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ASSESSMENT OF PH, BUFFER CAPACITY AND TOTAL PROTEIN IN UNSTIMULATED AND STIMULATED SALIVA IN CHILDREN WITH CHRONIC KIDNEY DISEASE

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Introduction. Saliva is a plasma filtrate, thus disturbances in systemic homeostasis affect its qualitative and quantitative composition. However, little is known about changes in saliva composition in children with chronic kidney disease (CKD).

Aim: the aim of the study was to evaluate the pH, buffer capacity and total protein concentration in unstimulated and stimulated saliva of children with CKD.

Material and methods. 30 children with CKD and 30 healthy children matched by age and gender to the study group were qualified for the study. Unstimulated and stimulated saliva was collected from all patients, and the pH, buffer capacity and total protein content were determined. Due to the lack of a normal distribution, non-parametric methods were used in statistical inference.

Results. There were no significant differences in salivary pH between the test group and the control group. However, the buffering capacity of unstimulated and stimulated saliva was significantly lower in CKD patients. Total protein concentration in stimulated saliva was significantly lower in CKD patients, while in unstimulated saliva it did not differ significantly. Moreover, a positive correlation was demonstrated between the buffer capacity of unstimulated saliva and the level of GFR ($r = 0.732$, $p < 0.001$).

Conclusions. Disturbances in systemic homeostasis in the course of CKD may affect the qualitative composition of saliva. Children with CKD should be additionally monitored by a dentist.