WASHINGTON, March 8 Kyodo - A disproportionately high number of cancer cases have been diagnosed in a St. Louis suburban area adjacent to a disposal site for nuclear waste from the Manhattan Project, which developed the nuclear bombs dropped on Japan during World War II.

Local residents have also learned of an underground landfill fire that has been smoldering for at least five years in the immediate vicinity of the site, raising concerns about what could happen if it reaches the radioactive material.

Federal and local public health agencies have joined forces for an investigation launched in November and expected to last 18-24 months, while the Environmental Protection Agency on Dec. 31 announced it would install an isolation barrier between the ongoing "subsurface smoldering event" and the nuclear disposal site.

Citizen activist groups continue to push for federal measures toward the removal of radioactive waste and compensation for cancer victims.

According to a study updated and expanded in 2014 by the State of Missouri, six types of cancer including leukemia were found at a "statistically significantly higher" rate in the area of some 200,000 residents in the city’s northern suburbs as compared to the statewide population of nearly six million.

The other cancers observed at a rate significantly higher than expected in the area, which comprises eight postal codes around Coldwater Creek, were female breast cancer, colon, prostate and kidney cancers, and bladder cancer. The 4.7 percent elevation in total cancer cases in the combined area was statistically significant as well.

The West Lake Landfill, declared a Superfund site in 1990, has stored radioactive residues from the nuclear weapons project since 1973.

Beginning in 1942 and extending into the Cold War era, a St. Louis company then known as Mallinckrodt Chemical Works processed
uranium ore to remove radium and other impurities, with the waste residues accumulating at a site near the Lambert—St. Louis International Airport until the 1960s.

After the bulk of this material had been purchased by a private company and shipped out of state, a remaining 8,700 tons of radioactive waste was mixed with some 39,000 tons of soil and used to bury incoming refuse at West Lake.

There is no proven link between the nuclear residues and elevated cancer rates, though Manhattan Project waste materials are believed to have contaminated Coldwater Creek during storage at the airport site. The creek, which runs by the airport and through northern St. Louis suburbs near the Missouri River floodplain, has overflowed its banks on several occasions.

Health communicator Susan J. McBreairty of the U.S. Agency for Toxic Substances and Disease Registry, the federal authority involved in the investigation, emphasized in December that the joint study has not yet reached an assessment of cause and effect.

"ATSDR will use data on chemical and radiological contamination in soil, sediment and water to determine if community exposures were high enough to potentially cause harmful health effects," she told Kyodo News.

"If we identify harmful exposure, further research might be recommended. ATSDR's current work is focused on possible exposure, not cancer."

The State of Missouri study, which sums the cancer cases diagnosed in the area from 1996 to 2011, reports 455 observed cases of leukemia, 2,589 female breast cancer cases and 1,475 colon cancer diagnoses, each above the estimated figures of 410.62, 2,400.39 and 1375.29 cases, respectively.

Yuki Miyamoto, an associate professor at DePaul University in Illinois who visited the area and interviewed local residents, said "I don’t think we can say the nuclear waste has no relation to these cancers. But it could be hard to prove the linkage."

She indicated that unusual symptoms first noticed by local residents and their doctors may later be shown to have come from radiation exposure, citing the spike in thyroid cancer cases among children following the Chernobyl nuclear power plant disaster that occurred 30 years ago this April.

In the areas along Coldwater Creek, however, thyroid cancer was diagnosed at a lower rate than across Missouri as a whole, with the total of 215 cases coming in under the expected 288.06.

The Missouri study explains that "Iodine-131, a specific radioisotope associated with thyroid cancer is not known to be present at the site. This might explain why the incidence of thyroid cancer was not elevated in the area."

Faisal Khan of the St. Louis County Department of Public Health
told local media that "appendix cancer is relatively rare — we see about 800 cases across the nation year-wide. To find seven or eight cases in one small geographic area is rather unusual." In the report, 28 cases of appendix cancer were observed over the 15-year span, as compared to the estimate of 22.86.

Without questioning the validity of the state’s study, University of Tokyo professor emeritus Dr. Hideaki Karaki cautioned against taking its results as definitive proof of a causal link.

“There are bound to be regional variations in (overall) cancer rates in different parts of the state, so it can’t be directly concluded from a figure only 5 percent higher than the state average that cancer has increased in the area and that there is a major risk for residents,” Karaki said.

“However, the U.S. has been careless in the past with its disposal of waste from the development of nuclear weapons, and the areas around uranium processing sites are still contaminated. I understand why it is a source of urgent concern for local people. Measures should be taken for their safety.”

The disposal site of the radioactive wastes at West Lake Landfill is adjacent to Bridgeton Landfill, which ceased operation in 2005 and where an underground smoldering confirmed since late 2010 is within half a kilometer of the nuclear residues.

Many local residents are concerned about the situation. Karen Nickel, who was raised in the area and co-founded the Facebook group "Just Moms STL" in 2013 to educate the community about the potential hazards and health risks surrounding the landfill, says she suffers from lupus while her eldest daughter also experiences symptoms typical of autoimmune diseases.

“Often times I cannot get out of bed due to chronic joint and muscle pain. Most of the time, I feel like I have the flu. Very achy and lethargic. The sun is poison to my body, leaving me with nausea, headaches and joint pain. My hair falls out and I get sores in my mouth and nose occasionally,” she explained at her home in the area.

The 52-year-old activist insisted that while many people know there were research laboratories around the country that developed materials for the atomic bombs dropped on Hiroshima and Nagasaki in August 1945, few realize that St. Louis played a crucial role in the secret program. The uranium processed in downtown St. Louis was used for the first nuclear chain reaction experiment in 1942 at the University of Chicago. The success of the reaction enabled the completion of the bombs three years later.

Dawn Chapman, another local co-founder of the Facebook activist group, described a bad odor from the landfill, likely attributable to the underground smolder. Though Republic Services, owner of both the West Lake and Bridgeton landfills, has maintained that the situation is stable and poses no threat to public health, it is unclear what
could happen if the smoldering spreads to the nuclear waste.
St. Louis County and several school districts released emergency
evacuation plans in October against the possibility of a radioactive
plume or other hazardous emissions, a scenario Chapman said would be
a "nightmare" for the community.
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