

Review article

Biomarkers of Stress in Saliva

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SUMMARY

Stress is defined as a state in which homeostasis, as a dynamic balance of internal conditions necessary for the proper functioning of cells or the living organism as a whole, is affected by the action of various stressors. Stress reaction occurs as a result of stress system activities, which is located in the central and peripheral nervous system. Stress evaluation involves a qualitative and quantitative analyses and valuation of certain biologically active substances (biomarkers of stress) in body fluids that are so often associated with stress. Saliva as a diagnostic medium is being increasingly used for purposes of clinical and basic research because of its composition and content as well as the advantages of the process of sampling, as compared to traditional methods of collecting blood samples and urine samples. Cortisol, as a biomarker of stress, is the most often studied salivary biomarker, which is associated with the activation of the hypothalamic-pituitary-adrenal (HPA) axis. Since stress leads to the suppression of the immune system, values of salivary secretory IgA and salivary lysozyme, as biomarkers of stress, can be analyzed. In saliva, it is difficult to monitor acute stress parameters, catecholamines, due to their low concentrations, rapid degradation and instability in the samples. Chromogranin A (CgA) and α -amylase enzyme can be used as alternative indices of adrenergic activity during stress reactions, due to their stability in saliva and reliability of the obtained values.

Stress reaction and the diseases in whose pathogenesis it participates are yet another proof of the constant interaction of physical, psychological and social factors in health / disease.

Key words: stress, saliva, stress biomarkers

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