GUEST*column*

RITSUKO KOMAKI, MD, FASTRO

MY LIFE WITH RADIATION—GOOD AND BAD

OUR FLIGHT WAS DESCENDING TO THE NARITA AIRPORT IN JAPAN at 3:00 p.m. local time on March 11, 2011. A flight attendant announced that our flight was unable to land because an earthquake had hit Japan and Narita Airport had been closed.

I did not think that this was a major problem since we had earthquakes routinely. Our flight circled around for 20-30 minutes and landed at Yokota Air Force Base near Tokyo to get fuel. Nobody in our flight mentioned a tsunami or major earthquake in Japan.

Our Continental flight was diverted to Nagoya Airport at 7:00 p.m., and I asked the flight attendant where I should go at Nagoya Airport to get back to Tokyo. He told me to go to "C" counter. There were at least 250 people on this flight, and nobody knew what we should do at the Nagoya Airport.

I was a lucky one who could speak Japanese to the All Nippon Airline agents. They told us to stay in a hotel around the airport and come back tomorrow, although all hotels were booked.

I asked them if I could take the bullet train (Shinkan-sen) to go to Tokyo since I had to give a lecture the next morning at 10:00 a.m. They said that the Shinkan-sen was not running to Tokyo that night. Then I thought this must be a serious problem, and I borrowed a very nice woman's phone and called my older sister.

This nice lady was on the way to go to Singapore and got stuck in Nagoya. Again, I was a lucky person since my older sister has been living in Nagoya for 41 years. When I called her, she said "What are you doing here; take a taxi to come to our house."

Ritsuko Komaki, MD, FASTRO, with her basic research seminar class, sitting outside of Hiroshima Medical School in Hiroshima, Japan. After the atomic bomb was dropped on Hiroshima during World War II, Dr. Komaki devoted her life to radiation medicine and became a radiation oncologist.

It took almost one hour to get there and she was waiting outside of the house to make sure my taxi driver could find their house. By the time I arrived, it was 1:00 a.m. on Saturday, March 12, 2011. My brother-in-law cooked a wonderful Japanese dinner for me. I almost cried by eating warm cooked rice with great fish and fresh fruit.

I watched NHK (Japan Broadcast) and could not believe my eyes at seeing the disaster of the tsunami and the death toll keep going up. Then I saw the number one nuclear power plant

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> Now I have great concerns about the Japanese people who live in Fukushima area, since a half-life of cesium-137 is 30 years. We were told that no one could live in Hiroshima for 20 years, but everybody moved back to the city within several months to several years like my parents did.

outer layer explode. Since a low cooling water system caused the temperature to go up to 2800 degrees Celsius (5000 degrees Fahrenheit), they had to open the valve to let the steam go out before the inner container of the hydrogen exploded.

When the valve was opened, cesium and radioactive iodine came out with steam. These radioactive materials were released to the ocean and air, which would contaminate water, vegetables and grasses, which might be eaten by cows and contaminate their milk with radioactive material. By drinking the radioactive iodine contaminated milk, many babies will eventually develop thyroid diseases, including cancer, later on.

I was raised in Hiroshima since I was 4 years old and witnessed very high incidences of leukemia, thyroid cancer, bladder cancer, breast cancer, stomach and colon cancer, and multiple myeloma as time went on (after the bombing of Hiroshima during World War II).

As a matter of fact, one of my friends at the elementary school, Sadako Sasaki, was exposed to the atom bomb when she was an infant and developed acute myelogenous leukemia at 10 years old and died at age 11 years old.

(Top) Dr. Komaki explaining the circulation system of a rabbit's GI tract during a medical school presentation. (Bottom) Dr. Komaki and her husband James D. Cox, MD, FASTRO.

My father entered the city of Hiroshima the day after the atom bomb and was exposed to the black rain containing high doses of radiation and developed bladder cancer, although he smoked too. My mother died of stomach cancer. My younger sister has been living in Hiroshima more than 60 years now.

Radiation Effects Research Foundation (RERF) in Hiroshima, where I used to work, is checking my sister's health. So far she is fine and so are her children.

Because of my background, I became a radiation oncologist.

Now I have great concern about the Japanese people who live in the Fukushima area, since a half-life of cesium-137 is 30 years. We were told that no one could live in Hiroshima for 20 years, but

everybody moved back to the city within several months to several years like my parents did.

Nobody believed that radioactive material in the ground would cause cancer or any other health problems such as cardiac and thyroid disease. On the other hand, some people are over reacting to this Fukushima Daiichi Nuclear Power Plant accident.

So many people decided not to buy that Japanese products because of the fear they might contain radioactive material, which is totally wrong. All the products were processed long before this disaster happened. Also, many scientists canceled traveling to Japan, which is also wrong unless they were going to Fukushima or Sendai areas. Tokyo, Kyoto and southwestern Japan are safe and as beautiful as ever.

The other concern I have is that Japanese people have an incredible fear of radiation after the atom bomb and only 25 percent of cancer patients in Japan get radiation treatment as a curative intent compared to 60 percent of U.S. cancer patients.

My husband James D. Cox, MD, FASTRO, and I have tried to convince Japanese cancer specialists to increase radiation treatment as a part of the curative multidisciplinary cancer treatment for three decades. This nuclear plant accident might set back the progress of radiation oncology despite their incredible accomplishments in the field of radiation oncology such as carbon iron and proton beam therapy.

My hope and prayer for the Japanese people is that they recover from this disaster and can understand the differences between accidental radiation exposure and more targeted well-planned radiation treatment, which would not be harmful to human beings.

Dr. Komaki is a professor of radiation oncology and the Gloria Lupton Tennison Distinguished Professor in Lung Cancer Research at MD Anderson Cancer Center in Houston. She grew up in Hiroshima, Japan.

GUEST*column*

BY C. NORMAN COLEMAN, MD, FASTRO

ASSISTING THE US EMBASSY, JAPANESE AFTER FUKUSHIMA DISASTER

My personal experience in Japan

THE MAGNITUDE OF THE FUKUSHIMA disaster with the earthquake, tsunami and resulting nuclear power plant (NPP) system failure was a reminder that incidents considered to be extremely rare do happen. The scope of the local and countrywide impact on people who died, went missing and were displaced is staggering.

The Japanese response in evacuating people and medical facilities was extraordinary and the U.S. has much to learn from their organization and abilities. As news of the problems in the NPP broke, the world's attention was soon focused on the impact of radiation release.

In the absence of any models or data that suggested anything but a very minor release of radionuclides that could be detected at low concentrations by highly sensitive equipment outside the local and regional area in Japan, there was a run on potassium iodide (KI) in the U.S. Clearly, there was the need for experts to provide credible information.

Among the radiation experts from the federal government who are called as experts are nuclear reactor specialists (Nuclear Regulatory Commission), environmental modeling and sampling (Department of Energy), food and water contamination (Food and Drug Administration (FDA) and U.S. Department of Agriculture), environmental contamination (Environmental Protection Agency) and medical consequences (Health and Human Services (HHS), including Centers for Disease Control and Prevention (CDC) and the Office of the Assistant Secretary for Preparedness and Response (ASPR)), Oak Ridge Institute for Science and Education-Radiation Emergency/Assistance Center and Training Site, and the Armed Forces Radiobiology Research Institute.

While domestic incidents are managed by the Federal Emergency Management Agency in the Department of Homeland Security, international emergency response is conducted through the United States Agency for International Development's Disaster Assistance Response Team. HHS/ASPR has ongoing international collaborations with partners in the Global Health Security Action Group (GHSAG) that includes the Japanese along with the World Health Organization, International Atomic Energy Agency, G-7 nations and European Commission.

Within hours of the earthquake and tsunami, ASPR was engaged in the response including communicating

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