P081 Favourable and reliable PSA doubling time can improve confidence in reducing the number of repeat biopsy during active surveillance

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Introduction & Objectives: Active Surveillance (AS) implies monitoring patients with repeat biopsies and PSA, to promptly detect tumor reclassification (mainly upgrading from Gleason score 3 to 4 or higher) and switch pts to radical treatment. We evaluated if selected PSA doubling time (PSA-DT) is a reliable tool to identify pts with no upgrading at subsequent rebiopsies.

Materials & Methods: Since 2005, 1120 patients were enrolled in AS. Eligibility criteria: clinical stage ≤T2a, initial PSA ≤10 ng/mL and Gleason Pattern Score GPS ≤3+3; number of positive cores ≤25% of total cores and a maximum core length containing cancer ≤50% in the mono-istitutional SAINT protocol, ≤2 positive cores and PSA density<0.2 ng/mL/cm3 in the international PRIAS study. Starting from 2016, multiparametric MRI (mpMRI) target biopsies of mpMRI PIRADS >2 lesions allowed the inclusion of patients with GPS 3+3, regardless of the number of positive cores. Four PSA determinations are provided per year. Repeat biopsies are scheduled at year 1, 4, 7 in PRIAS protocol and at yr 1, 2 and every 2 yrs up to 8th yr in SAINT; then every 5 yrs. Extra-biopsies might be ruled by PSA-DT<10 yrs. Switching to active treatment were advised if upgrading (GPS ≥3+4) occurred.

Results: Since March 2005 to May 2019, 13979 PSA were collected from 1120 patients and 1848 repeated biopsies (excluding the diagnostic ones) were recorded. Of these 286 (15%) scored an upG.

Association between PSA-DT and upG at repeated biopsies resulted to be significant for R^2 values ≥.5 (P<0.0001 vs P=0.12). A trend upG was also detected in PSA-DT categories (P<0.0001), with an increasing of upG in unfavorable and very unfavorable categories. Considering cases with favorable PSA-DT, 868/968 (90%) had not experimented upG. After the first yr of AS, only 1 patient out of 62 (1.6%) with a favorable PSA DT and good fit of the model (R^2≥0.5) experimented upG at repeated biopsy.

Conclusions: PSA-DT with a R^2≥0.5 may represent a stable and reliable kinetics in predicting tumor reclassification. Favorable PSA-DT with good fit value (R^2≥0.5) was found to associate to low risk of upG at the repeat biopsy during AS, especially after the first rebiopsy. This finding could support a risk-based scheduling of repeat biopsy, to reduce the overload of re-biopsies and their potential side effects.