175 ^{137}Cs concentration in Stingray (*Dasyatis Akajei*)

Naohiko ISOYAMA[1] ([1]Marine Ecology Research Institute)

^{137}Cs, which is of great interest and importance as an indicator of radioactive pollution in marine environments, is one of the long-lived artificial radio-nuclides introduced by the atmospheric deposition of debris from nuclear explosions mainly before 1962. For the estimation of effects of the effluents from nuclear facilities, it is necessary to know the natural variations in the concentration of ^{137}Cs and factors affecting variations in marine organisms. We observed positive correlation between growth and ^{137}Cs in 4 species among 14 major teleost species from fishing grounds along the coast of Japan. No increase in ^{137}Cs concentration with increase of growth was observed in 2 species. In the remaining species no specific correlation is observed. These differences in the patterns were dependent on a change of food habits with growth. As little is known of the ^{137}Cs concentration in selachian we have investigated the natural variations of ^{137}Cs in stingray. The correlation between growth and the concentration of ^{137}Cs in stingray will be discussed.

176 Current Status and Prospect of Retrospective Dosimetry in Epidemiological Studies of Medical Radiation Workers

Shinji YOSHINAGA[1], Yasuhiko YOSHIMOTO[1] ([1]Environ. Radiat. Prot. Res. Group, Research Center for Radiation Safety, NIRS)

Epidemiological studies of radiologists, radiologic technologists, and other medical radiation workers have been conducted in several countries. Since many of the study populations started radiological work before introduction of routine monitoring of occupational exposure, cancer risks have not been well examined in terms of exposure dose. Most of the studies used surrogate variables for exposure doses, e.g., calendar year employed, showing significantly higher cancer risks among those who worked in earlier periods. In Chinese and Japanese studies, occupational doses were estimated for sub-cohorts of the studies, based on information on past work history etc. In the US radiologic technologists study, occupational doses are being estimated using archived dosimetry records together with individual work histories and literature-based annual dose estimates for early periods. Although the reconstructed doses can involve much uncertainty, retrospective dosimetry in epidemiological studies of medical radiation workers is essential for better understanding of risk due to chronic exposure to low to moderate doses of radiation.

177 Teratogenesis and neurocristopathy syndrome following maternal exposure to tritiated water and protein synthesis inhibitor

Shuneki SHOJI[1] ([1]Dept. Cellular Biol., Res. Inst. for Radiat. Biol. Med., Hiroshima Univ.)

We evaluated the teratogenesis and DNA damage caused by maternal exposures to protein synthesis inhibitor, tritiated water, and gamma-rays in rats. Pregnant Donryu rats were exposed to Fertilysin, tritiated water (HTO) and gamma-rays on days 9–18 of gestation. The animals were sacrificed on day 18 of gestation and examined for lethality and surviving fetuses, and they were microdissected. Teratogenesis occurred in a dose dependent manner in each treated group. Our studies showed that Fertilysin, HTO and gamma-rays exposure induced similar malformations of the craniofacial, cardiovascular, respiratory and skeletal systems in rat fetuses. These included craniofacial anomalies, conotruncal anomalies, aortic arch anomalies, thymic defects, lungs and trachea defects as well as limb and tail malformations in HTO syndrome. These results are similar to those found in human DiGeorge syndrome, which are considered pharyngeal arch syndromes related to a cephalic neurocristopathy.

178 Development of Software for Organ Dose Estimation at Radiation Emergency with Internal Contamination

Nobuhito ISHIGURE[1], Masaki MATSUMOTO[1], Takashi NAKANO[1], Hiroko ENOMOTO[1] ([1]National Institute of Radiological Sciences)

At radiation emergency with heavy internal-contamination, prompt estimation of doses at specific organs is sometimes needed for planning clinical treatments. Recently developed biokinetic models of ICRP permit more realistic description of the behaviour of radionuclides in human body. This, however, has made the interpretation of bioassay data extremely difficult. Thus computer programs for implementing these models have become needed, but very few. The present work provides a PC software: MONDAL3 (Monitoring to Dose Calculation Ver.3) that enables users, even if non-specialists, to estimate readily intake of radionuclides and resulting equivalent doses in organs and effective doses at radiation emergency with internal contamination from measurement results of radioactivity in a whole body or in specific organs or in excreta.

179 Radiation Ulcer as a Late Effect of External Irradiation After Coronary Angiography or Percutaneous Transluminal Coronary Angiography: Second Report

Tadashi KITAHARA[1] ([1]Dep. of Radiol. Showa Univ. School of Med.)

IVR techniques are remarkablly advanced recently. We present 6 cases of radiation ulcer/dermatitis as late effects in the skin due to CAG or PTCA. Case1: 60 y.o,woman. She received four times of CAG or PTCA (totally 58.5 Gy). Radiation ulcer was