Gleason 6 prostate tumors diagnosed in the PSA era do not demonstrate the capacity for metastatic spread at the time of radical prostatectomy.

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Abstract

OBJECTIVE: To elucidate the probability that Gleason 6 tumors diagnosed in the prostate-specific antigen (PSA) era treated with radical prostatectomy (RP) develop metastasis.

METHODS: Between October 2000 and June 2012, 1781 men underwent open RP by a single surgeon. Biochemical recurrence (BCR) was defined as a serum PSA value ≥0.2 ng/mL, or 2 progressively rising PSA values >0.14 ng/mL. Significant BCR (sBCR) was defined as a BCR with a PSA doubling time (PSADT) <36 months. Insignificant BCR (iBCR) was defined as BCR with a PSADT ≥36 months.

RESULTS: Eight hundred fifty-seven of men (48.1%) undergoing open RP had a pathologic diagnosis of Gleason 6. Twenty-three of 857 of these men (2.7%) developed BCR, 7 were designated as iBCR (mean PSADT 81 months, range 36 to 100), 16 were sBCR (mean PSADT 8 months, range 1.5-20 months). There was a 10-fold difference in PSADT between the sBCR and iBCR groups (P <.001). All men with sBCR underwent salvage radiation therapy (SRT) and all demonstrated a subsequent PSA decline to ≤0.1 ng/mL, suggesting all men had local recurrence. Two men (0.23%) developed a BCR after salvage radiation therapy, both of whom were found to have Gleason 7 disease after pathologic re-review.

CONCLUSION: In our large cohort of men with pathological Gleason 6 disease undergoing open RP, sBCR were attributable exclusively to local disease recurrences. Our findings support the conclusion that Gleason 6 disease exhibits a very low capacity for metastatic spread.

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Editorial comment. [Urology. 2013]

PMID: 23706588 [PubMed - indexed for MEDLINE]