
COMMENTARY

NUCLEAR MEDICINE AND NUCLEAR WAR

In this issue of *The Journal of Nuclear Medicine*, published on the 40th anniversary of the detonation of the atomic bombs over Japan, *Newsline* reports on several aspects of nuclear weapons.



United States Secretary of State George P. Shultz recently gave a blunt message to members of the National Academy of Sciences, telling them that scientists have no business in voicing professional opinions on matters concerning nuclear weapons and national defense policy. We respectfully, yet

vehemently, disagree with Mr. Shultz. Since nuclear medicine professionals are qualified by training and experience to characterize radiation, and to diagnose and treat patients, why should our imagination and intelligence avoid a discussion of this conspicuous issue? We believe that there is no valid rationale for political leaders to dismiss our contributions to a dialogue of such import.

Aside from this attitude in certain political circles, there is a curious avoidance of the subject of nuclear war among people involved in nuclear medicine. We have wondered if this reflects embarrassment that our *wunderkind*, the atomic nucleus, contributed so much to destruction and pain. Does our avoidance represent somehow a "fear of guilt by association"?

The general public marks the dawn of the atomic age with the detonation of the bombs over Japan. The true beginning of the atomic age, however, was the discovery of artificial radioactivity by Drs. Irène Curie and Frédéric Joliot in 1934. Following this scientific exploit, physicians and scientists quickly began to trace biologic phenomena, and even to treat disease, with the "power of the atom."

Hence, we have reports of characterizing bone growth with radioactive phosphorus, and studies of thyroid function with radioiodine, prior to 1939. Four years later, Drs. Leiter and Marinelli and coworkers in New York City demonstrated radioiodine uptake in thyroid carcinoma, laying the foundation for radionuclide therapy. Also in 1943, Dr. Enrico Fermi demonstrated that a self-sustaining controlled fission reactor could provide a source of power to generate electricity. In light of these early demonstrations of the medical and practical potential of radioactivity, preceding the atomic bomb, we have every reason to take pride in

the birth of atomic science.

This pride does not mean that we must either accept or ignore every avenue taken by atomic science research. Instead, we can evaluate each application of nuclear power on its own merits. A more critical evaluation does not mean in any way, however, that we would lose our scientific objectivity in collecting and analyzing data. In fact, this issue of *Newsline* pays tribute to the scores of Japanese and American scientists who have worked on dosimetric and epidemiologic studies of the atomic bombings. Particularly commendable are the efforts of Dr. Yoshio Nishina and his colleagues who began examining casualties and taking measurements of radiation exposures within hours of the surprise attack.

These scientists must have experienced the same feelings of turmoil as Yoshito Matsushige, the newspaper photographer who took the only pictures of Hiroshima on August 6, 1945. Looking back on that day almost 40 years later, Mr. Matsushige recalled that although the scene was "so atrocious," he gathered all his courage and took the photographs. "I think it was professionalism that moved me to do it," he said. The scientists who performed in their respective fields to document accurately that atrocious scene in Japan during the first part of August must have been moved by the same professionalism. The scientists who continue today to investigate the atomic bomb survivor population carry on that professionalism, albeit on a far less immediate or personal level.

The Society of Nuclear Medicine need not maintain its silence on the nuclear war issue because of our uneasiness in knowing that certain aspects of this horrifying subject are intertwined with our specialty. Indeed, our preparedness to analyze and discuss the issues of radiation exposure and sequelae rests comfortably on the conviction that nuclear medicine offers unmatched benefits, at risks too low to be meaningful, to our patients and in biomedical research. It is possible to promote all uses of nuclear science that enhance health, while at the same time opposing all uses that pose a threat to health—even as we methodically study that threat. As medical professionals we can do no less. As scientific thinkers, we can reconcile diametrical ideas within ourselves and continue working for the advancement of nuclear science.

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The Journal of Nuclear Medicine