In Memoriam

Elaine Ron, Ph.D. (1943–2010)

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ELAINE RON, PH.D., A RENOWNED epidemiologist whose seminal research identified the role of radiation and other exposures in the etiology of thyroid cancer and other malignancies, died on November 20, 2010. Dr. Ron served as chief of the Radiation Epidemiology Branch at the National Cancer Institute (NCI) from 1997 to 2002 and was a senior investigator in the Branch at the time of her death. She was a member of the American Thyroid Association and served on governance committees for international cancer organizations and on national and international committees assessing health effects of radiation.

Dr. Ron was born in New York City and completed her undergraduate education at Case Western Reserve University and master's level training at the Yale University School of Public Health. For her doctoral thesis at Tel Aviv University School of Medicine, Dr. Ron led the landmark study of cancer risks and other late health effects in Israeli children treated with radiation for *Tinea capitis*. She then conducted postdoctoral research as a visiting associate in the Environmental Epidemiology Branch at the National Cancer Institute (1980–1981), where she initiated a population-based case-control study in Connecticut to examine risk factors for thyroid cancer. After returning to Israel, Dr. Ron was appointed chief of the Cancer Unit in the Department of Clinical Epidemiology at the Chaim Sheba Medical Center (1981–1986), where she evaluated cancer incidence in infertile women, the role of caffeine and methylxanthines in breast cancer and benign breast diseases, differences in incidence of colorectal carcinoma and adenomatous polyp risks in Ashkenazi versus non-Ashkenazi Jews, and cancer screening strategies for early detection of thyroid and other cancers.

In 1986, Dr. Ron was recruited to the Radiation Epidemiology Branch of the National Cancer Institute, where she played a central role on many key epidemiologic studies of thyroid cancer worldwide. She was the driving force behind the international pooled analysis of seven studies on thyroid cancer risk associated with external radiation, which has been one of the principal sources of epidemiological risk assessment data for radiological protection. She also led a pooled study of other postulated etiologic factors for thyroid cancer including reproductive characteristics, use of oral contraceptives, use of hormone replacement therapy, history of non-malignant thyroid diseases, anthropometric factors, dietary

habits, and smoking. More recently, Dr. Ron and colleagues examined population-based NCI cancer registry data and found increasing incidence of papillary carcinoma over time in all racial/ethnic groups, which was greatest for small, localized tumors, but also apparent for large and more advanced tumors, concluding that medical surveillance and more sensitive diagnostic procedures could not explain the rising papillary cancer incidence rates. Dr. Ron expanded the international pooled analysis to 13 studies to assess radiation-related thyroid cancer risk and modifiers, and collaborated in prospective cohort studies of the role of body mass index, physical activity, diet, selected medical conditions, and environmental and reproductive factors in thyroid cancer risk.

Dr. Ron was a principal investigator on major radiation epidemiology studies that have clarified the role of radiation in occurrence of a broad range of malignancies and provided valuable dose-response data. She led the largest study to date on cancer mortality risks following iodine-131 treatment of patients with adult hyperthyroidism, collaborated in a long-term follow-up of children irradiated for benign conditions of the head and neck, and examined U.S. thyroid cancer mortality risks associated with estimated iodine-131 doses to the thyroid from nuclear tests at the Nevada Test Site in different birth cohorts. For more than a decade, she was chair of the Oversight Panel of the NCI-Columbia University studies of thyroid cancer and other serious thyroid diseases in 25,000 screened children and adolescents residing in Ukraine and Belarus at the time of the Chernobyl accident. At the Radiation Effects Research Foundation in Hiroshima, Japan (1990–1991), Dr. Ron and her colleagues were the first to use population-based cancer data in studies of cancer risks among the Japanese atomic bomb survivors. The risk estimates from these investigations have served as the primary basis for risk protection recommendations since the mid-1990s. To address

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concerns about cancer risks associated with protracted low-dose radiation exposure in occupational and environmental settings, Dr. Ron worked with investigators from the Russian Federation to assess cancer mortality risks in nearly 26,000 workers at the Mayak nuclear reprocessing facility in Ozyorsk, Russia, and about 30,000 persons residing near the Techa River, which was polluted by radioactive wastes from the Mayak facility. She was a key advisor for the NCI-Columbia University study of leukemia in Chernobyl nuclear plant clean-up workers. As the branch chief, Dr. Ron supported substantial expansion of the branch's investigation of cancer risks in U.S. radiologic technologists.

Dr. Ron was a passionate advocate for women scientists. As the first Women Scientist Advisor in the Division of Cancer Epidemiology and Genetics at the National Cancer Institute, her efforts were instrumental in leading to regular salary comparisons by gender, expansion of NIH daycare facilities, options for tenure-track investigators to work part time, and named lectureships to honor women scientists. Her vocal concerns contributed to notable increases in the proportion of female members of radiation committees in recent years.

Dr. Ron also leaves a permanent legacy in the legions of scientists that she mentored. For many years there were long lines of junior and senior investigators outside her office who sought her wise counsel. Her generosity of spirit was a defining feature of her life.

In addition to her impressive professional accomplishments and outstanding mentoring skills, Dr. Ron had numerous outside interests and artistic talent. She traveled widely and had friends and colleagues throughout the world, who will greatly miss her. Dr. Ron was devoted to her family, friends, and colleagues. Above all, her greatest joy was her son Ariel.

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