

Biological Effects of the Chernobyl nuclear Accident Influence on the Population of the Republic of MoldovaL. Coretchi^a and I. Bahnarel^b^a*Radiation Biology Scientific Department, Gh.Asachi 67 A, 2028 Chisinau, Republic of Moldova;* ^b*NSACPM, Gh.Asachi str. 67 A, 2028 Chisinau, Republic of Moldova*
lcoretschi@mail.ru

Stress factors action on the population health evaluation, especially on the emergency workers remains one of the most important problems of the contemporary medicine. In this line the Chernobyl nuclear accident (CNA) that took place on the 26th April 1986 at the Chernobyl nuclear power station (NPS) is an eloquent example. Radioactive substances produced in the result of CNA fell out in a significant part of the Europe, including the Republic of Moldova territory, affecting more than 5,000,000 persons. Approximately 3500 inhabitants from the Republic of Moldova took part in the Chernobyl nuclear accident consequences liquidation /1/. Study objective comprises the determination of clinical, immunological and cytogenetic features in PDCCNA from the Republic of Moldova and their descendants. Between 1996 and 2005 period 850 patients - participants in removal of consequences of Chernobyl nuclear accident (PRCCNA) with the nervous, heart-vascular and gastric-intestinal systems morbidity and their children were investigated, the investigation including the clinical, immunological and cytogenetic analysis. The clinical investigations indicate that the PRCCNA compared to patients from the control group, were more susceptible to infectious and non-infectious diseases, with the prevalence of large polymorphism of nervous, heart-vascular and gastric-intestinal system, accompanied by the circulatory disorder of the vegetative nervous system. The immunological analysis elucidates alterations in the immune system of the PRCCNA expressed through the increase of the activity of humoral indices of immunity and decrease of the cell immune system expressed through the decrease of total T-lymphocytes and B-lymphocytes. The correlation and simple regression analysis demonstrated the linear negative dependence between some immunological indices and dose level, $r=-0,54$. The hyper compensatory intensity of humoral immunity and natural resistance and obvious tendency to T-cell immunity insufficiency are revealed with monoclonal antibodies to CD-19, CD-3, CD-4, CD-8, and CD-16 and rosette forming reaction. Cytogenetic research of the lymphocyte cultures of peripheral blood of PRCCNA and their children, living in the Republic of Moldova during the 19-20 years after the accident, elucidated the deterioration of the hereditary system, being expressed through high level of genomic, chromosomal, and chromatid type aberration. At the adult populations there dominated the chromosomal type of aberrations and at children, there prevailed the chromatid type. 1. I.Bahnarel, L.Coretchi, M.Moldovan Medical and biological aspects of the Chernobyl nuclear accident influence on the population of the Republic of Moldova, Chisinau, iSFEP ”Tipografia centrală, 2006.- 160 P.