



The Ohio State University

Radiation Safety

B-042 Graves Hall
333 West 10th Avenue
Columbus, Ohio 43210

Phone 614 422-0122

Jack
We will examine report
at end of inspector visit
week. *Jim 4/18/83*

March 3, 1983

Mr. Bob Bergin
U.S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, Ill. 60137

Lic. File

34-00293-08

Dear Mr. Bergin:

Enclosed is an information report concerning a therapy misadministration as defined by 10 CFR 35.42.

Telephone notification was made at 3:30 P.M. on February 18, 1983.

If I can be of further assistance, or provide additional information, please call.

Sincerely,

Gene B. Roe -
Assistant Director
Office of Radiation Safety

GBR:kp
Enclosure

cc: Walter Carey, Ph.D.
Jo Nell Pohl, Dosimetrist
Frank Batley, M.D.

MAR 17 1983

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34-00293-02 PDR

(ATTACHMENT I)

Information Report
Misadministration
Therapy

Date: February 17, 1983

Licensee Name: Ohio State University

Address: Columbus, Ohio 43210

(Radiation Oncology Division, Radiology Department, 410 W. Tenth Avenue)

Prescribed Dose: 1,833 rads to Point 'A' Administered Dose: 2,226 rads to Point 'A'

% Difference: + 21% (Please see comments on reverse)

Dates and Times Involved: Brachytherapy Cesium-137 sources inserted at 4:40 pm Monday, February 14, 1983 and removed after 30 hours of treatment at 10:40 pm on Tuesday, February 15, 1983.

Name of Treating Physician: Chung K. Yin, M.D., Staff Radiation Therapist

Name of Referring Physician: George Johnston, M.D., Gynecologist

Description of Event: The sources, planned to be 19.6 + 11.8 + 9.5 + 9.5 mg ²²⁶Ra equivalent ¹³⁷Cs sources in the central tandem and 11.8 mg Ra equivalent ¹³⁷Cs sources in each ovoids, were loaded into the plastic inserts by the dosimetrist prior to insertion in the afterloading applicator by the physician. After the precalculated treatment time of 30 hours, the Radiation Therapy House Officer removed the sources and the applicator and placed the source in the carrying cart in the radium room. On February 16th, the physicist replaced the sources in the safe, and as usual took a pre- and post replacement inventory of sources in the safe and the sources replaced. Back in the department, the inventory was being recorded in the ledger and a comparison of records showed that the ovoids were loaded with 17.4 mg ²²⁶Ra equivalent sources instead of the 11.8 mg equivalent. The dosimetrist and therapist were notified of the incident immediately.

Effect of Administered Dose to Patient: Even though administered dose was higher than the planned dose, the total dose is well under the tolerance dose, so no

immediate and late complications are anticipated (Chung K. Yin, M.D.)

Action Taken to Prevent Reoccurrence: Advised the dosimetrist of the requirement to inventory the sources in the safe by individually counting the sources in the safe at the time of removal and replacement of sources. The attached form was prepared for use by the physics staff, who always remove and replace sources in the safe. All physics staff handling the sources in and out of the safe are to use the form and take inventory of sources in the safe prior to after removing and replacing the sources by individually counting and identifying the sources which are clearly color coded, including the inventory of the sources removed

Comments: A total dose of 6,500 rads to Point 'A' and 7,000 rads maximum dose to the vaginal mucosa, which ever comes first, was prescribed. 4,500 rads of the total dose was delivered with external beams, and the balance was to be by brachytherapy. The doses calculated prior to insertion of the sources were 1,833 rads to Point A and 2,500 rads to the surface of the ovoids (which was taken as the maximum dose to the vaginal mucosa). The misloading of the ovoids with higher than planned activity sources resulted in the final doses of 2,226 rads and 3,417 rads respectively to Point A and the vaginal mucosa from brachytherapy alone, 21% and 37% higher than the planned dose. However, the total treatment dose to Point A from external and internal treatment was 6,726 rads (3.5% higher) and maximum dose to the vaginal mucosa was 7,917 rads (a 13% higher) compared to the 6,500 rads and 7,000 rads planned at the start of the treatment.

Frank Batley

Mar 4. 83.

Frank Batley, M.D., Professor and Director, Radiation Oncology

Date

RSO:

Dore S. Lee, Assoc. Chief of Radiation Safety, 3/2/83
Assistant Director

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