

Brachytherapy Treatment of Prostate Cancer: a Post-Operative Case Study

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Abstract. When prostate cancer is detected, a common and often successful treatment is radioactive seed implantation (brachytherapy). This project indicates the knowledge people have about the prostate and the feelings of someone with seed implantation. A quiz consisting of ten questions was handed out to five typical ninth grade classes. Also, a verbal questionnaire was given to the patient questioning him on his feelings and emotions. The quiz shows that students know little about prostate cancer, with the average score being 44%. The patient self assessment shows that he has become sicker and more excited.

Keywords: Medicine, prostate, cancer, case-study, brachytherapy, radiation.

INTRODUCTION

About 186,000 men will be diagnosed with prostate cancer this year [1]. The prostate is a small gland about the size of a walnut. It sits under the bladder and in front of the rectum. The urethra runs directly through the prostate and the rectum sits just behind the prostate and the bladder [2]. If prostate cancer is detected, one common treatment is radiation seed implants (brachytherapy). This may be hazardous to the urethra and surrounding tissues, and the treatment is not always successful [3]. Many diseases, including cancer, depend in part on the positive emotional state of the patient [4]. The patient's emotional state depends in part on the mood of those around him. In turn, the support of the community depends in part on their knowledge of the disease. To test this understanding, a quiz on the prostate was administered to ninth grade students.

METHODS

A questionnaire consisting of 10 questions (see Appendix 1) was administered to five high school freshman classes. Twenty females and Twenty-five males were questioned. The questions were about the prostate, prostate cancer, and the effects of prostate cancer. Also, a self-assessment was given verbally to the patient recovering from prostate cancer bi-weekly (see Appendix 2). It was administered four times on the dates of 2/10/09, 2/23/09, 3/10/09, and 3/26/09. It rates his mental state on a scale of 1-10. The feelings and moods questioned are happiness, sadness, anger, boredom, confusion, how excited he is, tiredness, hunger, sickness, and how worried he is. There was also an open-ended question to gather information on other feelings he may have had.

RESULTS

Figure 1 shows the results from the prostate knowledge quiz. The results of boys were displayed separately from those of girls, although there is no significant difference. The male average is 44.8 with a standard deviation of 24.0. The female average is 42.5 with a standard deviation of 23.6. Together, the average is 43.65. Table 1 displays the results of a verbal quiz given to the patient. There were ten questions on this quiz and the option for other feelings. The feelings of excited and sickness drastically changed during the two months. The feeling of excitement rose rapidly from five to nine, remained steady until the next week, and then decreased to eight. The feeling of sickness remained steady the first six weeks and then rapidly increased the last two. It went from one to three, then decreasing to two, and increasing to six.

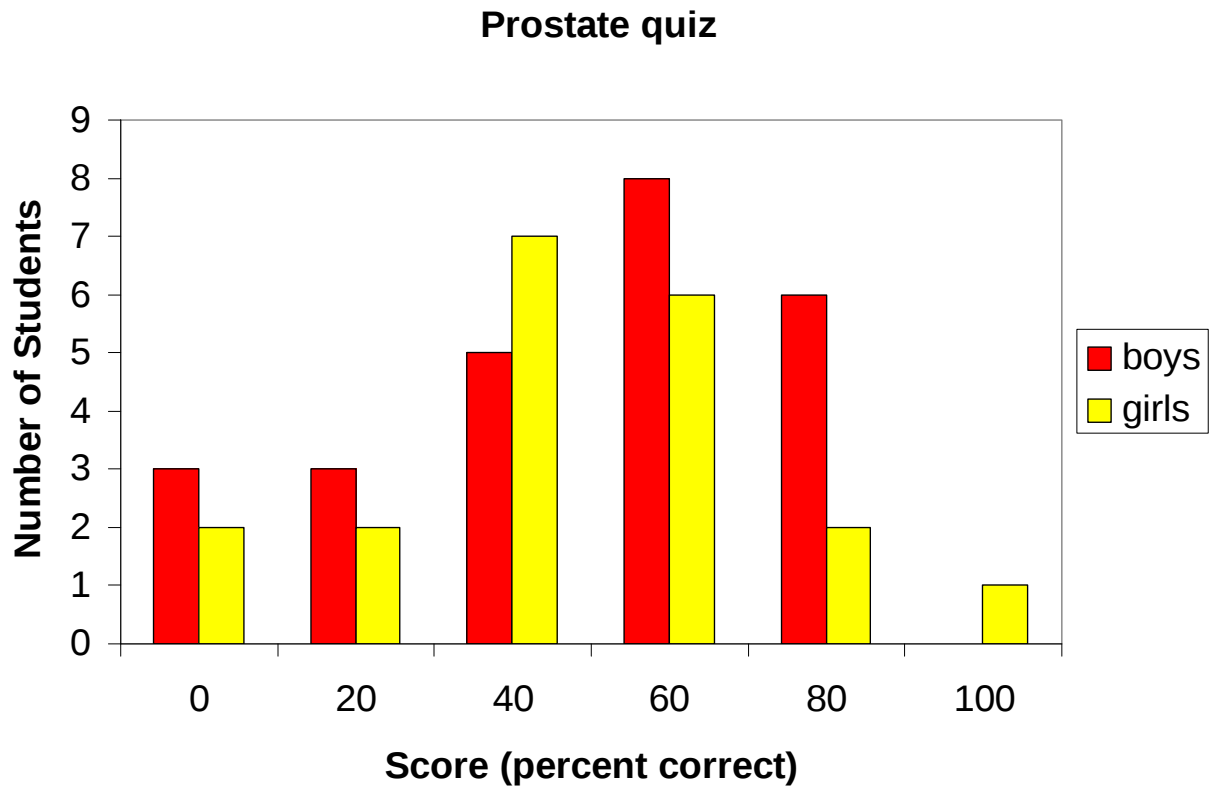


Figure 1. Results of the prostate knowledge quiz

TABLE 1

Date	PATIENT SELF ASSESMENT										other feelings
	Happy	Sad	Angry	Bored	Confused	Excited	Tired	Hungry	Sick	Worried	
2/10/2009	9	1	1	1	1	5	6	8	1	2	none
2/23/2009	10	1	1	1	1	9	6	8	3	3	joyful
3/10/2009	9	1	1	1	1	9	5	8	2	2	none
3/26/2009	9	2	1	1	1	8	3	8	6	4	none

Key
1=minimum, 10=maximum

DISCUSSION

A study similar to mine was conducted October 1st, 1994 through October 31st, 1994 by the National Cancer Institute [5]. The people being studied were from six NCI SEER tumor registry systems. Eighty-eight percent of the patients were diagnosed with clinically localized disease; 4 % had evidence of cancer in other organs. 42% of the men were treated with radical prostatectomy, 24% with radiotherapy, 13% with hormonal therapy, and 22% were not treated. This study is unique because the participants tested have diverse racial and ethnic backgrounds. The patients were questioned at 6, 12, 24, and 60 months after the initial diagnosis. The study was designed to focus on quality-of-life issues known to most men with prostate cancer. SEER also gathered medical records not usually

collected by SEER. They attempted to figure out if the way they were treated would affect their daily life. this study is similar to my study because it questioned patients on mood and feelings.

CONCLUSIONS

As a result of studying the patient and the results of a quiz handed out to average ninth grade students, I observed that the patient is not fearful of the future or that the cancer will spread, and that ninth graders know a little about prostate cancer.

ACKNOWLEDGMENTS

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APPENDIX 1

This is the quiz handed out to average ninth grade students.

What you know about prostate cancer quiz. Instructions – Check what you believe is the correct answer. If you do not know the correct answer, please check “I don’t know”.

- 1) What is the prostate?
 - A) An organ in both male and female bodies.
 - B) A tissue in the female body.
 - C) An organ in the male body.
 - D) A tissue in both male and female bodies.
 - E) I don’t know
- 2) Where is the prostate?
 - A) Directly above your lungs.
 - B) Directly below you bladder.
 - C) Directly below your heart.
 - D) Directly below your lungs.
 - E) I don’t know
- 3) What does the prostate do?
 - A) It influences the sperm.
 - B) It influences you desire for someone.
 - C) It causes you to dream when you sleep.
 - D) Keeps your nerves from shaking uncontrollably.
 - E) I don’t know

- 4) What may happen if the prostate becomes cancerous?
- A) You will poop green feces.
 - B) You will not fall in love.
 - C) You can have trouble urinating.
 - D) You die
 - E) I don't know
- 5) Does prostate cancer affect a person's daily routine?
- A) Definitely
 - B) Probably
 - C) I don't know
 - D) Probably not
 - E) Definitely not
- 6) Does prostate cancer affect how fast you react to things?
- A) Definitely
 - B) Probably
 - C) I don't know
 - D) Probably not
 - E) Definitely not
- 7) Does prostate cancer affect the percent of drowsiness you are feeling?
- A) Definitely
 - B) Probably
 - C) I don't know
 - D) Probably not
 - E) Definitely not
- 8) Does prostate cancer affect you when you urinate?
- A) Definitely
 - B) Probably
 - C) I don't know
 - D) Probably not
 - E) Definitely not
- 9) Does prostate cancer affect your memory?
- A) Definitely
 - B) Probably
 - C) I don't know
 - D) Probably not
 - E) Definitely not
- 10) Does prostate cancer affect your ability to think?
- A) Definitely
 - B) Probably
 - C) I don't know
 - D) Probably not
 - E) Definitely not

APPENDIX 2

This is the assessment given to the patient.

1. How happy have you been feeling this week?
Non 1-10 very
2. How sad have you been feeling this week?
Non 1-10 very
3. How angry have you been feeling this week?
Non 1-10 very

4. How bored have you been feeling this week?

Non 1-10 very

5. How confused were you feeling this week?

Non 1-10 very

6. How excited have you been this week?

Non 1-10 very

7. How tired were you this week?

Non 1-10 very

8. How hungry did you feel this week?

Non 1-10 very

9. How sick did you feel this week?

Non 1-10 very

10. How worried have you felt this week?

Non 1-10 very

11. Have you felt any other emotions or feelings this week besides the stated ones?