

(S10-01) Two topics from the epidemiological studies of Japanese nuclear workers

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Since 1990, we Radiation Effects Association has been conducting J-EPISODE (Japanese epidemiological study on low-dose radiation effects), an epidemiological study of a cohort of radiation workers in Japan. We introduce two topics from the results of this analysis. The first is a comparison of the risk of cancer or non-cancer mortality from low-dose radiation with the risk of lifestyle and socioeconomic status. As part of our study, we conducted a lifestyle questionnaire. We compared relative risks of death from lifestyle habits (smoking, alcohol consumption, etc.), socioeconomic status (years of education, etc.), and radiation among these respondents. We found that the risk of cancer or noncancer mortality from low-dose radiation (mean dose was 24.8 mSv) is probably smaller than the lifestyle risk. We think that our results are reliable in that we have simultaneously calculated and compared lifestyle, socioeconomic status, and radiation risks in a single cohort. The second is the effect of smoking adjustment when considering radiation risk. As noted above, the risk of low-dose radiation is smaller than that of smoking, so that when smoking is confounding, radiation risk estimates are significantly affected by smoking. We found that smoking adjustment has the effect of reducing radiation risk estimates by less than half, depending on the cause of death. The confounding effect of smoking was thought to reflect differences in socioeconomic status among the dose groups. An epidemiological study of emergency workers in response to the Fukushima Daiichi Nuclear Power Plant (FDNPP) accident is currently underway at a different institution. Even though there are different forms of exposure, since both J-EPISODE and studies of FDNPP emergency workers studies of an occupational cohort, findings from our study may also be found in FDNPP emergency workers study.

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