



INCIDENTAL PROSTATE CANCER IN PATIENTS UNDERGOING RADICAL CYSTOPROSTATECTOMY FOR BLADDER CANCER

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ABSTRACT

The objective of this work is to verify the incidence of incidental prostate adenocarcinoma in patients who underwent radical cystoprostatectomy for invasive bladder carcinoma. We have retrospectively reviewed patients who underwent radical cystoprostatectomy for infiltrative bladder tumors in period between 2003 and 2007 year, 94 men with bladder cancer underwent radical cystoprostatectomy at Urology Clinic-University of Sarajevo Clinics Centre. Mean age of patients was 67 years, with age limits ranging between 48 and 79 years. Pathohistological evaluation was used for all specimens from RCP. We found that 9,57% of cystoprostatectomy specimens in patients with bladder cancer also contained incidental prostate cancer. This result was much lower than overall mean frequency of incidentally detected prostate cancer in other series of cystoprostatectomy cases (range, 23%-68%). In conclusion we recommended digital rectal examination (DRE) and prostate-specific antigen (PSA) test as part of the bladder cancer work up and complete removal of the prostate at cystoprostatectomy to prevent residual prostate cancer.

KEY WORDS: radical cystoprostatectomy, prostate cancer, bladder cancer

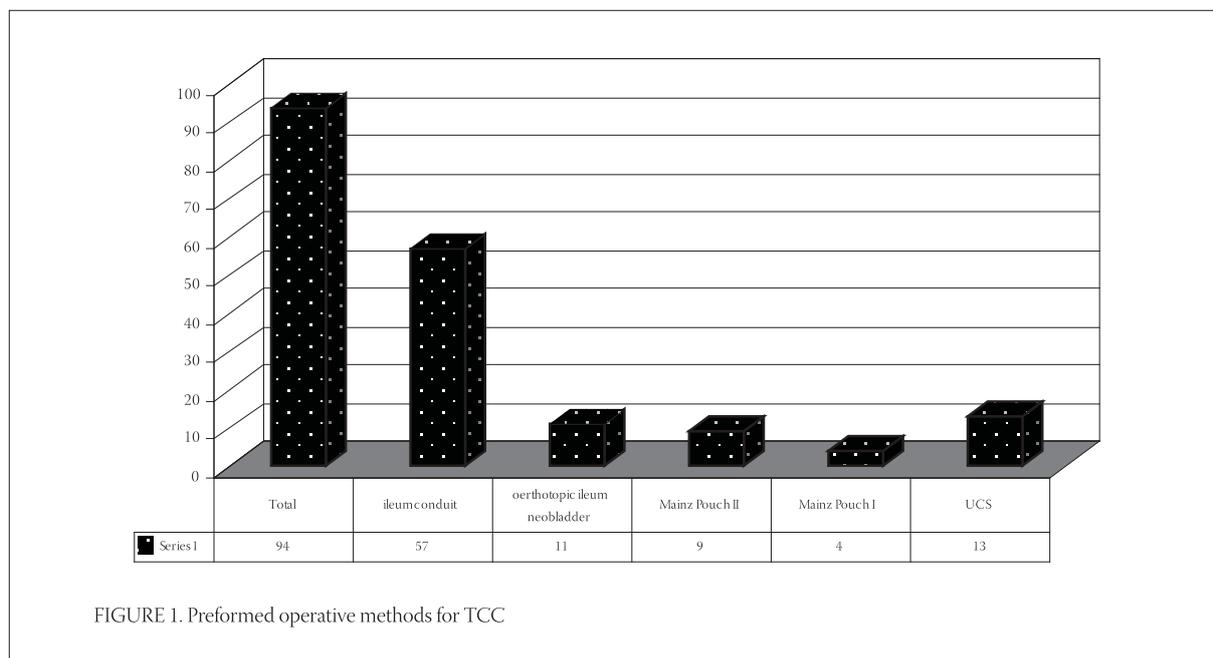
INTRODUCTION

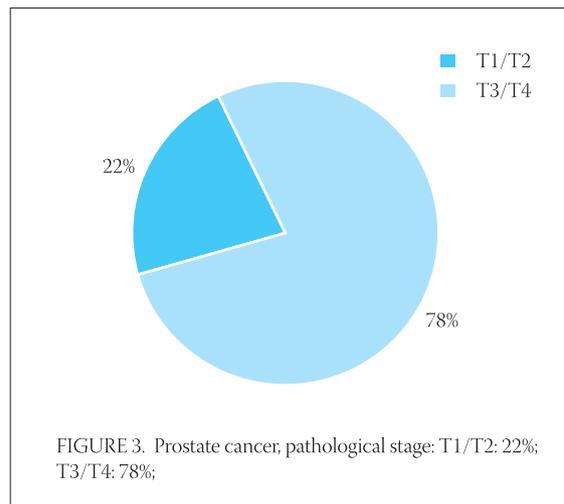
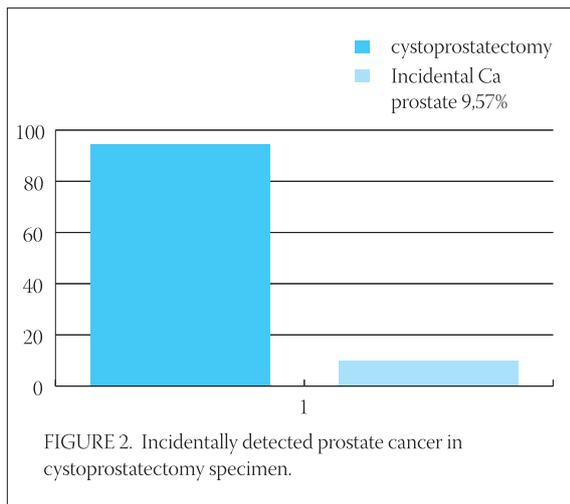
Prostate cancer is one of the most common malignance among males. The distribution of cancer varies significantly from country to country all over the world. The latest estimates of global cancer incidence show that prostate cancer has become the third most common cancer in men, with half a million new cases every year, almost 10% of all cancers in men. The lifetime risk of clinically detected prostate cancer is 9,5%, and the probability of dying from prostate cancer is 3%. The frequency of incidentally detected cancer is approximately 42% in men older than 50 years of age, and frequency is higher than 80% in men older than 80 years. The frequency of autopsy-detected cancer is similar or higher. In no other malignancy, there is such a vast reservoir of undetected cases that may never be clinically significant or cause death. This incidentally detected tumors are usually small, well or moderately differentiated tumors, localized in prostate. Only 20% of all prostate cancers are considered as clinically relevant. Most of prostate cancers incidentally detected in pathohystological specimens after radical cystoprostatectomy are clinically not significant. The aim of this study was to determine incidence, patohistological features, clinical results in patients with incidental prostate carcinoma after radical cystoprostatectomy for invasive bladder cancer and also to determine if prostate cancer have affected on patients follow up after RCP. Pathohistological reports and clinical results were analyzed for each patient. Tumor localization, Gleason score and grade, seminal vesicle invasion, surgical margin and prostate

capsular penetration had been determined. Also category ASAP and HGPIN had been also mentioned.

PATIENTS AND METHODS

We have retrospectively reviewed patients who underwent radical cystoprostatectomy for infiltrative bladder tumors in period between 2003 and 2007 year, 94 men with bladder cancer underwent radical cystoprostatectomy at Urology Clinic- University of Sarajevo Clinics Centre, Bosnia and Herzegovina; Mean age of patients was 67 years, with age limits ranging between 48 and 79 years. The inclusion criteria comprised a serum PSA level < 4 ng/cm³ and normal digital rectal examination. Routine evaluation before RCP includes digital rectal examination (DRE), PSA level, chest X-ray, CT urography and also CT abdomen and pelvis. Bone scan has been done only in patients who had subjective pain in bones or high AP level and serum calcium. Patients with preoperative high PSA level and suspicion DRE were not included in this study. In this study observe criteria for clinically significant prostate cancer were: tumor volume <0,5ml; Gleason score ≥ 4; extracapsular extension; seminal vesicle invasion; lymph node metastasis; positive resection margins. All patients who underwent radical cystoprostatectomy for invasive bladder tumor, had been done bilateral pelvic lymph node dissections and one of urinary diversion. Pathohistological evaluation was used for all specimens from RCP. Pathohistological reports and clinical results were analyzed for each patient. Tumor localization, Gleason score and grade, seminal vesicle invasion, surgical margin and prostate

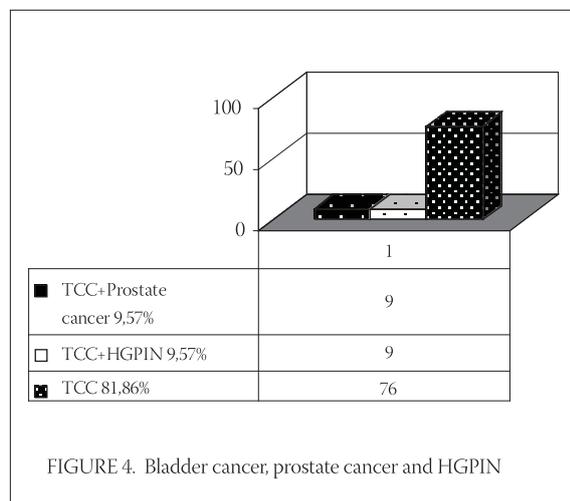




capsular penetration had been determined. Also category ASAP and HGPIN had been also mentioned.

RESULTS

97 patients with invasive bladder tumor underwent radical cystoprostatectomy what include bilateral pelvic lymph node dissection and urinary diversion. The mean age was 67 years (range 48-79 years). This was 58,3 and 65,6 years for patients with and without prostate cancer, respectively. In 57 patients was preformed an ileal conduit, in 11 patients an orthotopic ileal neobladder, in 9 patients Mainz Pouch II procedure, in 4 patients Mainz pouch I operation and in remaining 13 UCS. We evaluated distant lymph node metastasis of 97 patients (Figure 1.) positive hade for TCC18,43% and for PCa 0%; Infiltration of perivesical tissue 20,37%; Local-ization of prostate cancer: apex11,1%; base33,3%; middle gland 55,5%; Infiltration of seminal vesicle 22,2%; No one patient had positive margine (0%). Of 94 patients, 9 (9,57%) had the incidental finding of PCa within the radical cystoprostatectomy specimen (Figure 2.). The mean serum PSA level was $2,89 \pm 1,32$ and $2,33 \pm 1,095$ ng/cm³



in patients with and without prostate cancer, respectively. The majority 7 (78%) was pT1 and pT2 and 2 (22%) was pT3-11,1% and pT4-11,1%. In 78% of cases, Gleason scores were 5, 6, and 7 respectively. The most prevalent (58,6%) Gleason histological pattern was 3+3=6. All patients were pNo for prostate cancer and no one had positive surgical margin. High-grade PIN was present in 14,3% of incidentally detected prostate cancer. 9 (9,57%)patients of the cystoprostatectomies without prostate cancer had HGPIN. As defined, clinically significant cancers were present in 22% of the studied patients having a mean age of $61 \pm 6,5$ years (range 49-72). The remainder 78% had insignificant prostate cancer (Figure 3, Figure 4).

DISCUSSION

The incidence of prostate cancer varies considerably across populations. The frequency of incidentally detected cancer is approximately 16-46% in men older than 50 years of age, the frequency of autopsy-detected cancer is similar or higher. We found that 9,57% of cystoprostatectomy specimens in patients with bladder cancer also contained incidental prostate cancer. This result was much lower than overall mean frequency of incidentally detected prostate cancer in other series of cystoprostatectomy cases (range, 23%-68%) and also much lower than the age-adjusted frequency of autopsy-detected prostate cancer (mean frequency, 40%; range, 36%-46%). Incidental prostate cancer in our cystoprostatectomy cases was usually stage pT1 or pT2b (78%, respectively). Of incidentally detected prostate cancer, 68% were low grade (Gleason scores 3, 4, and 5) and 32% were high grade (Gleason scores 6 and 7). The discrepancies between studies could be related to the method of pathologic evaluation employed, all indicate the presence of a significantly high incidence of prostate

cancer. High-grade PIN was present in association with 14,3% of cases of incidentally detected prostate cancer and in 9,57% of cystoprostatectomies without prostate cancer. This percentage was lower in our clinic and it was lower than the percentages reported in the other countries. The incidence of prostate cancer varies considerably. Prostate cancer shows significant racial variation. Possible explanations for low rates of cancer may be due to under-reporting. Incidental prostate tumors present characteristics that are similar to latent tumors found in autopsy series, some have a proven potential of progressive disease. The objective of this work is to verify the incidence of incidental prostate adenocarcinoma in patients who underwent radical cystoprostatectomy for bladder urothelial carcinoma. Our study was limited by the moderate number of cases studied in patient selection for surgery at our medical centers. Merscheimer et al. (1) have been reported that bladder and prostate cancers frequent rate is second after colon and skin cancer frequent rate. Coincidental rate of prostate cancer and TCC in cystoprostatectomy specimens is 27-70% and that is high prevalence in relation to autopsy (30-40%). Montie et al. (2) reported 29% rate of incidental prostate cancer 35% had apical and 31% multifocal lesions. This group of authors suggests complete prostatic extraction (apical). One of patients had prostate carcinoma in apex and he had recurrent disease on urethra-intestinal anastomosis new orthotopical substitutional bladder. Sheng-Hui Lee and al. (3) reported incidental prostate carcinoma rate of 4% after RCP (10 of 248); 8 patients were T1-2 stage in reference to 2 patients in T3-4 stage. Preoperative PSA level was 1,55-2,09 ng/ml.

Chun et al. (4) reported 100 patients with bladder cancer (TCC) who underwent RCP, 25% (25) among them had incidental prostate cancer and at 651 patients with prostate cancer who underwent RP, 25 patients (3,8%) had incidental TCC. Incidental rate for bladder cancer in patients with prostate cancer is 18 x time higher ($p > 0,01$) and incidental rate for prostate cancer with bladder cancer is 19 x time higher than expected ($p < 0,01$). Abbas et al. (5) reported incidental prostate cancer in 18 of 40 patients with TCC (45%). 12 patients had PHD of pT4; 2 patients of pT3; 4 patients of pT2. Moutzouris et al. (6) reported incidental rate of 27% (16 of 59 patients). Revello et al. (7) reported the prevalence of incidental prostate cancer of 41%, (50 of 121 patients), among them 24 (48%) with clinically significant and 26 (60%) nonsignificant patients, cancer was located in apex. Sanli et al. (8) operated 97 patients with bladder cancer, among them 21 patients (21,6%) had incidental prostate cancer, organ confined in 20 patients (95,2%) and 1 patient was with capsular invasion. Abdelhadey et al. (9) reported incidental prostate cancer at 58 patients (28%) of 217 patients who were operated because of invasive TCC, 20% with Gleason score ≥ 7 . Yumura et al. (10) found from 299 patients with bladder cancer, 17 patients (5,7%) who had incidental prostate cancer. It is important to take care not only about primary cancer progression also about secondary (incidental) cancer. Kouriefs et al. (11) 18% patients who had incidental prostate cancer. During radical cystoprostatectomy complete removal of prostate and incidentally detected prostate cancer does not influence of future oncology treatment (12,13).

CONCLUSION

The majority 7 (78%) was pT1 and pT2 and 2 (22%) was pT3-11,1% and pT4-11,1%. In 78% of cases, Gleason scores were 5, 6, and 7 respectively. The most prevalent (58,6%). Gleason histological pattern was 3+3=6. All patients were pNo for prostate cancer and no one had positive surgical margin. High-grade PIN was present in 14,3% of incidentally detected prostate cancer. 9 (9,57%) patients of the cystoprostatectomies without prostate cancer had HGPIN.

The present results indicate that the percentage of incidentally detected prostate cancer in cystoprostatectomies specimens in at our clinical centre is much lower (9,57%) than reported rates in the world until now (21%-46%). We therefore assumed regional differences in prostate cancer incidence rates to be related to environmental and racial factors. Also the method of pathohistological examination of the prostate varies considerably and can be main cause of these frequency differences. In conclusion we recommended digital rectal examination (DRE) and prostate-specific antigen (PSA) test as part of the bladder cancer work up and complete removal of the prostate at cystoprostatectomy to prevent residual prostate cancer.

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