Future Prospects for Medical Isotopes at Hanford and the Tri-Cities

Lewis & Clark Room
Tower Inn, Richland, WA
March 17, 1995

Agenda

08:30 - 08:45	Welcoming remarks (Thomas Tenforde)
08:45 - 09:10	Hanford's legacy and future role in medical isotope production (Robert Schenter)
09:10 - 09:40	Modern horizons in cancer therapy with radiolabeled antibodies (Darrell Fisher)
09:40 - 10:00	Yttrium-90: A Hanford success story (Susan Golladay)
10:00 - 10:30	Coffee break
10:30 - 10:45	Hanford-Industry partnerships in the preparation of Yttrium-90 compounds (James Mayeda)
10:45 - 11:10	Future plans for Hanford medical isotope production and applications (Michael Fox)
11:10 - 11:30	Linkages of government, industry, academia, and health care providers in medical isotope production and applications (Ronald Kathren)
11:30 - 11:45	DOE's perspective on the role of Hanford in medical isotope production (Ronald Izatt)
11:45 - 12:00	The public's perspective on the role of Hanford in supplying medical isotopes (James Acord)
12:00 - 1:30 PM	Lunch (poolside buffet at Tower Inn)
1:30 - 2:00	Wrap-up session on issues and action items (Michael Fox, Robert Schenter and Thomas Tenforde)
2:00 - 2:30	General question and answer session (audience participation)
2:30	Adjourn workshop
2:30 - 4:00	Speakers available for one-on-one discussions

"Future Prospects for Medical Isotopes at Hanford and the Tri-Cities" -- A Workshop Sponsored by the Hanford Medical Isotopes Working Group

Location: Tower Inn, Lewis & Clark Room, Richland

Date: March 17, 1995: 08:30 a.m. - 2:30 p.m. (complimentary hot buffet lunch included)

One of the legacies of the Hanford defense mission was the production of waste materials containing radioisotopes with beneficial applications in the diagnosis and therapy of cancer and other diseases. A major new activity involving DOE and Hanford contractor organizations, primarily the Pacific Northwest Laboratory and the Westinghouse Hanford Company, is an assessment of quantities and medically-related uses of existing stockpiles of Hanford radioisotopes. At this stage we envision a significant future commercial market for these medical isotopes and radiolabeled products. In addition, we are exploring the feasibility of using isotopes from nuclear stockpiles for other applications, including food irradiation.

In order to share this vision with local government officials, Hanford contractor employees, and members of the general public, we will be hosting a one-day workshop on March 17 at the Tower Inn in downtown Richland. During the morning session, a series of lectures will be given on the history, current status, and future prospects for the production and sale of Hanford isotopes, including Yttrium-90 (a decay product of Strontium-90) for cancer therapy and Cesium-137 for use in food irradiators and medical sterilizers. Other talks will describe the broad range of health-related applications of isotopes, and the close working relationships that are being established between Hanford, DOE, industry, and universities in our current activities.

Following the morning session on March 17, we will host a complimentary hot buffet at the Tower Inn. Upon reconvening, we will summarize some of the major points made in the morning session and describe our near-term and long-range goals for achieving the full development of the Hanford medical isotopes program. The audience is invited to ask questions and to offer commentaries during this session. Following adjournment at 2:30 p.m., many of the speakers will remain at the Tower Inn for additional one-on-one or small group discussions.

At the present time, there are approximately 75 invitees who have registered for the workshop. The Lewis & Clark conference room at the Tower Inn has additional seating capacity, and the **first 25 members of the ANNS who contact Dr. Thomas S. Tenforde at 375-3738 will be registered for the workshop.**

Big dreams for nuclear isotopes

Hanford scientist sees future for cancer treatment in Tri-Cities

By The Associated Press

Scientist Bob Schenter believes the Tri-Cities will someday be as famous for cancer treatment as the Mayo Clinic in Minnesota is for health care and research.

Westinghouse Hanford Co. and the Pacific Northwest Laboratory are working together to produce a medical isotope — already being tested as a cancer treatment in human clinical trials around the country — from nuclear waste at the Hanford nuclear reservation near here.

The treatment still must be approved by the U.S. Food and Drug Administration.

But Schenter envisions a day when cancer patients from around the country will travel to the Tri-Cities for their treatment.

"It's only natural," the Westinghouse Hanford scientist said. "The isotope has a short half-life and needs to be used as soon as possible. So it's easier to bring the patients to the treatment rather than bring the treatment to them.

"Within 10 to 15 years, I predict we'll have the Hanford — or maybe the Northwest — world center for cancer treatment," he said.

Perhaps the Fred Hutchinson Cancer Research Center in Seattle will establish a clinic here, he mused.

Anything's possible.

Westinghouse Hanford and PNL, both contractors at the Energy Department's Hanford site, are working with the Tri-City Industrial Development Council to interest private industry in extracting the isotope — yttrium-90 — from Hanford wastes for commercial marketing.

"There's some serious interest," said LaMar Trego, president of Westinghouse Hanford Co., the division of Pittsburgh-based Westinghouse Electric that manages Hanford for the U.S. Energy Department.

"There are real business plans being put together right now and discussions going on about signing an actual agreement."

He declined to say which companies were interested, and any deal would be contingent on FDA approval. But Alan Fritzberg, chief scientist at NeoRx Corp., said his Seattle-based biopharmaceutical company is looking closely at Hanford's supply of yttrium-90.

"We have a strong commitment to developing yttrium-90 for targeted radiotherapy," Fritzberg said. "One of the sources is the Hanford material, and we've also been looking at what ways we could develop that as a product."

The only other U.S. source of yttrium-90 is Wilmington, Del.-based DuPont, he said, though there are English and Canadian sources as well.

Turning Hanford's medical isotope program over to private industry is the main goal, said Bill Madia, president of the lab at Hanford managed by Columbus, Ohio-based Battelle. PNL is one of the nation's 10 federal laboratories.

"This is turning lemons into lemonade. This is a good example of knowing how to be in science and technology business," Madia said.

"To the uninformed, Hanford might look like a waste dump. ... To the entrepreneur, Hanford looks like a whole world of opportunities.

"When you talk to health industry, they say they need better diagnostic and therapeutic isotopes," he said. "Take that need and marry it with the assets that I call Hanford, and you've got a wonderful marriage, using people and facilities that don't exist many places."

Westinghouse Hanford Co. now sells yttrium-90 to universities and research hospitals for less than it costs to extract it, said Sue Golladay, who is in charge of those sales.

"It's appropriate for the government to be involved in medical isotopes. ... The government owns the isotopes anyway and they decay away anyway, so they might as well use it for medical treatments," Golladay said.

Private industry can be enticed to step in after they've been tested and approved, a process that takes years.

"Then it becomes profitable," she said.

Oncologist optimistic about isotope

TCH - 5 March 1995

By The Associated Press

Dr. Huibert Vriesendorp is leery of talking about cures for cancer.

But the radiation oncologist at the M.D. Anderson Cancer Center in Houston is optimistic a radioactive isotope called yttrium-90 will one day be used to kill cancer cells immediately after a patient is diagnosed.

"I would not be surprised to find out yttrium is going to be useful in many kinds of common cancers," Vriesendorp said. "But we have to do the studies cautiously and carefully."

Vriesendorp is testing the isotope, extracted from nuclear waste stored at the Hanford nuclear reservation near here, on cancer patients.

"It's nice because (patients) do appear to respond. Three out of four get shrinkage of their tumor," Vriesendorp said.

The isotope is not a cure — tumors recur within a year in most patients. But researchers are working to address that.

Sixty patients with Hodgkin's Disease, a cancer of the lymph system, have participated in Vriesendorp's study at the Houston center so far. At least six other human clinical trials of yttrium-90 are under way around the country, the National Cancer Institute said.

The Houston cancer clinic has applied for a $5 million NCI grant over five years to expand its study of yttrium-90 as a weapon against brain, ovarian and breast cancer, Vriesendorp said.

But he worries federal budget problems will mean the cancer institute, the U.S. Department of Social and Health Services and other agencies will cut back support of studies like his. He believes researchers could be on the verge of a breakthrough involving development of a new protein carrier to deliver yttrium-90 to the tumor.

"We don't have enough people to do the tests, we don't have enough funds to buy the animals and do the analysis," Vriesendorp said.

"But if this new protein works for Hodgkin's Disease, I think we'll be close for something that will be useful at the time of diagnosis. I'd love to call it a cure, but I'm not comfortable using that word."

The yttrium-90 studies involve patients who have failed to respond to more traditional cancer treatments: radiation and chemotherapy and bone-marrow transplants.

"When they come to us, they really don't have any other treatments available to them," Vriesendorp said.

In the outpatient treatment, patients receive two injections, the first with a diagnostic isotope that determines whether the protein carrier will deliver the yttrium-90 directly to the cancer.