**Introduction.** Diseases of the digestive tract are one of the urgent problems of modern paediatrics. The negative role of zinc deficiency in the formation of digestive diseases is being demonstrated in recent years. The study of the biochemical composition of gastric mucus layer is important for understanding the pathogenesis of a variety of diseases of the gastrointestinal tract.

**The purpose of the work.** Gastroprotection level, morphological changes and chronic gastroduodenitis clinical course in children with different zinc content.

**Materials and methods.** 189 children were involved in the study with a diagnosis of chronic gastroduodenitis in acute period of the disease aged 6 to 17 years according to the protocol for diagnosis and treatment of digestive diseases in children.

The criteria for the inclusion of children in the study were clinical signs of chronic gastroduodenitis considering complaints, anamnesis and the need to conduct diagnostic endoscopy, consent of the parents to participate in the study.

Criteria for exclusion from the study: reception within 4 weeks before inclusion in the study antibiotics, metronidazole, bismuth preparations, proton pump inhibitors, H2-histamine receptors blocers, vitamin-mineral complexes with iron and zinc, increased zinc content in hair.

A study of zinc contained in the hair was made by X-ray fluorescence spectrometry, and a study of zinc content in serum of 72 children was made by spectral atomic absorption method. Evaluation of cytoprotective properties of gastric mucosal barrier was performed by determining the level of fucose in 42 children.

**Results.** Depending on the level of zinc, contained in the hair of children with gastroduodenitis, they were divided into 2 groups of observations: group I (main) - 86 children with chronic gastroduodenitis, that had zinc deficiency in the hair. II group - 100 children with chronic gastroduodenitis and with normal zinc content in the hair. It was significantly more common syndrome of chronic nonspecific toxicity in the study group (86,1%) than in patients from another group in the comparison (70,0%; p<0,05).
Based on the results of the morphological study of the mucous membrane of the stomach and duodenum in children of main group observed chronic atrophic gastritis (in 44.4%) and chronic atrophic duodenitis (at 44.4%) significantly more common than in patients from another group (11.8% and 11.8% respectively, p <0.05).

In children with low zinc content observed significantly more pronounced decrease in the concentration of fucose gastric mucus (2.68±0.17 mmol/l) than in the comparison group (3.56±0.15 mmol/l; p<0.05).

**Conclusions.** These data suggest the possibility of improving the treatment of children with chronic gastroduodenitis based on zinc metabolism.

**Keywords:** zinc, children, chronic gastroduodenitis.