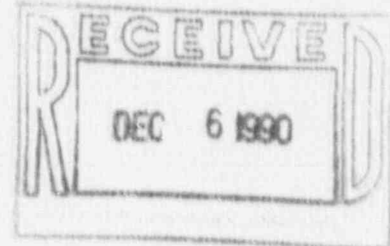
Vitality for Life

Muskogee Regional
Medical Center
300 Rockefeller Drive
Muskogee, Oklahoma 74401
918/682-5501



November 30, 1990

U. S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011

Re: Discrepancy Between Sources of Iridium 192 Received Versus Those Reportedly Shipped

Dear Sirs:

On 10-31-90 the Radiation Oncology Dosimetrist ordered Iridium 192 sources for rectal implant from Alpha-Omega Services, Inc. Eighteen (18) ribbons with ten (10) seeds each were requested with approximate activity of 0.411 mgm. radium equivalents for each seed.

The shipment was received on 11-2-90 (Friday) and placed as received in the isotope closet, not to be used until 11-6-90 (Tuesday).

On 11-5-90 the Dosimetrist opened the box, removed the lead pig from its container and placed it behind the shield in the isotope closet. No inventory was done at this time.

On 11-6-90 the Dosimetrist prepared the sources for the Oncologist placing holder tips on the ends of the ribbons. No inventory was done. The patient was brought to Radiation Oncology at approximately 10:00 a.m. The dosimetrist brought the isotope pig to the room for patient loading. The sources had been taped to the lead pig. As the Oncologist loaded the sources into the Syed-Neblett rectal template, the Dosimetrist kept inventory of the number of ribbons removed from the pig. At the termination of loading, the Dosimetrist had counted 17 ribbons. With the patient awake, no attempt was made to inform the Oncologist of the mis-count so the patient would suffer no alarm. Time 1045 hours.

The Dosimetrist recounted the ribbons and again counted 17 ribbons. The Patient Care Technician was summoned and asked to count the ribbons, result 17 ribbons. A search was carried out by these two in the room to insure a ribbon was not misplaced. The Oncologist was then informed of the discrepancy in the number of ribbons counted (17) and planned or ordered (18).

At 1100 hours the Oncologist altered the loading of the sources in the needles to accommodate the missing sources. The patient was taken to her room where proper safety precautions were instituted. A radiation survey was performed.

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At this time the Radiation Safety Officer was notified, time 1130 hours. I was on vacation. I advised surveying the storage area and all subsequent areas to which the isotope had been taken. I suggested the Radiation Physicist be contacted for his input.

At 1200 hours the Dosimetrist and Chief Radiation Oncology Technologist surveyed the entire therapy area with appropriate surveying equipment and found no trace of the missing sources. The patient's path to her room was surveyed with no trace of activity found. Later the patient was removed from the room and the patient's room surveyed with no trace of activity. All linens exposed to the patient were surveyed without activity found. The gurney the patient was transported on was surveyed - no activity. No source of radioactivity could be found outside the patient.

The Radiation Oncologist subsequently removed the sources from the patient, placed them in the lead pig, removed them from the room and surveyed both the room and the patient. No activity was found. The sources were replaced in the patient.

Alpha-Omega Services, Inc. was phoned regarding the missing sources. They attested they shipped 18 strips which was documented by their paperwork. Subsequently, they sent us a radiograph the following day showing 18 ribbons of 10 seeds each purported to be the shipped sources. The radiograph was taken before packaging.

That evening the Radiation Physicist took one of the sources from the patient and checked the activity to substantiate the activity received truly was that ordered. The source was accurate - 0.411 mgm.

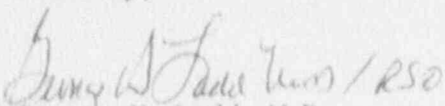
I tried the evening of 11-6-90 to notify by telephone the Dallas Regional Office of the Nuclear Regulatory Commission but the office was closed and I was given a 24-hour number to contact. This was done, the incident reported and I was informed someone from the Dallas office would contact me the next morning. Since I was on vacation I requested they contact the Radiation Oncologist.

The morning of 11-7-90 Mr. Charles Cain contacted the Radiation Oncologist to discuss the incident.

It is my conclusion, after thorough evaluation, only 17 ribbons of 10 seeds each were shipped and received.

In the future, received sources will be inventoried immediately upon breaking the seal of the container.

Sincerely,



George H. Ladd, M.D.
Radiation Safety Officer
Muskogee Regional Medical Center

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