

Cause specific mortality in a large cohort of prostate cancer patients treated with brachytherapy

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Purpose/Objective(s)

The purpose of this study was to evaluate causes of death in a large cohort of prostate cancer patients treated with interstitial permanent prostate brachytherapy.

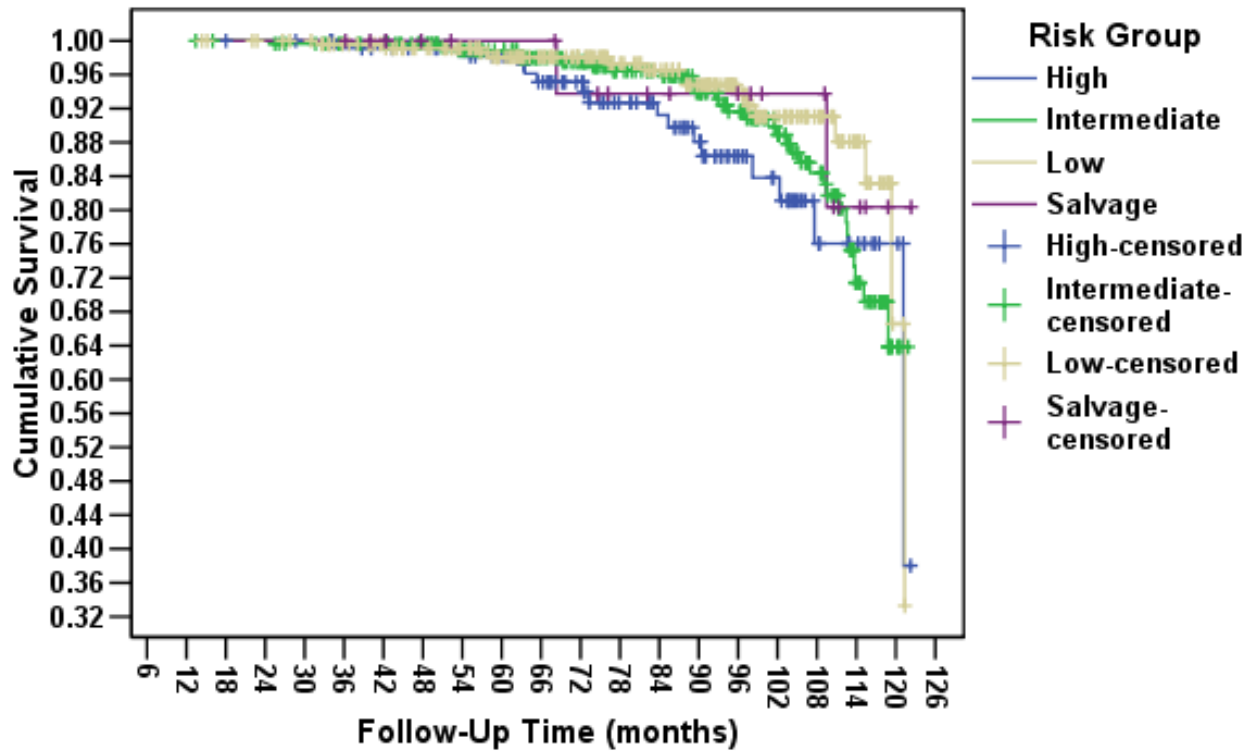
Materials/Methods

8,215 patients underwent prostate brachytherapy at a single institution between October 1997 and October 2007. Mean patient age was 68.9 ± 7.6 years. 48.2% of patients were considered low risk, 39% were intermediate risk and 11.8% were high risk as classified by the D'Amico risk groups. Overall, 2,522 patients (30.7%) received androgen deprivation therapy. Median follow-up time was 4.6 years. Specific cause of death was evaluated as well as multiple variables including risk group, smoking status, presence or absence of diabetes, hypercholesterolemia and hypertension.

Results

Kaplan-Meier survival analysis demonstrated prostate cancer specific survival was 97.3% (99.8%, 98.0% and 94.1% for Low, Intermediate and High risk patients, respectively) (Figure 1).

Prostate Cancer Specific Survival



The overall survival for the patient population was 76.9% (83.2%, 80.5% and 67.0% for Low, Intermediate and High risk patients, respectively). 90% of deceased patients were ≥ 65 years old. 43% of all deaths were from cancer, however, only 32% of the cancer deaths were due to prostate cancer. Cardiovascular deaths accounted for 25% of all deaths, with myocardial infarction as the leading event (Figure 2).

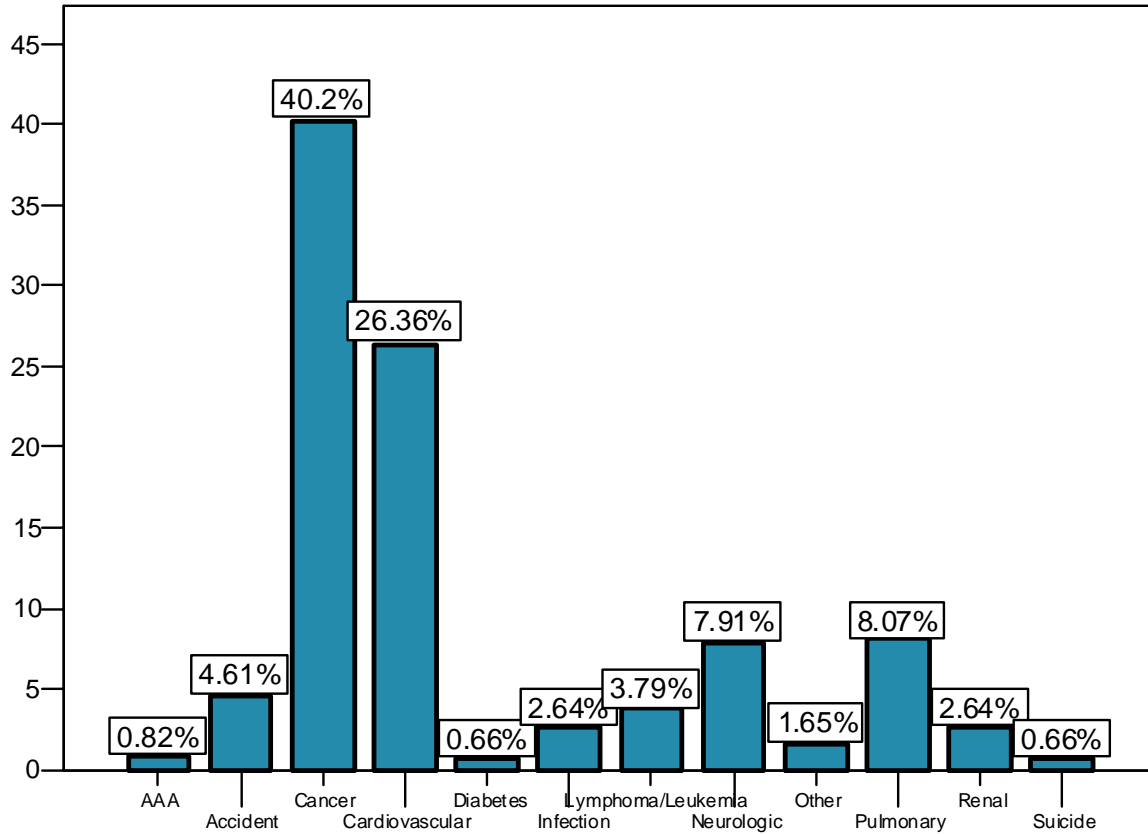


Table 1 provides additional information on this cohort.

| Cause of Death | ALL CAUSES | PROSTATE CANCER | CARDIO-VASCULAR |
|-----------------------------------|------------|-----------------|-----------------|
| Average Time to Death (months) | 44.9 | 48.6 | 40.5 |
| Average Age (years) | 72.7 | 73.2 | 72.4 |
| Received Hormone Therapy (%) | 40.9 | 50.9 | 43.1 |
| Received EBRT (%) | 13.5 | 29.1 | 10.8 |
| PROSTATE CANCER RISK GROUP | | | |
| Low | 35.5 | 12.7 | 34.3 |
| Intermediate | 42.2 | 34.5 | 44.1 |
| High | 18.4 | 38.2 | 19.6 |
| Salvage | 4.0 | 14.5 | 2.0 |
| SMOKING STATUS (%) | | | |
| Current | 18.1 | 21.8 | 14.7 |
| Previous | 48.7 | 50.9 | 55.9 |
| Never | 33.2 | 27.3 | 29.4 |
| DIABETES (%) | | | |
| Present | 16.3 | 9.1 | 19.6 |
| Absent | 83.7 | 90.9 | 80.4 |
| HYPERCHOLESTEROLEMIA (%) | | | |
| Present | 20.6 | 20.0 | 23.5 |
| Absent | 79.4 | 80.0 | 76.5 |
| HYPERTENSION (%) | | | |
| Present | 51.3 | 40.0 | 59.8 |
| Absent | 48.7 | 60.0 | 40.2 |

Conclusions

Patients undergoing interstitial permanent prostate brachytherapy have excellent cause-specific and overall survival rates. As techniques in early detection and treatment evolve, these rates will continue to improve. This data is valuable for future patient consultation regarding prostate cancer treatment options and prognosis.