



Post-Radiation Neurocognitive Deficit in the Chornobyl Clean-Up Workers: Geriatric Aspects

Kostiantyn Kuts and K. Loganovsky

NRCRM, Ukraine

Abstract

Neurocognitive deficit is one of the main neuropsychiatric effects of radiation exposure. The impact of ionizing radiation (IR), particularly in the low-dose range, and age-related factors may have a synergistic effect on the development of post-radiation cognitive impairment. It is suggested that the low doses of IR is a risk factor associated with age-related diseases, in particular, neurodegenerative ones. The prospective clinical study of the randomized samples of 52 elderly male Chornobyl clean-up workers (aged $64,1\pm2,9$) irradiated at doses of 0.002-1.1 Sv at mean arithmetic dose (M \pm SD) of 0.31 ± 20.29 Sv, mean geometric dose of 0.16 Sv, median dose of 0.25 Sv and 13 male non-exposed controls (aged $63,3\pm2,9$). All patients were examined using the Wechsler Adult Intelligence Scale, premorbid IQ assessment, and audial ERPs.



Biography:

Kostiantyn Kuts is a faculty in National Research Center for Radiation Medicine of National Academy of Medical Sciences of Ukraine, Radiation Psychoneurology Department in Ukraine.

Speaker Publications:

- 1. AchantaP, FussM, MartinezJL. 2009. "Ionizing radiation impairs the formation of trace fear memories and reduces hippocampal neurogenesis". Behav Neurosci. 123(5):1036–1045.
- 2. AcharyaMM, GreenKN, AllenBD, NajafiAR, SyageA, MinasyanH, LeMT, KawashitaT, GiedzinskiE, PariharVK, et al. 2016. "Elimination of microglia improves cognitive function following cranial irradiation". Sci Rep. 6:31545.
- 3. AggarwalNT, WilsonRS, BeckTL, RajanKB, Mendes de LeonCF, EvansDA, Everson-RoseSA. 2014. "Perceived stress and change in cognitive function among adults 65 years and older. Psychosom". Med. 76(1):80–85.
- 4. AlmondD, EdlundL, PalmeM. 2009. "Chernobyl's subclinical legacy: prenatal exposure to radioactive fallout and school outcomes in Sweden". Q J Econ. 124(4):1729–1772.
- 5. American Psychiatric Association 2013. "Diagnostic and statistical manual of mental disorders: DSM-5". Washington: American Psychiatric Publishing.

30th International Conference on Neurology and Cognitive Neuroscience; February 24-25, 2020 London, UK.

Abstract Citation:

Kostiantyn Kuts, Post-Radiation Neurocognitive Deficit in the Chornobyl Clean-Up Workers: Geriatric Aspects, Cognitive Neuroscience 2020, 30th International Conference on Neurology and Cognitive Neuroscience; London, UK - February 24-25, 2020.

(https://neurocognitivedisorders.neurologyconference.com/abstract/2020/post-radiation-neurocognitive-deficit-in-the-chornobyl-clean-up-workers-geriatric-aspects)