**Baby Teeth May Hold Clue to What Caused Cancers**

Continued from cover

During the late 1950s, the most alarming feature of growing Cold War tensions between the United States and the Soviet Union was a fierce competition to test and build as many atomic bombs as possible. The threat of nuclear war was real, and leaders on both sides pushed hard to develop the largest stockpile of the most advanced nuclear weapons.

The United States would eventually conduct 206 above-ground bomb tests in the South Pacific and Nevada, generating fallout in the form of over 100 radioactive elements, most of which are not found otherwise in nature. Fallout drifted in the atmosphere across the continental United States, returned to earth through precipitation, and entered the bodies of targeted Pacific Islanders, Southwest US Indigenous peoples and millions of others through the food chain.

Some of the bombs that were tested had a power equivalent to more than 1,000 times the force of the Hiroshima bomb. Along with fears of possible nuclear war, many were concerned with the actual buildup of fallout in the population — especially in children who are most vulnerable to its toxic effects. Government officials secretly collected bones and tissues from deceased Americans and found large increases in Sr-90 that corresponded with the timing of the tests. These findings were never publicly released, and the testing continued.

**Virtual all military leaders and many political leaders of the day had no intention of stopping bomb tests. Grassroots opposition represented the only chance to force a shift in government policy to protect public health. Scientists and citizens worked together in the early 1960s in the United States, in which family doctors collected more than 320,000 baby teeth were collected and measured for Sr-90. The dramatic results showed children born in 1963 had 50 times more Sr-90 than those born in 1951, when large-scale testing began.**

These conclusions were published in peer-reviewed medical journals and landed eventually on President John F. Kennedy’s desk. Kennedy referenced fallout buildup in children in a July 1963 speech (“with children’s blood in their brain, with the Sr-90 in their blood, with poison in their lungs”). After hearing expert testimony on the buildup of carcinogens from fallout detected in the population, the Senate ratified a ban on all above ground tests. Kennedy signed the treaty — as did leaders from the Soviet Union and United Kingdom — in October 1963. Although the test ban was ballot-Box warranted in the aftermath of a war that was in truth it was as much an environmental health measure, which had been, influenced, at least in part, by the baby teeth research project. (Underground testing continued in the United States through 1992.)

But it was not until 1999, following the end of the Cold War and the collapse of the Soviet Union, that the National Cancer Institute (NCI), a federal agency, estimated that between 11,000 and 212,000 Americans developed thyroid cancer from fallout from bomb testing before 1985. These estimates were based on an estimated 340,000 baby teeth collected in the United States from 1946 to 1965, and they include people born in all 50 states and 45 foreign countries.

In 2011, RPHP published its first article on a study of Sr-90 levels in children living both close to and far from domestic nuclear reactors. With the trove of baby teeth from the St. Louis study, RPHP was determined to examine the critical question the original study hadn’t pursued: What was the impact of bomb fallout on public health and cancer risk?

In 2017, RPHP began a partnership with Dr. Weisskopf, a Harvard University School of Public Health professor who has a long history of using teeth in research. Harvard secured a grant from the National Institutes of Health (NIH) to use a sample of teeth to study early-life exposure to the Sr-90 levels in children living both close to and far from domestic nuclear reactors. The 2008 KiKK study identified the critical question the original study hadn’t pursued: What was the impact of bomb fallout on public health and cancer risk?**

**Cancer & Infant Mortality Near Operating Reactors**

Dozens of peer-reviewed scientific studies show a relationship between cancer incidence and the nearby operation of nuclear power plants in Germany, which was followed three years later by the Fukushima catastrophe, led its government to announce the phase-out, now nearly complete, of all its 17 reactors by the end of 2022.

According to a 2002 study reported in the Archives of Environmental Health from 1985 to 1996, average infant death rates dropped 6.4 percent every two years. But in areas surrounding five reactors shut down between 1985 and 1995, the infant mortality rates dropped an average of 18 percent in the first two years. Additional research at Main Yankee and Big Rock Point nuclear plants in Michigan, begun in 1977, showed that infant death rates fell 33.4 percent and 54.1 percent, respectively.

Four major studies include:


[5] The Genoa reactor near La Crosse, Wise. closed in 1987; Rancho Seco outside Sacramento, and Fort St. Vrain in Colorado both closed in 1989; Fermi 2 has been operating around the clock. There has been no melt-down, but there have been daily “permitted” releases of radioactive waste products [in gases and liquids] — including Sr-90, which enter the air and water and the local food supply.

There were childhood cancers in Newport Beach in the 1970s, but at the time no one saw Fermi reactors as a potential explanation for the tragedies. They were simply unusual events, with no known cause.

But things changed drastically in recent years, as un- usual numbers of cancers in the Newport Beach com- munity, frequently in their forties and fifties, have been diagnosed with cancer. Experts have offered no explanation of why so many people are dying from cancers and have offered no explanation of why so many people are dying from cancers that have been diagnosed cancer so early in life. This year, after hearing about the RPHP report and the program to collect baby teeth, many Newport Beach residents recognized that the St-90 released from reactors like Fermi is the same Sr-90 found in those ominous mushroom clouds generated by bomb tests so many years ago.

For now, like Carolyn Schulte in St. Louis, the folks in Newport Beach await results hoping for at least one conclusive factor in the search for a cause of the cancers that has ravaged their community.

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