Predictors for positive surgical margins after robot-assisted radical prostatectomy: A single surgeon's series in Japan.

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Abstract

OBJECTIVE: Positive surgical margin after radical prostatectomy has been shown to be an independent predictive factor for biochemical and local recurrence in patients with prostate cancer. The present study was undertaken to identify predictive factors for positive surgical margin after robot-assisted radical prostatectomy in Japanese patients.

METHODS: Between August 2006 and September 2011, a cohort of 244 men underwent robot-assisted radical prostatectomy carried out by a single surgeon. Univariate and multivariate logistic regression analyses were carried out to identify clinical covariates significantly associated with an increased positive surgical margin. The preoperative variables included age, body mass index, prostate-specific antigen level, prostate-specific antigen density, clinical T stage, prostate volume, surgeon volume, number of positive cores and percentage of positive cores.

RESULTS: In the univariate analyses, serum prostate-specific antigen level, prostate-specific antigen density and surgeon volume were significantly associated with positive surgical margin. In the multivariate analysis, prostate-specific antigen density (hazard ratio 3.13, 95% confidence interval 1.57-6.24; P = 0.001) and surgeon volume (hazard ratio 2.15, 95% confidence interval 1.06-4.35; P = 0.034) were independent predictive factors for positive surgical margin. Using these two independent factors, we divided the patients into four groups and calculated the predictive probability of positive surgical margin. The predictive probability for positive surgical margin in each group was well correlated with the rates at 10.8% and 10.2%, 19.8% and 20.0%, 26.4% and 26.4%, an 43.5% and 43.3%, respectively.

CONCLUSION: Prostate-specific antigen density and surgeon volume are independent predictors of positive surgical margin after robot-assisted radical prostatectomy. A combination of these two factors can provide useful information about positive surgical margins.


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