CATHELICIDINS, DEFENSINS AND PRO-INFLAMMATORY CYTOKINES OF ORAL FLUID IN CHILDREN WITH CHRONIC GASTRODUODENITIS

Liudmila Alekseevna Firsova, Valeria Pavlovna Novikova, Diana Alekseevna Kuzmina, Anastasia Pavlovna Listopadova, Olga Alekseevna Demchenkova, Yulia Evgenievna Zamyatina, Olga Petrovna Gurina

Saint-Petersburg State Pediatric Medical University. 2 Litovskaya str., Saint-Petersburg, Russia, 194100

E-mail: ludmila.firsova@list.ru

KEY WORDS: children; chronic gastroduodenitis; cathelicidins; defensins; cytokines.

Background and Aims. Chronic gastroduodenitis (CGD) in children is accompanied by changes in the oral cavity microbiocenosis. This may lead to changes in levels of antimicrobial peptides.The aim of this research is to determine the level of cathelicidin LL-37, defensin HNP 1-3 and IL-8 in oral fluid in children with CGD.

Materials and Methods. The study involved 60 children aged 8-16 years with CGD, verified morphologically. The comparison group consisted of 30 children of the same age without gastroenterological complaints and chronic diseases of other organs and systems. ELISA was used to determine the level of IL-8 (LLC "Cytokine", Russia), defensin HNP 1–3 and cathelicidin LL37 (Hycult Byotechnology, Denmark) in the oral fluid. Statistical processing of research results was carried out using IBM SPSS Statistics 26.

Results. In CGD, the concentration in the oral cavity of cahtelicidin LL-37 (2.07 ± 1.08 mg/ml versus 14.15±1.51 mg/ml, p=0.0000) and HNP 1-3 defensins (3,19±0.54 mg/ml versus 5.06±0.65 mg/ml p=0.0000) was significantly lower than in the comparison group, and the content of IL-8 (61.8 ± 10.52 pg/ml versus 51.04 ± 0.53 pg/ml, p=0.0000) was increased. A moderate, significant positive correlation was found between the levels of HNP 1–3 defensins and cathelicidin LL-37 (r=0.46, p=0.005), and an inverse correlation between the level of cathelicidin LL-37 and IL-8 (r=–0.58, p=0.0000).

Conclusions. Thus, CGD in children is characterized by a moderate increase in the level of pro-inflammatory cytokine IL-8 with a decrease in the levels of antimicrobial peptides cathelicidin LL-37 and HNP 1–3 defensins.