

Prognostic Value of the Percentage of free PSA in the Localized Prostate

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Aim

The aim of our study was to evaluate the usefulness of tumor markers, and particularly the value of the percentage of free PSA, in the prediction of the biochemical recurrence in patients with prostate cancer treated with radical prostatectomy.

Results

Only 19% of our patients presented a biochemical recurrence, with a mean follow-up of 74.7 months (S.D.: 28.8 months).

Using the log rank test, we found a significant association with biochemical recurrence for percentage of free PSA (using 10% as cut-off) ($p < 0.001$) (fig 2) and the calculated bound PSA (using 7 ng/mL as cut-off) ($p: 0.015$), but not for total PSA (using 10 ng/mL as cut-off) ($p: 0.057$) or free PSA (using 1 ng/mL as cut-off) ($p: 0.372$).

Also we observed that Gleason score ($p: 0.001$) (fig. 1) and pathologic stage ($p: 0.001$) were associated with the risk of biochemical progression.

Fig. 1 Probability of Biochemical Recurrence in relation to Gleason Score

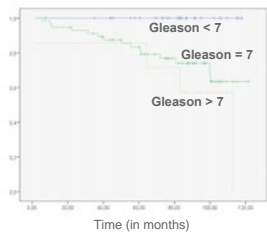
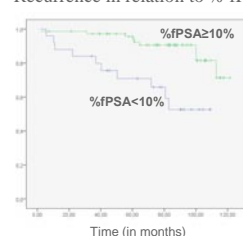


Fig 2. Probability of Biochemical Recurrence in relation to % fPSA



In a multivariate analysis using Cox regression (table 1) we found that only Gleason score ($p: 0.027$) and the percentage of free PSA ($p: 0.031$) remained as predictors of biochemical recurrence.

Methods

We measured PSA and free PSA (Access, Beckman Coulter) in 98 patients with localized prostate cancer before the treatment with radical prostatectomy.

Bound PSA was calculated as the rest between total PSA and free PSA.

We considered a biochemical recurrence in patients with an elevation of PSA higher than 0.4 ng/mL.

All statistical analysis was performed with the SPSS package, version 16.0.

Table 1. Relationship between the Studied Tests and Biochemical Recurrence with a Multivariate Analysis

	P
%free PSA <10%	0.031
PSA > 10 ng/mL	0.161
Free PSA > 1 ng/mL	0.386
Bound PSA >7 ng/mL	0.322
Gleason Score (<7 vs 7- vs >7)	0.027
Pathologic Stage (T2 vs T3)	0.215

Conclusions

We concluded that the percentage of free PSA is a useful test for the prognosis in patients with localized prostate cancer. Therefore, we should investigate the value of the percentage of free PSA in the algorithms for the management of patients with prostate cancer and particularly in the indication of invasive therapies.