

## **Does Private Health Insurance Status Affect the Pathological Outcomes in Patients Undergoing Radical Prostatectomy in the United Kingdom?**

**Introduction and Objectives:** National Health Service provides a range of health services, the majority of which are free at the point of use to residents. Less than 12% of the British population has private health insurance. We analysed our hypothesis that patients with private health insurance with prostate cancer present with more favourable pathological outcomes.

**Materials and Methods:** Data was analysed from 436 patients undergoing radical prostatectomy from 2002 – 2010. There were 328 patients under the NHS and 108 men had private health insurance. The two groups were compared for different variables including age, PSA, Gleason score, number of cores involved, maximum tumour length on biopsy core, imaging and pathological outcomes (Gleason score, tumour volume, positive margins, specimen weight, prostate gland volume). Statistical evaluations were carried out using Mann-Whitney U test and chi squared.

**Results:** The patients with private health insurance presented at a younger age (63 vs 61,  $p=0.008$ ) and lower mean PSA (9.5 vs 8.05,  $p=0.0005$ ). However, there was no significant difference in Max % of core involved (45% vs 27%,  $p=0.27$  (7mm v 4mm) or number of cores involved (4 v 4  $P = 0.22$ ). Staging investigations showed a significant difference (45% v 77%  $P < 0.001$ ). There was no statistically significant difference of biopsy Gleason sum. Specimen weight showed barely a difference (53g v 60g  $P = 0.038$ ). Mean prostatic volume (42cc v 37cc  $P=0.0207$ .) Importantly there was significant difference in the total tumour volume (8cc vs 5cc,  $p=0.002$ ). There was no statistically significant difference across the range of final Gleason sum or positive margin rate, although the invasion of the seminal vesicles was higher in the NHS patients (9% vs 1.8%  $P < 0.025$ ).

**Conclusion:** Patients with private insurance were younger, had a lower presenting PSA. There was significantly higher tumour volume and higher incidence of seminal vesical invasion in the NHS patients. We have not yet seen a difference in BCR and CSS. Research needs to be carried out to explain these differences. In spite of uninhibited access to the NHS, insurance status did represent a factor in predicting final pathological outcomes after RRP.