

**PP09**

**INTRA-PROSTATIC EXTENT AND LOCATION OF CANCER: THERAPEUTIC IMPLICATIONS**

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**Introduction and Objective:** The extent of cancer within the prostate gland and its distance from the urethra has major implication on the application of focal therapy and choice of modality, especially when urethral sparing techniques are applied to prevent urethral sloughing. Herein, we analyze pretreatment parameters in correlation to cancer extent within the prostate, in attempt to identify the suitable candidate for focal therapy.

**Methods:** Patients undergoing radical prostatectomy were prospectively recruited . Preoperative data included: prostate volume, PSA, Gleason score(GS), clinical stage, biopsy cores involvement, and laterality .The postoperative data included: minimal and maximal cancer-urethral distance (CUD) (whole mount transversal 5 mm sections), tumor foci longitudinal extension (calculating the number of positive sections), GS, pathological stage and apical involvement. Calculated data included: PSA Density (PSAD), width of the tumor layer (maximal CUD-minimal CUD), sagittal tumor spreading area (length X width).

**Results:** 87 patients were recruited. The average PSAD was 0.28, the average tumor length, width (layer) and sagittal tumor area were 21.7, 10.9 mm and 267 mm<sup>2</sup> accordingly. The patients were divided into 2 groups according to PSAD; PSAD  $\leq$  0.18 in 39 and  $\geq$  0.19 in 48 patients (group 1 and 2 accordingly). The significant data are presented in the table:

	GROUP 1	GROUP 2	P Value
Number of patients	39	48	
Minimal CUD(mm)	6.31 SD + 3.9 ) (	4.45 SD + 2.7 ) (	0.0031
Width of the tumor layer(mm)	8.71SD + 5.1 ) (	12.8 SD + 4.9 ) (	0.0003
Length of the tumor(mm)	18.3 SD + 11.8 ) (	24.4 SD + 7.7 ) (	0.003
Apical involvement (# Pts.)	15	32	0.01
Average tumor surface (length X width) (mm square)	182	333	0.0004

**Conclusions:** From all the pretreatment parameters, the most significant was the PSAD. PSAD could predict the intra-organic spread of the cancer. Patients with PSAD  $\geq$  0.19 are not good candidates for focal therapy due to: intimal proximity to the urethra, apical involvement and larger intra-organic spread. Our data show a possible way to calculate the spread by using PSAD standard deviation. The PSAD is usually used to determine whether a biopsy is warranted, here in, we demonstrate, for the first time, its role in treatment decision, especially for focal therapy suitability and planning.