

# Immediate versus delayed prostatectomy and the fate of patients who progress to a higher risk disease on active surveillance

## Abstract

**Introduction:** Oncological outcomes of radical prostatectomy (RP) in patients progressing on active surveillance (AS) are debated. We compared outcomes of AS eligible patients undergoing RP immediately after diagnosis with those doing so after delay or disease progression on AS.

**Methods:** Between 2000 and 2014, 961 patients were AS eligible as per EAU criteria. RP within 6 months of diagnosis (IRP) or beyond (DRP), RP without AS (DRPa) and AS patients progressing to RP (DRPb) were compared. Baseline PSA, clinical and biopsy characteristics were noted. Oncological outcomes included adverse pathology in RP specimen and biochemical recurrence (BCR). Matched pair analysis was done between DRPb and GS7 patients undergoing immediate RP (GS7IRP).

**Results:** IRP, DRP, DRPa and DRPb had 820 (85%), 141 (15%), 118 (12.24%) and 23 (2.7%) patients respectively. IRP, DRPa and DRPb underwent RP at a median of 3, 9 and 19 months after diagnosis respectively. Baseline characteristics were comparable. DRP vs. IRP had earlier median time (31 vs. 43 months;  $p < .001$ ) and higher rate of progression to BCR (7.6 vs. 3.9%;  $p = .045$ ). DRPb showed higher BCR (19 vs. 5%;  $p = .021$ ) with earlier median time to BCR, compared to IRP and DRPa ( $p = .038$ ). There was no difference in adverse pathology and BCR rates, but time to BCR was significantly lesser in DRPb (49 vs. 6 months;  $p < .001$ ), compared to GS7IRP.

**Conclusions:** Patients progressing on AS had worst oncological outcomes. RP for GS7 progression and matched pair of GS7 patients had similar outcomes. Worse oncological outcomes in AS progressors cannot be explained by a mere delay in RP.