19-002 THE RATIO OF THE NUMBER OF BIOPSY SPECIMENS TO PROSTATE VOLUME (BIOPSY DENSITY) > 1.5 IMPROVES THE DETECTION OF CLINICALLY SIGNIFICANT CANCERS IN MEN UNDERGOING TRANSPERINEAL BIOPSY OF THE PROSTATE

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METHODS AND OBJECTIVES

- Template guided trans-perineal mapping biopsy (TPMB) (5mm sample intervals)

  - What is the optimal number of biopsies to increase detection rate/diagnosis of csPC?

- Number of cores required to optimize detection of prostate cancer (GS 6) and clinically significant prostate cancer (GS ≥ 7)?

- 436 men from two institutions

  - Sagittal lengths > 20mm, multiple biopsies in-line

  - Prostate volume (PV) determined via TRUS at time of TPMB

  - 137 biopsy naïve, 117 negative TRUS, 182 positive TRUS

- Biopsy density: total number of cores/PV
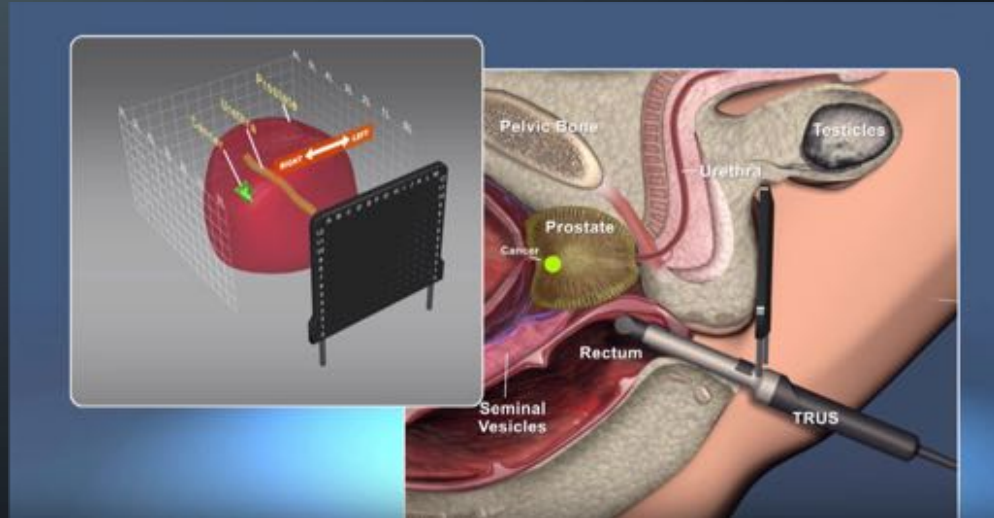
RESULTS

- 299 out of 436 men (68.6%) had a positive TPMB
- Mean age 65, number of cores 59.4 (1-151), and PSA 6.5 ng/dl (1-37)
- Mean cores (+TPMB vs –TPMB) 1.61 vs 1.14
- Biopsy density cutoff points: Table 2
- GS 6
  - Diagnosed more with higher BD (61.6 vs 54%, p=.7)
  - Number positive cores, men with BD of 1.5 had 4.9 vs 3.6 + cores on average (p=.039)
- Dichotomous BD (<1.5 vs >1.5): +TPMB 56.4% vs 84.9% (OR 1.5, 95% CI 1.3-1.7, p<.001)
- PSA and BD were significant on regression analysis for +TPMB and GS7+ disease.

Conclusion:

- BD ≥1.5 increases the diagnosis of prostate cancer by 1.5 times
- Detects more clinically significant disease and
- Should be considered the optimal sampling approach when performing TPMB

Biopsy Density	Cancer Detection Rate (%)
0-0.5	3/12 (25%)
>0.5-1.0	34/91 (37.4%)
>1.0-1.5	104/147 (70.7%)
>1.5	158/186 (84.9%)

Table 2: Positive TPMB rate by biopsy density (p<0.001).

Variable	TPMB (positive vs. negative)	Gleason score 6 vs ≥ 7
Age	0.104	0.005
PSA	<0.001	0.053
PSAD	<0.001	0.258
Biopsy Density	<0.001	0.012

Table 3: Regression analysis of independent variables associated with a positive trans

biopsy and higher Gleason score