



Relationship between salivary markers of oxidative stress (OS) and different levels of control of bronchial asthma (BA)

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Abstract

Introduction: Nowadays more than half patients with BA have partly controlled and uncontrolled of disease despite modern strategies of therapy. One of possible reason of low control of BA may be increase of OS in patients with airway inflammation.

Aims: investigation of systemic parametrs of OS in children with different levels of control of BA.

Material and Methods: We investigate 145 children with BA, 83 boys and 62 girls, 5-17 years old ages, with controlled BA (n=92) and partly controlled and uncontrolled BA (n=53). Control group included 18 healthy children 5-15 years old. The quantitative indicators of OS such as maximum intensity of chemiluminescence (Imax) and S parameters in the saliva were evaluated.

Results: Patients with uncontrolled BA have high level salivary prooxidant activity - S parameters ($59,4 \pm 7,85$) and Imax ($3,10 \pm 0,34$) saliva higher, that healthy children ($14,54 \pm 1,66$ and $1,23 \pm 0,12$ S and Imax respectively) and patients with controlled BA ($8,44 \pm 1,25$ и $0,45 \pm 0,07$ S and Imax respectively), $F = 39,13$, $p < 0,0001$ for S and $F = 51,70$, $p < 0,0001$ for Imax. In healthy group Imax/S ratio was more higher ($0,091 \pm 0,009$), that in patients with BA, $p < 0,001$). In parallel, in group with controlled BA Imax/S ratio was lower ($0,056 \pm 0,002$), that in uncontrolled patients ($0,064 \pm 0,003$), $p = 0,0084$. Decrease CL intensity of saliva in patients with controlled BA may be the result of a decrease in OS tension.

Conclusion: We suppose, that CL parametrs of saliva can be used in assessment systemic OS in patients with BA and undirect estimation systemic aspects of allergic inflammation.

[Biomarkers](#) [Asthma - mechanism](#) [Children](#)

Footnotes

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