INVESTIGATION OF STRESS-PROTECTIVE EFFECT OF DRIED FRUITS POLYPHENOLIC COMPOUNDS UNDER ACUTE STRESS IN RATS

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Introduction. According to scientific literature, in the pathogenesis of many diseases and pathological states a key etiopathogenetic role belongs to the stress. Antioxidant and anti-stress therapy is an important element of successful medical therapy for pathologies associated with stress. Taking into account that raisins polyphenols shows stress-protective and antioxidant activity in our previously researches, rationally was to investigate and compare other types of dried fruits – apricots and prunes the pharmacological activity. The administration of synthetic antioxidants is limited by the fact that all xenobiotics, undergoing metabolism, activate processes microsomal oxidation in the liver and, therefore, can intensify the free radicals formation. Promising compounds are natural antioxidants, primarily of plant origin. The **aim** of present work was to explore mechanisms of raisins, dried apricots and prunes polyphenolic compounds stressprotective effect on the model of acute stress induced by single subcutaneous epinephrine injection in rats.

Materials and methods. Female Wistar rats were used. Acute stress was simulate by a single subcutaneous injection of epinephrine at the rate of 2 mg per 100 g of body weight of the animal. The investigated products (raisins, dried prunes, dried apricots) was administered as a supplement to the diet at a dose, which corresponded to 350 g of dried fruit per human 70 kg weighting for 14 days. Stress-protective influence of dried fruits under the model pathology was investigated with using a standard open field test.

Results and discussion. Adding of used dried fruits to the rats diet largely facilitated the acute stress symptoms in animals. Recent data confirmed indicators of locomotor and orienting-investigatory activity, the emotional state of animals that were within the physiological norm. The results indicate that the investigated substances show the expressive stress-protective effect. This effect mainly realized by the oppression intensity of free radical processes associated with stress development. Stress-protective effect of dried fruits is mediated by the content of anthocyanins, gallic acid, vitamin C, quercetin, epicatechin, catechin protending, etc. The most obvious effect of a relatively stress protection found in raisins influence.

Conclusions. The data obtained suggest a complex stress-protective influence of dried fruits biologically active substances, which are mediate by a distinct antioxidant activity.