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UROLOGICAL ONCOLOGY

Secondary cancer after radiotherapy for prostate cancer: should we be more aware of the risk?

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Objectives: As the number of prostate cancer survivors is increasing, the long-term health of prostate cancer patients has become a significant health issue. Radiation is known to induce malignant transformation, and prostate cancer radiotherapy is suggested to induce secondary malignancies. This report reviews the available data regarding the risk of secondary cancer after radiation for prostate cancer.

Methods: Epidemiological studies of the secondary cancer risk in patients with a history of prostate cancer radiation and the literature regarding radiation-induced carcinogenesis were reviewed.

Results: Prostate cancer is not associated with an increased number of additional malignancies. The data suggests a modest increase in secondary cancers associated with radiation for prostate cancer, as approximately one in 70 patients undergoing radiation and surviving more than 10 yr will develop secondary cancer. The most common sites for secondary cancers are bladder and rectum. In addition to the cancers adjacent to the radiation field, there is also an increase of cancers in distant sites, such as lung. The increased risk for secondary cancers is reported after external radiation, not after brachytherapy. The available data originated from studies of patients undergoing conventional radiotherapy. New treatment methods, such as intensity-modulated radiotherapy, may be associated with a higher risk of secondary cancers.

Conclusion: Although the incidence of secondary cancers after prostate cancer radiotherapy is not dramatically different from the overall population, patients should be informed about this risk. Other treatment modalities should be considered for patients with long life expectancy and for patients with additional risk factors.

Editorial Comment

Long-term survival after radiotherapy for prostate cancer is not uncommon. The risk of secondary cancers contributable to radiotherapy was analyzed in this review of the literature.

First, the authors analyzed the association of prostate cancer with secondary cancers. In 7 reports on roughly 90,000 patients, no elevation of risk for secondary cancers was obvious. The next analysis involved

roughly 32,000 patients who had received radiation therapy for prostate cancer. In this cohort, the authors found a slight increase of the risk to develop a secondary cancer in areas involving the radiation field, specifically the bladder and rectum with a risk ratio of approximately 1:5. Interestingly, an increased risk was also seen for lung cancer. These data mandate long-term follow-up examinations of the specific sites, that are bladder, rectum and lung, after radiotherapy for prostate cancer.

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Outcome of prostate cancer patients with initial PSA > or =20 ng/ml undergoing radical prostatectomy

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Eur Urol. 2007; 52: 1058-65

Objectives: To retrospectively assess the outcome of patients with initial PSA of 20 ng/ml or higher undergoing radical prostatectomy (RP) for prostate cancer (pCA).

Methods: Between January 1986 and June 2005, 275 patients with preoperative PSA > or =20 ng/ml underwent RP for pCA at our institution. Overall, disease-specific and biochemical progression-free survival rates for the entire cohort and for particular subgroups were determined.

Results: Median patient age at time of surgery was 64 yr (range: 44-75). Fifty-seven patients (20.7%) had pT2 stage, 206 (74.9%) pT3, and 10 (3.7%) pT4; 78 (28.4%) presented with local nodal metastases (pN+). To date, 40 patients have died (14.5%), 22 of pCA and 18 of other causes. Biochemical progression occurred in 92 patients (33.5%). Overall (and disease-specific) survivals at 5, 10, and 15 yr were 87% (93%), 70% (83%), and 58% (71%), respectively. These survival rates did not significantly differ between patients receiving immediate versus deferred hormonal therapy (in case of progression). Five-year PSA progression-free survival in patients on surveillance (receiving deferred hormonal treatment at the onset of rising PSA values) was 53%. For patients on immediate hormonal treatment following RP, the 5-yr hormone-refractory PSA progression rate was 76%.

Conclusions: According to long-term follow-up results in this high-risk cohort of patients with preoperative PSA > or = 20 ng/ml, RP can be considered a viable therapeutic option. With regard to combining immediate hormonal therapy with surgery, the optimal treatment following RP remains to be defined.

Editorial Comment

The authors report on a series of 275 prostate cancer patients who received radical prostatectomy (RP) with a preoperative PSA of > 20 ng/ml. The patients had bone scans preoperatively, but MRI or CT was offered only in case of clinically suspected metastatic disease. Only 20.7% of patients had organ-confined disease, whereas 74.9 % had pT3 cancer (with pT3b in 43.9%). Only 7.6% had Gleason sum score of 5 and 6 whereas Gleason 7 was seen in 43.3% and Gleason 9 in 28.1 %. Interestingly, even in this high-risk group of patients, cancer-specific survival after 5, 10 and 15 years was 93%, 83% and 71%, respectively. No difference was

seen between cohorts receiving immediate versus deferred hormon-ablative therapy. These data support active therapy in patients with high-risk cancer.

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NEUROUROLOGY & FEMALE UROLOGY

Correlation of morphological alterations and functional impairment of the tension-free vaginal tape obturator procedure

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Purpose: We explored the morphological features associated with functional impairment in patients undergoing the tension-free vaginal tape obturator procedure. **Materials and Methods:** We retrospectively reviewed the records of 98 women who underwent the tension-free vaginal tape obturator procedure alone or with concomitant pelvic surgery. Postoperative assessment included a symptom questionnaire, ultrasound cystourethrography and a cough stress test. During followup the measures of postoperative functional impairment included a positive cough stress test, new onset voiding dysfunction and the worsening or progression of urge symptoms.

Results: Median follow-up was 22 months. During follow-up 11 women had a positive cough stress test, 22 had voiding dysfunction and 12 had worsening or new onset urge symptoms. Failure was associated with 4 variables on multiple logistic regression analysis, including absent urethral encroachment at rest (OR 16.63, 95% CI 1.87-147.85, $p = 0.01$), bladder neck funneling (OR 8.27, 95% CI 1.99-34.26, $p < 0.01$), a urethral location of less than the 50th percentile (OR 6.01, 95% CI 1.43-25.25, $p = 0.01$) and a resting tape angle of less than 165 degrees (OR 5.21, 95% CI 1.15-23.54, $p = 0.03$). A resting tape distance of less than 12.0 mm (OR 3.00, 95% CI 1.44-6.26, $p < 0.01$) and urethral encroachment at rest (OR 2.86, 95% CI 1.30-6.30, $p < 0.01$) were the variables predictive of postoperative voiding dysfunction. Bladder neck funneling was the only risk factor for postoperative urge symptoms ($p < 0.01$).

Conclusions: The tension-free vaginal tape obturator procedure achieves its effectiveness in a process of biological reaction and mechanical interaction between the tape and urethra. When this mechanical interaction is too great or too little, there is functional impairment after the procedure.

Editorial Comment

The authors describe their experience and findings when examining a patient population who has undergone a transobturator tape procedure. Postoperative follow-up included questionnaire analysis, physical examination and ultrasound cystourethrography. The surgeons used transvaginal ultrasound at the time of surgery to assure that there was not indentation of the urethra on initial placement. Postoperatively, their success rate for stress urinary incontinence was approximately 90% with approximately 75% having resolved their urinary urge incontinence with a 3% de novo development of urinary urge incontinence. They found that urethral encroachment at rest and a distance between the tape and the symphysis pubis of < 12 mm were associated with obstructive voiding symptoms in their patient population.