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Salvage cryotherapy of the prostate: Long-term clinical, functional, and biochemical outcomes in a large cohort at a tertiary referral center

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Introduction:

Salvage Cryosurgery (SC) is a recognized option for patients who fail after primary radio- or cryotherapy. Aim of this analysis was to report on the results and outcome of patients in our tertiary referral center.

Materials & Methods:

A consecutive series of patients undergoing salvage cryosurgery at our institution was identified. Demographic and clinical parameters before primary and salvage treatment were evaluated; biochemical-disease-free-survival (bDFS), overall survival (OS), disease-specific survival (DSS), and complications were assessed.

Results:

From 10/1994-8/2011, 396 patients underwent SC, 328 patients had sufficient follow-up data available for analysis. Primary treatment was radiotherapy, or cryosurgery. At primary treatment, median age was 65.8 years (45-81), median PSA 8 ng/ml (0.6-290), 40% had stage cT1, 35% cT2, and 25% cT3. Median Gleason sum upon initial biopsy was 7 (5-10). After primary treatment, median PSA-nadir was 0.5 ng/ml (0.01-44.50), median time to Phoenix-BCR was 57 months (0-183.6). SC was performed at a median of 67.5 months (7-212.7) after primary therapy, median pre-SC PSA was 4.0 ng/ml (0.1-112.4). Median PSA-nadir of 0.2 ng/ml (0.01-70.7) was reached after a median of 2.6 months (0-67.3). Median follow-up was 47.8 months (1.6-203.5). 5- and 10-year BDFS was 57% and 54%, OS 84% and 53%, and DSS 94% and 91%.

Patients that died of disease had higher a PSA before SC (6.1 ng/ml [0.1-112.4]; p<0.0001), and higher PSA-nadir afterwards (1.0 ng/ml [0.01-70.7]; p<0.0001). In univariate analyses, time from primary treatment to SC or BCR, PSA before SC, and PSA-nadir after SC were all significant predictors of BCR (p≤0.01). PSA before SC and time to BCR were also predictive of DSS (p=0.003, p=0.01). In multivariate analyses, only PSA-nadir after SC was predictive of BCR and DSS (p<0.001, p=0.012). Complications were rare (0.6-4.6%). Fifty-five patients (16.7%) underwent focal SC. Median PSA nadir after focal SC was 0.44 ng/ml (0.04-20.1). Twenty-seven patients (49%) experienced BCR.. 5- and 10-year-bDFS was 56% and 50%; OS 91% and 85%, and DSS 100% and 98%, respectively.

Conclusions:

Our analysis confirms salvage cryosurgery is an effective treatment option for patients failing primary therapy with minimal associated morbidity. Focal salvage cryosurgery is an efficacious treatment for properly selected patients.