**Is Histopathology and Risk of Biochemical Failure Negatively Affected in Patients Eventually Undergoing Radical Prostatectomy Following Initial Active Surveillance?**

**Introduction and Objectives:** Active surveillance (AS) remains controversial as an initial strategy for low-risk prostate cancer (PCa). In this study we **A)** investigated the probability of remaining on AS, and **B)** compared the outcome in terms of final histopathology in low-risk patients who underwent radical prostatectomy after initial AS with a population of matched patients undergoing immediate RP after diagnosis.
**Materials and Methods:** There were 353 patients with biopsy Gleason score (bGS) ≤ 6, PSA < 10 and cT ≤ 2b diagnosed in the period 1st January 2001 – 31st December 2011 included. There were 201 patients initially followed on AS. There were 152 patients, matched to the AS patients by age, PSA, bGS, and cT-category at diagnosis, who underwent RP immediately following diagnosis (the immediate RP cohort).
**Results: A:** After a median follow-up of 21 months, 32% (64/201) on AS left the protocolled programme. There were 53 who met specified progression criteria and 11 left by own preference. The 5-year Kaplan-Meier estimated probability of remaining on AS was 56.7% (95% CI: 47.5;65.9). There were 56 patients who failed AS who underwent RP (the AS-RP cohort). The median time to RP was 14.5 months after entry in AS. Two years after entry in AS, 21% (42/201) had undergone RP.
**B:** No statistically-significant difference between the AS-RP and immediate RP cohorts' final histopathology were found. ≥ pT3 cancer was found in 11.2% of the immediate RP cohort vs. 19.7% in the AS-RP cohort. bGS was upgraded to ≥ 7 in the RP specimen in 48.7% and 58.9%, respectively.
**Conclusions:** One in five patients with localized low-risk PCa who initially were followed in AS underwent RP within 2 years. Their histopathology is of concern but comparable to that of matched patients who underwent immediate RP. However, this indirectly indicates that patients remaining on AS harbor tumors of similar characteristics. Acknowledging the lack of randomization and the consequent limitations of our study, our data strengthens the need for further studies to clarify the role of AS in the management of low-risk PCa.