NEGATIVE INFLUENCE OF SMOKING ON THE HUMAN ORGANISM

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Nowadays it is known that tobacco products contain approximately 4000 chemical compounds, and tobacco smoke – nearly 5000 compounds, 60 from which are capable to provoke cancer. Besides, a man smoking one pack of cigarettes a day gets a dose of irradiation about 500 roentgens per year.

Nicotine is a natural component of tobacco products, a narcotic and strong poison for humans. It easily enters the bloodstream, accumulates in vitally important organs causing their dysfunction. It is 3 times more toxic than arsenic. Nicotine poisoning is characterized by headache, dizziness, nausea, vomiting; in heavy cases – loss of consciousness and cramps; chronic poisoning – memory weakness, loss of efficiency as well. A lethal dose equals to just 60 mg of nicotine; a smoker inhales 0.533 mg of it from one cigarette.

Other toxic compounds in tobacco smoke are tar, nitrosamines, carbon monoxide, hydrocyanic acid, acrolein, nitrogen oxides, free radicals, various metals (including nickel, cadmium, chrome, lead etc.), radioactive components (e.g. polonium-210). Many of them are carcinogens negatively influencing on lungs, liver, brain, blood vessels and other organs and tissues.

Smoking increases level of creatinine, urea and uric acid (key nitrogen end products) in blood. Glucose level may also be elevated right after smoking. This process is a very serious cause of higher LDL cholesterol content in the blood (in contrast – lowering positive HDL), thus leading to atherosclerosis development.

Nicotine stimulates increased synthesis of corticosteroids in adrenal cortex, that (cortisol) in turn causes destruction of bone tissue.

Smoking significantly affects sex hormone content in blood of both males and females. Testosterone level in blood plasma was shown to be lowered in men smoking on regular basis. That decrease had been caused by low concentration of gonadotropic hormone as well as negative influence of smoking on the testes. In smoking women a constant and noticeable decline in estrogen content in the luteal phase of menstrual cycle was observed.

Smoking leads to vitamin D metabolism abnormality, low Ca level in blood and bones. Vitamin C content in smokers' blood is twice as less than in non-smokers.

Carbon monoxide that is present in tobacco smoke forms a steady compound with hemoglobin – carboxyhemoglobin – resulting in hypoxia (oxygen starvation).

Hemorheological changes in smokers are realized in increasing of blood viscosity, high hematocrit and fibrinogen.