RESEARCH COMMUNICATION

Seven-year Review of Prostate Carcinomas Diagnosed by TRUS Biopsy in a Single Malaysian Institution

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Abstract

Introduction: Analysis of epidemiological as well as survival differences among the multiethnic population of Malaysia with prostate cancer is important. Methods: Patients confirmed by transrectal-ultrasonographic-guided-biopsy performed from 2002 to 2008 were enrolled and analysed according to ethnicity, age, PSA level, Gleason score, stage of disease and survival. Results: Among 83 patients, there were 38 Malay, 40 Chinese, 3 Indians and 2 others. Median age at diagnosis was 69.9 (range: 59-93), 43 patients (51.8%) being diagnosed before the age of 70. The median PSA level upon diagnosis was 574 ng/ml (range: 1-8632) and the median Gleason score was 7 (range: 2-10). Over half were already in Stage 4 when diagnosed. The most common site of metastasis was the bone. As a result the commonest prescribed treatment was hormonal manipulation. Five patients underwent radical prostatectomy and a further thirteen patients had radical radiotherapy (stage I: 1 patient, stage II: 7 patients and stage III: 5 patients). Ten patients defaulted follow-up. The median disease-specific survival was 21.9 months (range: 1-53). Conclusions: Prostatic carcinoma is a disease of the elderly and it is frequently diagnosed late in Malaysia. Greater efforts should be made to educate Malaysians regarding prostate cancer.

Keywords: Prostate cancer - survival - demography - Malaysia

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Introduction

Prostate cancer is the fourth commonest malignancies among the Malaysian male population and its overall age-standardised incidence is 11.0 per 100,000 population. (Zainal, 2006) To our knowledge, there has not been a study published reporting on the clinical or pathological features of prostate cancer in Malaysia. Therefore, we present an audit on cases of prostate cancer detected over a period of seven years in this tertiary institution. It is believed that this study will give the knowledge of the clinicopathological features of this common disease in this country.

Materials and Methods

This is a retrospective study in which only cases of prostate cancer diagnosed with transrectal-ultrasonographic-guided biopsy from 2002 to 2008 were reviewed. The data of the patients was recorded in detailed manner whereby the medical records, both hard copy as well as computer system, were reviewed. Situation in which data is insufficient, the patients or their family were contacted by phone to retrieve information. Any case with incomplete data was excluded. Upon diagnosis, these patients underwent complete assessment which included magnetic resonance imaging of the pelvis, thoracoabdominal computed tomography and radioisotope bone scan were performed for patients with evidence of advanced disease.

Clinicopathological data (PSA level, Gleason score, and stage), epidemiological data (age and ethnicity), treatment and follow-up data were entered on a standard data collection sheet. The histopathology results were recorded just as they appeared in the notes as reported by different pathologists. The staging of the disease was based on the American Joint Committee on Cancer 2002 edition. (Hittelman, 2004) Data were analyzed using SPSS software version 12.0.1(SPSS, Chicago, IL, USA) and chi-square test was used to compare the variables. A p-value of 0.05 was taken as significant. Kaplan Meier survival analysis was used to calculate the mean survival time.

Results

Some 83 cases of prostate cancer were included in the study out of a total of 91 cases recorded. The incidence was highest among the Chinese, with a total of 40 patients (48.2%), followed by the Malays with 38 (45.8%), Indians with 3 (3%) and others 2 (3%). The median age was 69.9 years (range: 59-93years) and 43 (51.8%) were diagnosed before the age of 70. The median PSA level upon diagnosis

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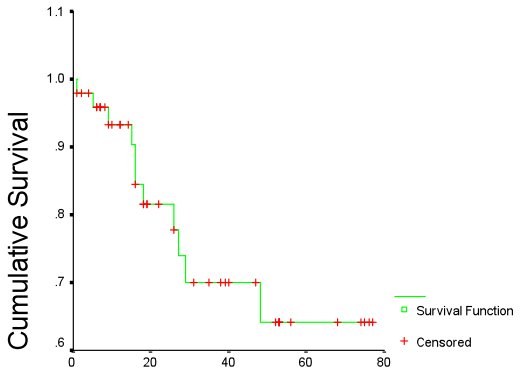

Figure 1. Kaplan-Meier Curve of Cumulative Survival of Patients with Stage IV Disease

was 574 ng/ml±1520.7 (range: 1-8632) and the median Gleason score was 7.00±1.61 (range: 2-10).

Some 52 of the patients (62.7%) were already in Stage IV when diagnosed. The most common site of metastasis was the bone. As a result the commonest prescribed treatment was hormonal manipulation, in which 30 patients received medical castration whereas 17 patients had orchidectomy. Among patients treated with medical castration, five developed disease progression after an average period of 15 months while only one patient with orchidectomy developed disease progression after seven months. Five underwent radical prostatectomy and a further thirteen had radical radiotherapy (stage I: 1 patient, stage II: 7 patients and stage III: 5 patients). The median for the duration of follow up was 32.6 months (range 1-84months). Ten patients (12.1%) defaulted follow-up. At the end of the study 11 of the patients (22.4%) in Stage IV have succumbed to the disease while all other patients in other disease stages remained alive (Figure 1). Among those patients who have passed away, the average survival period after diagnosis was 21.9 months (range: 1-53)

Discussion

With a median PSA value of 574ng/ml during presentation, the majority of the patients here have certainly a grave prognosis. Lacking education and awareness of the gravity of this deadly disease as well as inadequate delivery of healthcare can be cited as the few foremost reasons for this undesirable situation, as the cancer can be silent for a long time before presentation, and the presenting symptoms seen in this institution are largely due to metastatic to the bone, as evidenced by a few patients here whose PSA value at presentation is at excess of 5000ng/ml. However, there are also various Asian countries in which 47 to 73% of patients are already in Stage IV during presentation (Mendoza, 2005).

Perhaps it has been considered that prostate carcinoma is much less common and low risk in Asia compared to the West and therefore, more attention has been shifted to other diseases thus neglecting this lethal disease (Sim and Cheng, 2005) Few Asian countries, such as Singapore, have moved ahead well in advanced, with the value of PSA upon diagnosis comparable to the west (Koh et al., 2009; Wadhwa et al., 2009) The fact that there are up to 12.1% of our patients defaulted follow-up means that there are patients who would not comply with the treatment regimen provided and rather choose other modes of alternative therapy, which is a common feature in our region. Commonly these patients would only return when the disease has spread to a stage beyond curative intent.

Although there is marked differences in terms of timing of diagnosis, other clinical features are rather alike compared to other nations in the region, and these include the age at diagnosis, and the incidence of the cancer. With regards to the age at diagnosis, Sim and Cheng (2005) concluded that the incidence is quite low below the age of sixty. However, the number rises sharply after that. As for the incidence of this disease in this region, the range is 2-16 per 100,000 but the majority has values within 6 to 14, including our nation. Contrary to the report made by Zainal et al (2006), the ratio of distribution with regards to ethnicity is not comparable to the recent national statistics, which stated the disease to be most common among the Indians, followed by the Chinese and Malays, with incidence rates of 13.7, 11.5 and 9.2, respectively, per 100,000. In fact, this study also did not reflect the ethnic distribution of the nation, in which Malay being the most populous ethnicity, followed by Chinese and Indian.

Medical castration seems to be the choice of hormonal therapy compared to orchidectomy, evidenced by the fact that almost twice the number of our patients chose the former option. It has been quite clearly understood the reasons of patients' choice, as mentioned in the Cassileth et al (1989) paper, among which included avoidance of surgery and convenience of the medication. Even though there is a remarkable difference in the average period before the disease progressed as seen our paper i.e. 15 months for medical castration as opposed to seven months in surgical castration, the results cannot be accurately compared for analysis as this can be an error due to chance since there is only one patient with orchidectomy developed disease progression. Disregarding the options, the difference in overall survival has been mentioned to be not significant (Seidenfeld et al., 2000). The average period of disease progression as seen in this study is comparable to that stated by Eisenberger and Carducci (2007), who quoted a period of 12-18 months. It was also mentioned that the overall survival of patients with metastatic disease ranged from 24-36 months. Our study has an average follow-up period of 32.6 months only so that it is hard for us to comment accurately the survival of our patient although on average, our patients had remained alive for 21.9 months before succumbing to the disease.

This study, although inconclusive in many aspects, provided useful data. Extending the average period of observation to at least five years would have made the results more robust. Additionally, recruiting more patients locally into the study by enrolling other hospitals nationwide would be similarly beneficial. The number of aging population is increasing and therefore the incidence of prostate cancer will rise as well. Improving the healthcare system as well as the level of health education among the population will certainly impact on the current situation. It is thus, necessary to repeat a similar study many years later, hopefully to see an improvement in terms of diagnosing this deadly yet potentially curable disease.

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