STUDY OF ANTIMUTAGENIC AND ANTITOXIC EFECTS OF α-TOCOFEROL IN CASE OF MUTATIONS INDUCED BY ARNOLD`s BASE

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The antimutagenic and antitoxic effects of α – tocoferol was studied on the laboratory mice in case of mutations induced by Arnold`s base.

The cytogenetic and toxicological methods of investigation were used in our research. Arnold`s base is characterized by mutagenic, cytotoxic and consequently general toxic action. Introduction of Arnold`s base (doze 1/5 LD_{50}) per oral to animals induced strong increasing ($P<0,001$) of chromosomal aberrations (multiple fragmentation, lyses), a genomic mutations (triploidy, tetraploidy), Pathological mitosis (K-mitosis, hollow metaphase, adhesion of chromosomes) and destruction of interphase nucleuses (hollow nucleus). α – tocoferol is characterized with greatly expressed antimutagenic and anticytotoxic effect and statistically reliable reduces mutagenic and cytotoxic effect of Arnold`s base. At separate effect of Arnold`s base (dose 1/5 LD_{50}) the frequency of chromosomal anomalies was 8,8 %, pathologic mitosis – 21,4 %, interphase nucleus destruction – 4,5%. After addition of α - tocoferol in diet, these indexes decreases accordingly to 3, 0 %; 8, 6 % und 1, 5 % ($p<0,001$).

On the base of conducted experiments application of α - tocoferol for medical purpose is prospective, especially for people who are in contact with harmful mutagenic substances, also for the individuals poisoned with cancerogen.