

ABBOTT
NORTHWESTERN
HOSPITAL
a LifeSpan member*

22-04588-02

Nuclear Regulatory Commission
Inspection Division
Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

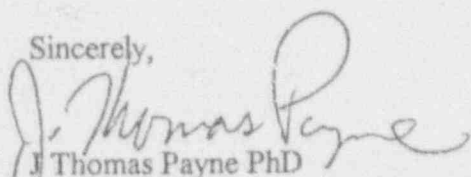
1/6/93

Attn: Gary Shear

Dear Gary Shear,

Enclosed please find an account of the interrupted and incomplete treatment using the Nucletron HDR unit. A single catheter treatment of the esophagus was planned. The Written Directive called for an Active Length of 10cm with 21 Dwell (treatment) positions and a prescription dose of 500 cGy at 10mm (1cm) from the center of the catheter. Due to machine problems only 14 of the planned 21 positions were treated with two emergency interruptions. Thus, the most distal portion of the planned Active Length (last 3.5cm) was not treated and the actual treated length was the proximal 6.5cm. The two interruptions required approximately 10 seconds of extra treatment out of an actual delivered time of 176.4 seconds (additional 5.6%). The details of the incident are on the enclosed report.

Sincerely,


J. Thomas Payne PhD
RSO

cc Tae Kim MD, Authorized User
David Monyak MD
Don Brunn Administration
Ken Priemesberger MD, Chm RSC

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PDR ADOCK 03000297
C PDR

800 E. 28th Street at Chicago Avenue
Minneapolis, Minnesota 55407-3799
Phone: 612/863-4000

High Dose Rate(HDR) Incident

Location: Abbott Northwestern Hospital
NRC License: 22-04588-02

Authorized User: Tae Kim MD
Designated user under direction of A.U.: David Monyak MD

HDR operators: Tony Murphy M.S.
Tom Payne PhD, RSO

Date: Jan 6, 1993 Time: 10:15 AM
Unit: Nucletron HDR SN# 9282 Source Strength: 6.2 Curies on 1/6/93

Treatment site: Esophagus
Written Directive: Single catheter Active Length 10cm
500 cGy at 10mm from center catheter
(21 dwell positions from computer plan)

Time Course of Events:

10:15 Computer treatment plan completed

10:23 Treatment console loaded with EPROM card, Checked and verified times, MD approved

10:25: Start treatment

1st position treated, Unit locked-up, Emergency-off button pushed (approx. 5 sec)

Prime Alert indicated Source was in safe position

Tom Payne, RSO went into room to inform patient and check unit

10:33 Reprogrammed remaining dwell positions, Checked and Verified,

10:34 Treatment Started

13 dwell positions treated and unit locked-up again, Emergency-off pushed (less 5 sec)

Situation reviewed with Physician. Physicists advised that unit was not reliable.
Physician decided to stop treatment.

Physics Summary:

Total of 21 dwell positions planned. 14 dwell positions treated with two interruptions which added approximately 10 seconds to the treated time of 176.4 seconds. The total time was therefore 186.4 sec ($186.4/176.4 = 1.056$ or 5.6% greater).

Effect on Patient:

No acute effect. No chronic effects anticipated. The treatment was the last of four high dose rate boosts to the esophageal tumor area. The area undertreated was mostly distal to the gross tumor. Do not feel any predictable change in tumor control will result.

Monyak

HDR Written Directive
for Temporary Implant

Date: 1-6-93

Patient: [REDACTED] ^{Verified} X
Hosp. ID: [REDACTED] X
D.O.B.: _____

Treatment Site: ESOPHAGUS

Source type : **Ir-192**

Activity on date of treatment: 6,200 Ci

of Catheters to be treated: 1

Initial Prescription

Estimated Active Length : 10 cm

Dose: 500 cGy at 10 mm

Final Prescription

Actual Active Length : 10 cm

Dose: 500 cGy at 10 mm

Total treatment time : 278.1 seconds

HDR index value : _____ (for single catheter only)

$$\text{HDR index value} = \frac{\text{Activity} * \text{time}}{\text{Active length}}$$

Authorized User [Signature]
Physicist [Signature]

Patient verified by two methods

Treatment in accordance with written directive

Yes	No	Initials
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>FW</u>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	