

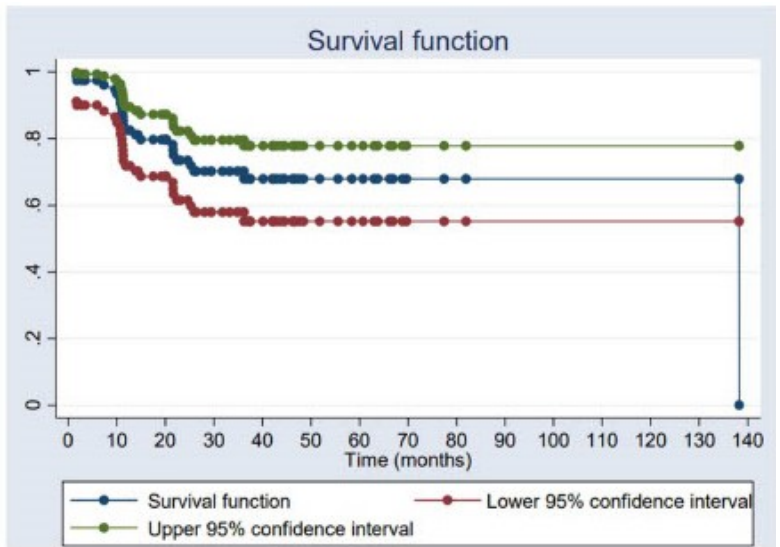
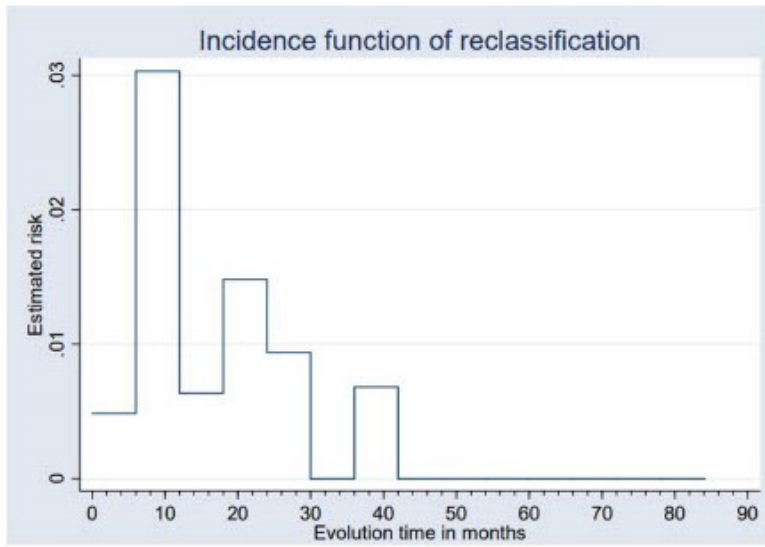
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Introduction & Objectives: Active surveillance represents a strategy to address the overtreatment of prostate cancer and is accepted as a treatment option for favourable-risk prostate cancer. We report the evolution of a real world practice prostate cancer cohort on active surveillance and evaluate clinical variables related to the risk of progression.

Materials & Methods: Prospective longitudinal cohort study in patients with low risk and low volume favourable intermediate risk prostate cancer diagnosed between 01/01/2002 to 12/31/2020 at Guadalajara University Hospital (Spain). Reclassification rates were reported and Kaplan-Meiers curves were used to represent the probability of disease reclassification over time. Regression analysis on the clinical variables related to the diagnosis was used to evaluate the association with the probability of reclassification to active treatment.

Results: A total of 77 patients were included in the study, most participants (90.44%) meet NCCN criteria for very low risk or low risk prostate cancer at diagnosis. Overall, with a median follow up of 29.43 months (iqr 22.2-138.27) 31.53% of participants were switch to active treatment. Most of reclassification happened in the first year of follow up with a incidence rate of 0.03 reclassification per patient and month in risk. Increased tumour grade was the common type of disease reclassification in 50% (12/24) of cases, followed by increased tumour volume in 33.33% (8/24) and patient choice in 16.67% (4/24). In univariate Cox proportional hazard modeling in participants diagnosed by PSA elevation, PSA density, prostate volume, number of zones affected, number of affected cores, total length of tumour in millimetres, percent of cores with tumour and percent of tumour length in millimetres at diagnosis were significantly associated with reclassification. In multivariate Cox modelling, PSA density and number of affected cores were associated with reclassification ($p=0.0093$, Harrell's C number = 0.656).



Conclusions: Active surveillance seems to be a safe therapeutic option to reduce the risk of overtreatment. In our cohort 68.83% of patients remain in active surveillance during the follow up. The probability of reclassification is related to PSA density and the number of affected samples in the diagnostic biopsy. The inclusion of this variables in a prognostic model could improve patient selection and reduce under-treatment risk.