As radiation fears dwindle, so do checkups
Doctor wants more residents to get followup full-body scans

By MIZUHO AOKI  
Staff writer

When Dr. Masaharu Tsubokura began checking the internal radiation exposure levels of Minamisoma residents four months after the Fukushima No. 1 nuclear power plant experienced three reactor core meltdowns, many were living in fear, not knowing what kind of dangers they were being exposed to by living in Fukushima Prefecture.

All available dates for checking internal exposure levels at Minamisoma Municipal General Hospital had been quickly booked for the next eight months. Due to those fears and a mounting distrust of the authorities, some residents were visibly angry at Tsubokura upon hearing their checkup results, which they had difficulty interpreting.

It was chaotic, he said. But things have changed since.

As residents have come to understand more about radiation and that their internal exposure levels are low, an air of calm has been noticeable. At the

Body scan: A staff member of the National Institute of Radiological Sciences demonstrates how a person is examined by a whole-body counter used to check the internal radiation exposure level of Fukushima Prefecture residents in June 2011. KYODO

Internal medicine: Dr. Masaharu Tsubokura, a hematologist at the University of Tokyo, is seen at a clinic in the city of Tachikawa, Tokyo, in September. MIZUHO AOKI
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At the same time, residents' interest in knowing their exposure levels has waned.

"I'm surprised to see such a dramatic loss of interest in just about a year and a half," said Tsubokura, 30, who works several days a week at Minamisoma hospital and the rest of the week at the University of Tokyo. "The biggest issue we have now is finding ways to secure continuous checkups for internal radiation exposure."

The city of Minamisoma covers the cost for two checkups. The hospital there began conducting the second round of internal exposure examinations in August, but less than 3 percent of residents tested in the first round turned up that month, Tsubokura said.

"To be honest, local people have almost no worries (about radiation exposure because of eating contaminated food) these days. . . . They are satisfied with their results from last year (where many were below detectable levels)," Tsubokura said.

"Also, there are many people who feel they were being used as human guinea pigs" in the first round and don't want to take part in the followup tests, he added.

Tsubokura, who specializes in hematology at the University of Tokyo, went to Minamisoma for the first time in early April 2011 to support hospitals suffering from a shortage of doctors following the March 2011 disasters.

About two-thirds of the city is located within a 30-km radius of the wrecked Fukushima No. 1 plant, but Tsubokura said he had no fear of going there.

"I looked up radiation levels there and thought the figures wouldn't cause raised health risks by staying there for a week," he said.

After a week of helping, Tsubokura came back to Tokyo, and has been shuttling back and forth between Tokyo and Fukushima since then.

From May 2011, Tsubokura began diagnosing outpatients at the Minamisoma hospital and when the hospital received a whole body counter to measure internal radiation exposure levels in July, Tsubokura was put in charge of operating and maintaining the machine.

According to the more than 20,000 results the hospital has received so far, the internal radiation exposure levels of Minamisoma residents are low and have declined since last year, he said.

Levels were especially low in children because of the differences in their metabolism, and probably due to mothers extra care in selecting their food, he said. But there have been a few seniors who had relatively high levels, due to eating highly contaminated foods like wild game and mushrooms they had gathered.

According to the hospital's test results, no radioactive cesium was detected from 99.9 percent of 1,679 children examined between last April 1 and Sept. 30. The highest amount detected was 25.6 becquerels per kilogram, which can be translated into far less than 1 millisievert per year, he said.

The International Commission on Radiological Protection (ICRP) set a radiation exposure limit under normal situations of 1 millisievert per year and says cumulative exposure of 100 millisieverts would increase the chance of death by cancer by 0.5 percent.

As for adults, 92 percent of 6,977 examinees had radiation exposure below detectable levels in the same period, compared with about 67 percent of examinees between September 2011 and last March, the data showed. The highest figure was 141 becquerels per kilogram, which can also be translated to below 1 millisievert, he said.

Measurable levels of radioactive cesium with the whole-body counter the hospital uses is 4 becquerels per kilogram for a person weighing about 60 kg.

All the three people with over 50 becquerels per kilogram of radioactive cesium had been continuously eating mushrooms from areas where their distribution is banned, the data showed.

But because only about 50 percent of Minamisoma residents have been tested...
in the first round, there may be people with higher internal radiation exposure levels, he said.

Tsubokura has been calling for residents to get checked, holding over 100 briefings and passing notices to neighborhood associations. However, it has been difficult to get the attention of the remaining half of the residents, he said.

"I am concerned about the current situation... I have been involved in a movement to incorporate internal radiation exposure checkups into regular medical examinations at schools," Tsubokura said.

As for the most worrisome internal radiation exposure levels in the early days of the nuclear disaster, radioactive materials consumed have already been discharged from bodies and the amount can no longer be estimated, he said.

"The weakest point of these checkups is that we are not estimating the internal exposure amount of residents immediately after (the meltdowns). And we haven't been able to measure exposure to radioactive iodine-131" that has a half-life of just eight days, Tsubokura said. "Those are lost forever. The only way (to guess) is to use SPEEDI (a government-operated computer simulation system used to determine or predict dispersions of radioactive substances) data to calculate using some kind of estimate equation."

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