

·Clinical Experience·

Synchronous primary carcinomas of the bladder and prostate

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Abstract

Aim: To determine the incidence of adenocarcinoma of the prostate for patients undergoing radical cystoprostatectomy for bladder cancer in Taiwan. **Methods:** A total of 248 patients in Taiwan who were histologically confirmed for transitional cell carcinoma of the bladder underwent cystoprostatectomy. Histopathologic evaluation of the prostate specimens sectioned at 5 mm intervals was performed. **Results:** Of the 248 patients, 10 (4.03%) were found to have prostate cancer. Of the 10 cases of unsuspected prostate cancer, eight proved to be at stage T1 or T2, and two at T3 and T4, respectively. This rate of incidentally found prostate cancer amongst our bladder cancer patients appeared to be lower than that found in bladder cancer patients in similar studies in USA. **Conclusion:** Although the incidence of incidental prostate cancer in patients in Taiwan with bladder cancer is not high compared with that in Western countries, we suggest that digital rectal examination and prostate-specific antigen (PSA) are important screening tools for men with bladder cancer, especially for those aged 60 years and older in Taiwan. (*Asian J Androl* 2006 May; 8: 357–359)

Keywords: radical cystoprostatectomy; prostate cancer; transitional cell carcinoma

1 Introduction

Prostate cancer is the most commonly diagnosed malignancy in men and also the leading cause of cancer-

related death in developed countries [1], but not all that common in Taiwan [2]. Prostate cancer detected in patients undergoing cystoprostatectomy is usually an incidental finding. The prevalence of histological prostate cancer clearly exceeds that of clinically detected prostate cancer for men in the developed world. Autopsy studies have revealed that an incidental finding of prostate cancer in 50-year-old American men was 30%, and for 80-year-old the corresponding figure was 70% [3]. Autopsy studies conducted in mainland China have revealed that incidental prostate cancer in men 51–69 years

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was 9.3%, and that for men 70 years and older was 25% [4], both significantly lower than that for Americans. The reasons for these rather large differences between these populations are unknown at present [6].

Cystoprostatectomy specimens obtained from patients operated on for bladder cancer provide people an opportunity to study the relative incidental findings of prostate cancer, and several clinical studies have already reported their data [3]. These prostate tumors are typically small, well- or moderately well-differentiated, and localized entirely within the gland [6, 7].

Because, till now, there has been no other reports regarding incidental prostate cancer in patients in Taiwan with bladder cancer, we conducted a retrospective analysis of a group of 248 patients in Taiwan who were treated for bladder cancer in our hospital. Without exceptions, these bladder cancer patients had apparently clinically normal prostate.

2 Materials and methods

From August 1993 to August 2003, 250 male patients underwent radical cystoprostatectomy for bladder transitional cell carcinoma in our hospital. The age of the patients ranged from 33 to 82 years (mean = 63 years). Preoperative evaluations included abdominal computed tomography and bone scans. Excluded from this study were two patients: one was previously diagnosed with prostate cancer and the other had high-grade prostate cancer with bladder invasion. A standard cystoprostatectomy with bilateral pelvic lymphadenectomy was performed for all patients. An ileal conduit was also performed for all cases to provide urinary diversion. The entire circumference of the resected prostate gland was inked. Complete transverse sections of the prostate were obtained at 5 mm intervals from apex to base. Tissue samples of each cross-section were examined under microscope. If adenocarcinoma was found, then tumor grade, presence of extracapsular disease, and evidence of seminal vesicle invasion and lymph node metastasis were recorded. The χ^2 -test was performed in the data analysis.

3 Results

Adenocarcinoma of the prostate was found for 10 of 248 bladder cancer patients (4.03%). Pathologic staging of the prostate cancer revealed 8 cases of pT1-pT2N0M0, 1 of pT3N0M0 and 1 of pT4N0M0. The

mean age of this cohort of Taiwan patients presenting with both bladder cancer and prostate cancer was 71 years (range 61–81 years), a higher figure ($P = 0.01$) than that for those study subjects with bladder cancer only: 63 years (range 33–82 years).

The Gleason score was 2–4 in 4 cases, 5–7 in 5 cases and 8–10 in 1 case. A Gleason pattern 4 and 5 was noted in 2 patients; all other tumor foci were graded at 3 or lower.

Table 1 summarizes the results. Prostate adenocarcinoma was found in 3 of 70 patients in the age range 60–69 years (4.3%), and for those older than 70 years, it was found in 7 of 54 patients (13%). Preoperative serum prostate-specific antigen (PSA) levels were available for 3 cases, and all were less than 4 ng/mL.

Table 1. Pathological features of prostatic adenocarcinoma. ^aOne patient's Gleason score was 4 + 3.

Pathological features	Number of patients
Pathological tumor stage	
pT1-pT2-N0-M0	8
pT3-N0-M0	1
pT4-N0-M0	1
Pathological grade	
Gleason scores 2–4	4
Gleason scores 5–7	5 ^a
Gleason scores 8–10	1

4 Discussion

This study was performed to identify the clinical incidence of prostate adenocarcinoma in bladder cancer patients. Our study found an incidence of approximately 4%. This contrasts to the reported prevalence of 27–46% for cystoprostatectomy specimens elsewhere [6]. The present study showed a low prevalence of incidental prostate cancer in men in Taiwan. Like the results of studies conducted in USA and Western Europe, the diagnosed cancer was primarily localized and well differentiated [7–9]. It is well known that the incidence of prostate cancer is higher in developed countries than that in Asian countries [5]. In our cancer cases, one adenocarcinoma showed seminal vesicle invasion and another showed seminal vesicle and bladder invasion with a high Gleason pattern. Their serum PSA values were 1.55 ng/mL and 2.09 ng/mL,

respectively. The other 8 were characterized as organ-confined. The cystoprostatectomy procedure appeared to be an entirely adequate treatment modality for virtually all patients in our study, with only 2 of them (0.8%) requiring further treatment for their prostate cancer. Detailed pathologic examination of the excised prostatic tissue specimens is extremely important for the detection of small cancers. Certainly, if we examined the specimens with transverse sectioning at 2–3 mm intervals from apex to base, we might identify a greater number of tumors. In the present study, all unsuspected prostate cancer patients proved to be older than 60 years, and within this patient group there were 2 cases of advanced disease. The pathologic stage and grade of bladder cancer would appear to be prognostically more important than the stage and grade of the prostate cancer. Our patients were assessed extremely carefully preoperatively to specifically exclude concurrent prostate cancer.

We believe that digital rectal examination (DRE) and serum PSA assessment should be undertaken as part of the routine procedure for male bladder cancer patients aged 60 years and older, although the mean age of our group of bladder cancer patients with prostate cancer is higher than that studied in developed countries. Bladder cancer patients presenting with an abnormal DRE, elevated serum PSA or a free PSA less than 15% should undergo a prostate needle biopsy to rule out prostate cancer. If organ-confined prostate cancer is found, and if the prostate is completely excised at cystoprostatectomy, we believe that no additional therapy would be required and that it should merely be specified that such patients should be followed with periodic PSA. Further studies with larger sample sizes and long follow-up periods are being carried out to establish more extensive and definitive guidelines for the management of these bladder cancer patients.

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