

## MORPHOLOGICAL MANIFESTATIONS OF CHRONIC DUODENITIS IN ADOLESCENTS WITH FOOD HYPERSENSITIVITY

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**Introduction** Allergic diseases have become prevalent in our surroundings, affecting all organs and systems of the body. According to EAACI studies, 17. 3% of the population have food hypersensitivity (FH) in European countries. FH – is a combination of allergic reaction of the body to certain types of food, the mechanisms of development can be immune or non-immune. Gastrointestinal tract takes important place in the pathogenesis of food hypersensitivity. The mechanism of formation of lesions of the mucous membrane of the gastrointestinal tract in allergic diseases is the local sensitizing effect of food allergens, that violate the immune barrier of the intestine. FH causes inflammatory changes in the gastroduodenal area, where the duodenum is most affected. Allergic inflammation of the duodenum can include the presence of edema of the mucous membrane, erosion, fibrosis, hemorrhages, vascular enlargement and eosinophilia.

**Purpose of work** Comparative morphological features of duodenitis in adolescents with and without food hypersensitivity.

**Material and methods** A morphological study was conducted with 50 adolescent individuals from the age group of 12 – 17 years out of which girls (n=13) and boys (n=37) ( $\chi^2=23. 04$ ;  $p<0. 001$ ). The average age of children is  $14. 3\pm 0. 23$  years. Two groups were made with children with duodenitis, one group with food hypersensitivity and control group II with no food hypersensitivity. Esophagogastroduodenoscopy (EGD) and biopsy of mucous membrane of descending part of duodenum was studied. Biopsy was performed under microscope and its morphological features were observed and evaluated.

**Results** Atrophic changes in duodenum is significantly more common in children with food hypersensitivity 50% (n=16), compared to 6% (n=1) from II group ( $\chi^2=10. 14$ ;  $p=0. 002$ ). Second stage of inflammation activity in the duodenal mucosa was observed mainly in adolescents with food hypersensitivity. A variety of pathological deformation in the structure were found. Among the most prominent: micro-erosion, fibrosis and increase of eosinophils. Micro-erosion in the duodenal mucosa occurred only in adolescents of the first group - 22% (n=7) ( $\chi^2=5. 5$ ;  $p=0. 02$ ). Fibrosis seen in 62. 5% (n=20) of the children of the I group, in contrast to 33. 3% (n=6) of patients of the II group ( $\chi^2=3. 93$ ;  $p=0. 048$ ). A numerous infiltration by eosinophils was detected (up to 10-20 cell) in 41% (n=13) of children with food hypersensitivity, and only in 6% (n=1) of non-food allergy ( $p=0. 009$ ;  $\chi^2=7. 03$ ).

**Conclusions** Food hypersensitivity in adolescents with chronic duodenitis leads to the development of atrophic changes and micro-erosion; The risk of developing atrophy in the mucous membrane of duodenum is 17 times higher. Eosinophilic infiltration is 11 times more and thrice the normal amount of fibrosis in the mucous membrane of duodenum.

**Key words:** duodenitis, child, atrophy.