UROLOGICAL ONCOLOGY

Fluid intake and the risk of tumor recurrence in patients with superficial bladder cancer

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Purpose: High fluid intake has been associated with a decreased risk of bladder cancer development in men. We evaluated whether higher fluid intake can impact tumor recurrence rates in patients with superficial bladder cancer.

Materials and Methods: We conducted a prospective single institution analysis of fluid intake in 267 consecutive patients with superficial bladder cancer undergoing routine bladder cancer surveillance between January 1998 and December 2001. Fluid intake questionnaires, urine cytology and physical examination were routinely performed at each surveillance cystoscopy. Cytological and histological recurrences were recorded. All patients had a minimum followup of 2 years.

Results: No relationship between fluid intake and tumor recurrence was demonstrated. Average daily fluid intake was 2,654 ml daily, which was well within the highest protective level (more than 2,531 ml) previously reported. However, multivariate analysis failed to show a protective effect against recurrence at any level of fluid intake. Increasing age correlated with decreased fluid intake (Pearson's correlation coefficient -0.19, $p = 0.0015$), but did not increase the risk of recurrence ($p = 0.59$). Single fluid intake data correlated with the average of additional fluid intakes (median 5 per patient) in the same patient (Pearson's correlation coefficient, 0.45, $p < 0.0001$). Of the study population 123 patients (46%) experienced 1 or more tumor recurrences (range 0 to 11) within a median followup of 2.6 years.

Conclusions: Our prospective study of fluid intake in patients with superficial bladder cancer at risk for recurrence did not find any association between daily fluid intake levels and tumor recurrence.

Editorial Comment

After having diagnosed and treated his superficial bladder cancer appropriately, the urologist used to urge the patient to "drink a lot". However, under scientific conditions, this advice did not prove to be well founded. The authors conducted a prospective study in 267 consecutive patients, and their results told that fluid intake was not correlated with tumor recurrences. However when looking into the data given in this paper, the difference between all the patients with regard to fluid intake was not high, the overall 24-hour fluid intake being 2.5 L. Fluid intake of those with no recurrences was 2,550 mL and those with recurrences was 2,640 mL. These data in mind it is highly unlikely, even if fluid intake had an impact on tumor recurrences, that a difference of 100 mL per day might be the relevant quantity to have such enormous impact.

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Radiotherapy for men with isolated increase in serum prostate specific antigen after radical prostatectomy

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Purpose: In this retrospective study we determined the results of salvage external beam radiation therapy (RT) to the prostate bed for isolated increase of serum prostate specific antigen (PSA) after radical prostatectomy.

Materials and Methods: A total of 60 patients underwent RT for PSA failure after radical prostatectomy from 1993 to 1999. Median followup was 51 months. Biochemical disease-free survival (bDFS) with a serum PSA of 0.3 ng/mL or less was estimated using the Kaplan-Meier method. Potential prognostic factors were evaluated for significant associations with bDFS.

Results: Median PSA before RT was 0.69 ng/ml. Median radiation dose was 64.8 Gy. The 5-year actuarial bDFS was 45%. There were 32 patients with a minimum followup of 4 years (median 73 months) who experienced a 5-year bDFS rate of 43%. PSA before RT ($p = 0.016$), RT dose ($p = 0.026$), surgical margin involvement ($p = 0.017$) and Gleason score ($p = 0.018$) were identified as prognostic factors for bDFS. A significant association with bDFS was present at 5 years of 65%, 34% and 0% for PSA before RT less than 0.6, 0.6 to 1.2, and greater than 1.2 ng/ml, respectively ($p = 0.036$). Patients with PSA before RT less than 0.6 ng/ml and total RT dose greater than 64.8 Gy had improved bDFS at 5 years compared to all others (77% vs. 32%, $p = 0.04$). Of 60 patients 3 (5%) experienced chronic grade 3 toxicity.

Conclusions: Optimal benefit from salvage RT was achieved in patients with a PSA less than 0.6 ng/ml and doses of RT greater than 64.8 Gy. Early treatment with a sufficiently high dose of RT maximizes the potential for salvage.

Editorial Comment

This paper defines the timing and indication for adjuvant radiotherapy after biochemical tumor recurrences following radical prostatectomy. In conclusion, patients do better if treated at an PSA below 0.69 ng/ml, with a local dose of at least 64.8 Gy, with Gleason scores below 7, and, interestingly, with positive surgical margins. A possible explanation for the letter fact is that patients with positive surgical margins have a higher likelihood of localized microscopic residual disease in the prostate bed. An increasing PSA would more easily indicate local progression of that microscopic disease, whereas increasing PSA in the margin negative group may indicate undetectable distant disease that would not be treated effectively with radiotherapy to the prostate bed. Altogether the results support an earlier the better approach to postoperative radiotherapy.

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Health related quality of life patterns in patients treated with interstitial prostate brachytherapy for localized prostate cancer—data from CaPSURE

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Purpose: We measured the impact brachytherapy monotherapy (BMT) has on general and disease specific health related quality of life (HRQOL) compared to patients treated with radical prostatectomy (RP).

Materials and Methods: We studied 419 men with newly diagnosed prostate cancer who enrolled in CaPSURE (Cancer of the Prostate Strategic Urological Research Endeavor) database whose primary treatment was brachytherapy monotherapy (92) or radical prostatectomy (327). The validated RAND 36-Item Health Survey and the UCLA Prostate Cancer Index were used to measure HRQOL before treatment and at 6-month intervals during the first 2 years after treatment.

Results: Patients treated with BMT or RP did not differ greatly in general HRQOL after treatment. Both treatment groups showed early functional impairment in most general domains with scores returning to or approaching baseline in most domains 18 to 24 months after treatment. Patients treated with BMT had significantly higher urinary function scores at 0 to 6 months after treatment (84.5, SD 18.7) than patients treated with RP (63.3, SD 26.6). Urinary bother scores at 0 to 6 months after treatment were not significantly different between patients treated with BMT (67.7, SD 31.2) and those treated with RP (67.4, SD 29.1). Both treatment groups had decreases in sexual function that did not return to pretreatment levels.

Conclusions: Overall BMT and RP are well tolerated procedures that cause mild changes in general HRQOL. Disease specific HRQOL patterns are different in patients treated with BMT or RP. Baseline and serial HRQOL measurements after treatment can provide valuable information regarding expected quality of life outcome after treatment for localized prostate cancer.

Editorial Comment

This paper nicely reflects the clinically well known pattern of side effects of interstitial brachytherapy in relation to radical prostatectomy. Patients treated with radical prostatectomy had urinary function change scores greater than 15 points below baseline at all time intervals after treatment, when differences of 5-10 points are thought to represent a clinically significant change. The worst change score difference was 0-6 months after treatment (28.8 points below base line values). Significant change score differences between the two groups of patients were detected at all time intervals after treatment ($p < 0.003$). With brachytherapy, significant bowel function change score differences were detected 0-12 month after treatment (3.8 – 13.6 points below baseline values). By 18 months after treatment, no significant change score difference was detected in patients with brachytherapy.

Significant group change score differences were detected at each time interval for both sexual domains, namely sexual function and bother ($p < 0.02$). Bowel impairment differences between patients treated with brachytherapy or radical operative therapy were evident after the first post treatment evaluations only.

In summary, these data clearly show the advantage, at least on a short term basis within the first 2 years, with regard to side effects of brachytherapy over radical prostatectomy. With the good long-term results available now in the literature with regard to the therapeutic outcome, brachytherapy indeed represents a valuable alternative of treatment for localized prostate cancer.

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