PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE PNO-III-94-02

This preliminary notification constitutes EARLY notice of events of POSSIBLE safety or public interest significance. The information is as initially received without verification or evaluation, and is basically all that is known by the Region III staff on this date.

Facility	Licensee Emergency Classification
University of Cincinnati	General Emergency
Cincinnati, Ohio	Site Area Emergency
	Alert
License No.: 34-06903-05	Unusual Event
	x Not Applicable

Subject: MEDICAL MISADMINISTRATION INVOLVING LEAKING IODINE-125 SEED

On January 14, 1994, the licensee reported a medical misadministration involving an iodine-125 brachytherapy treatment. On January 7, 1994, sixteen iodine-125 seeds ranging from 10 to 30 millicuries each were implanted in the brain of a 30 year old male patient. Following the explant procedure on January 14, 1994, iodine-125 and thallium-201 contamination was found in the surgical room and in the bathrooms used by the patient. (The patient had thallium-201 and technetium-99m scans prior to the implant on 1/7/94 and prior to the explant on 1/14/94.) Contamination levels in the surgical room ranged from a maximum of approximately 73000 dpm/100 cm^2 on the pan containing the explanted iodine-125 seeds to an average of 700 dpm/100 cm^2 on the floor. The maximum contamination level found in the bathrooms was approximately 13000 dpm/100 cm^2. The explanted seeds were placed in a charcoal-filtered fume hood located in the radiation safety office. They will be subjected to further analysis by the licensee and/or the manufacturer, Medi-Physics, Inc. According to the licensee, the iodine-125 seeds had not been used before, and showed no evidence of leakage prior to the implant.

Region III dispatched two inspectors to the university on January 15, 1994. Preliminary findings indicate that at least one seed was leaking and the leakage may have resulted from a staple which was used to secure the catheter containing the seeds in place during the implant procedure. Based on radiation measurements made by the licensee and confirmed by NRC inspectors, contamination was limited to a surgical room and two bathrooms. The surgical room has been decontaminated and the licensee is in the process of decontaminating the remaining areas. Direct radiation surveys of hallways adjacent to the surgical room and the rooms occupied by the patient during the implant period, a CAT scanning room, and a visitor lounge, resulted in radiation levels no greater than background using a sodium iodide detector. The licensee will evaluate the iodine uptake of hospital staff, visitors and the patient beginning Tuesday, January 18, 1994. Preliminary measurements, using a thyroid uptake probe, indicate the uptakes of the patient's attending physicians, a radiation safety technician, a brachytherapy technologist, and one of three visitors are less than minimum detectable activity (one nanocurie).

The licensee informed the referring physician, the patient and the patient's family of the misadministration. The NRC has obtained the services of a medical consultant to review the medical implications of the incident.

The State of Ohio has been notified. The information in this preliminary notification has been reviewed with licensee management. Region III will continue reviewing this incident during a routine inspection scheduled for February 1994.

Region III (Chicago) was notified of the misadministration at 8:55 p.m. (EST) on January 14, 1994. This information is current as of 2:00 p.m. (CST) on January 18, 1994.

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