



RETROSPECTIVE ANALYSIS OF THE DENTAL STATUS OF CHILDREN WITH GASTROESOPHAGEAL REFLUX DISEASE

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ABSTRACT

A retrospective study of the dental status of 345 children aged 6 to 15 years with gastroesophageal reflux disease (GERD), observed between 2020 and 2025, made it possible to identify a number of clinically significant patterns with diagnostic and preventive value. The analysis of outpatient records and medical histories showed an almost equal distribution of boys (51.6%) and girls (48.4%). The mean age was 10.7 ± 2.6 years, and the average duration of the disease was 14.2 ± 6.8 months, exceeding the critical period of chronic acid exposure to the tissues of the oral cavity.

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The retrospective analysis of clinical dental data demonstrated a high intensity of the carious process. The mean DMFT index was 4.36 ± 2.11 , which is 1.2–1.5 times higher than population indicators and corresponds to a high level of dental morbidity according to WHO classification. It was noted that 89% of children had caries, and in 31% the DMFT index reached ≥ 6 , indicating an active and recurrent carious process requiring a comprehensive preventive approach.

Special attention was paid to erosive enamel changes, which were recorded in 42.9% of children, while 18.6% had severe lesions (BEWE ≥ 9). This indicator is almost twice as high as average pediatric population values, confirming the key role of GERD as an etiological factor in non-carious dental lesions. In addition, the prevalence of dentin hypersensitivity was high – 82.3%, including mild (43.2%), moderate (31.3%), and severe (7.8%) degrees. This reflects the clinical consequences of enamel surface damage, exposure of dentinal tubules, and increased sensitivity observed in most patients.

The parameters of oral fluid also demonstrated impaired remineralization potential: the mean pH was 6.24 ± 0.35 , and the salivary flow rate was 0.47 ± 0.14 ml/min, indicating reduced

buffering capacity and hyposalivation, which limits natural protective mechanisms. Chronic exposure to gastric acid causes enamel demineralization and disrupts mineral balance, which is supported by literature data indicating a decrease in oral fluid pH by 0.2–0.4 units and a reduction in salivary secretion rate by 20–35%.

Thus, the obtained data allow us to conclude that children with GERD exhibit a complex of pathological changes, including high caries intensity, widespread enamel erosion, frequent hypersensitivity, and reduced buffering function of oral fluid. These changes are caused by chronic exposure to acidic reflux, disruption of mineral balance, and decreased functional activity of salivary glands, emphasizing the need for an integrated approach including gastroenterological monitoring, dental prevention, and correction of oral fluid parameters.

The study results are consistent with national and international data confirming a significant relationship between GERD and dental disorders in children and can be used to develop effective programs for early diagnosis, prevention, and comprehensive treatment of this category of patients..

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