infants with CF, affected by Ps.aeruginosa pulmonary infection, produces beneficial effects on the nutritional status of children, offers high chance (40%) eradication of this infection and improves the prognosis of the disease.

Background Rhinoviruses were significantly more frequently detected in 1st virus: the most frequently detected was adenovirus (33.9%).

Results 104 children (88.1%) were positive for at least one virus / rhinovirus positive samples. Children were divided into 2 groups. Correlation was found between adenovirus and S.pneumoniae in 1st group (p = 0.012) and between HMPV, rhinoviruses and S.pneumoniae in 2nd group (p = 0.01 and p = 0.021 respectively).

Conclusions The results of the study confirmed high incidence of viral-bacterial as well as viral-viral infection in alveolar PCAP. It was found virus specific co-infection in pneumococcal PCAP in preschool and school age children.