Conclusion: Both SBRT and VMAT treatments were highly successful in terms of PSA control. QOL assessment were found to be mostly similar between treatment modalities. Grade 3 urinary toxicities might be eliminated with careful patient selection for SBRT technique.

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Predicting recurrence after 3DCRT for prostate cancer: proposal for a new classifier
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Purpose or Objective: The aim of this work is to develop an algorithm to predict recurrence in prostate cancer patients treated with radical radiotherapy, getting up to a prognostic power higher than traditional D’Amico risk classification.

Material and Methods: 2493 men belonging to the EUREKA-2 retrospective multi-centric database on prostate cancer and treated with external-beam radiotherapy (3DC-RT and or IMRT) as primary treatment comprised the study population. A Cox regression time to PSA failure analysis was performed in univariate and multivariate setting, evaluating the predictive ability of age, pre-treatment PSA, clinical- radiological stage, Gleason score and positive cores at biopsy (%PC). The accuracy of this model was checked with bootstrapping statistics. Subgroups for all the variables’ combinations were combined to classify patients into five different ‘Candiolo’ risk-classes for biochemical Progression Free Survival (bPFS); thereafter, they were also applied to clinical PFS (cPFS), systemic PFS (sPFS) and Prostate Cancer Specific Survival (PCSS), and compared to D’Amico risk grouping performances.

Results: the Candiolo classifier splits patients in 5 risk-groups with the following 10-years bPFS, cPFS, sPFS and PCSS: for very-low-risk 90%, 94%, 100% and 100%; for low-risk 74%, 88%, 94% and 98%; for intermediate-risk 60%, 82%, 91% and 92%; for high-risk 43%, 55%, 80% and 89% and for very-high-risk 14%, 38%, 56% and 70%. Our classifier outperforms D’Amico risk classes for all the end-points evaluated, with concordance indexes of 71.5, 75.5, 80 and 80.5% versus 63, 65.5, 69.5% and 69%, respectively.

Conclusion: Our classification tool, combining five clinical and easily available variables, seems to better stratify patients in predicting prostate cancer recurrence after radiotherapy compared to the traditional D’Amico risk classes. This classifier must be validate by another prostate cancer series.