Comparative Clinical Features of Stage A1 and Stage A2 Prostate Cancers. Is the Concept of Stage A Changing from the Current Status?

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We surveyed the comparative clinical features of patients with stage A1 and stage A2 prostate cancer. Preoperatively, prostate specific antigen (PSA) level was elevated in 50.0% of stage A2 patients as compared to 18.2% of stage A1 patients. Compared to low positivity of prostatic acid phosphatase in 12.5% of stage A2 and in 0% of stage A1, PSA was more sensitive to the presence of incidental carcinoma. During the observation period (mean 35.7 months) no stage A patient died of cancer. No evidence of the disease showed significantly higher rate, and death without cancer was significantly lower in stage A1.

Introduction

Adenocarcinoma of the prostate which was pathologically confirmed for the first time in patients who underwent transurethral resection or removal for benign prostatic hyperplasia (BPH) has been defined as stage A cancer. Stage A prostate cancers have been subdivided into stage A1 and stage A2 according to the per cent volume of cancer in the entire specimen and the degree of differentiation of the tumour, with more or less modifications among institutions [1-6].

In the present study, we investigated the clinical features of patients with stage A1 and stage A2 prostate cancers, including pre- and postoperative changes in serum values of tumour markers, postoperative treatments and prognosis, in order to clarify the clinical disparity in these two entities retrospectively.

Patients and methods

We surveyed 54 consecutive patients with stage A prostate cancer who underwent transurethral resection (TUR-P) or suprapubic prostatectomy for bladder outlet obstruction with the diagnosis of BPH. The patients were treated and followed up at our University Hospital or affiliated hospitals. Fifty-four patients were subdivided into stage A1 and stage A2 according to the staging system which is currently employed in Japan. Stage A1 is defined as less than 5% of the removed specimen and well differentiated, while stage A2 is any tumour with higher volume or any quantity of less differentiated adenocarcino-
ma. The histopathological grading system followed the criteria of the Japanese Urological Association and the Japanese Pathological Society [7].

The backgrounds of both groups are shown in Table 1. Each group consisted of 27 patients and the mean ages of stage A1 and stage A2 were 72.9 and 74.6 years, respectively. The follow-up periods of stage A1 and stage A2 were 35.2 and 36.1 months, respectively. The operative method, histology, perioperative changes in prostatic acid phosphatase (PAP) and prostate specific antigen (PSA), postoperative treatment, prognosis were compared between the two groups.

PAP was determined by radioimmunoassay with the normal range in men being 0.6 to 2.8 IU/l [8]. PSA levels were assayed using a commercially available double antibody radioimmunoassay kit (Eikenn Chemicals, Tokyo, Japan), according to Wang's method [9, 10]. The manufacturer specifies a "normal range" as 0 to 3.0 ng/ml.

The statistical significances were tested using a chi-square analysis or the Mann–Whitney test.

Table 1
Background of patients with stage A prostate cancer

<table>
<thead>
<tr>
<th></th>
<th>Stage A1</th>
<th>Stage A2</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient number</td>
<td>27</td>
<td>27</td>
<td>54</td>
</tr>
<tr>
<td>Mean age (year)</td>
<td>72.9±6.5</td>
<td>74.6±8.9</td>
<td>73.7±7.8</td>
</tr>
<tr>
<td>(60–85)</td>
<td>(54–87)</td>
<td>(54–87)</td>
<td></td>
</tr>
<tr>
<td>Follow-up period (month)</td>
<td>35.2±24.7</td>
<td>36.1±32.7</td>
<td>35.7±28.8</td>
</tr>
<tr>
<td>(3–93)</td>
<td>(1–125)</td>
<td>(1–125)</td>
<td></td>
</tr>
</tbody>
</table>

Data are expressed as mean±SD.
Range of data is indicated in parenthesis.

Results

Operation and histology

In the present study, 45 patients underwent TUR-P and 9 patients suprapubic prostatectomy with the clinical diagnosis of BPH (Table 2). The weight of resected or removed specimens ranged from 3.0 to 130.0 g. According to the grading criteria, stage A1 consisted of well differentiated adenocarcinomas in all patients as is defined as stage A1 criteria, and stage A2 consisted of 12 well, 11 moderately and 4 poorly differentiated adenocarcinomas.

Serum tumour markers

Serum PSA and PAP levels have been measured in some patients with the preoperative diagnosis of BPH. Preoperatively, PSA levels were 3.28±2.70 ng/ml (mean±SD) with a range from 1.0 to 10.4 ng/ml. Divided into stage A1