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THE PROSTATE CANCER RISK ASSESSMENT FACILITATES EARLY DIAGNOSIS AND PROPER SELECTION OF LOW- AND INTERMEDIATE RISK PATIENT AS A POTENTIAL CANDIDATES FOR ACTIVE SURVEILLANCE AND FOCAL THERAPY IN BLACK AMERICANS MEN OF HAITIAN DESCENT: A SINGLE CENTER EXPERIENCE

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Introduction & Objectives: African American (AA) men of Caribbean descent tended to show high incidence of prostate cancer (PCa) worldwide. This emerging data suggest that PCa affects Afro-Caribbean men more commonly than men in other racial/ethnic groups and this group should warrant a special attention of urologic community with regard to risk assessment, screening and early detection. Although there are only a few studies on PCa screening in ethnic groups including Haitian Americans (HA) in big metropolitan areas, to the best of our knowledge, there is no available data about an incidence of PCa in HA confirmed by a PSA- screened systematic 12-core prostate biopsy. We can assume that the risk for PCa is high among populations of Afro-Caribbean men of Haitian descent living in diverse environments who may share genetic and/or lifestyle factors that increase the risk for PCa. The goal of this study is to evaluate the incidence of nulli diagnosed PCa regarding an eligibility to active surveillance or non-whole gland ablation of prostate in a single institution of North Miami area serving HA population.

Materials & Methods: We reviewed TRUS- guided PNB records from the Bladder Health and Reconstructive Urology Institute in Miramar, FL and Aventura, FL, from 4/2012 to 10/2014, when 396 HA men underwent a systematic 12-core needle biopsy in-office procedure. Data were analyzed for correlation of age, PSA, TRUS volume, clinical stage, and pathological findings.
The decision to proceed with TRUS-PNB included three indications:
(1) PSA elevation > 4.0 ng/mL;
(2) Rising PSA within the normal range of 0.0-4.0 ng/mL and short PSA doubling time less that 12 months;
(3) suspicious prostate digital rectal examination (DRE) with palpable nodule(s).

Results: In total, 396 Haitian men underwent PSA screening with subsequent TRUS-guided PNB. Mean age and pre-biopsy PSA for the whole cohort were 65.9 ± 4.9 years and 8.5 ±3.2 ng/ml, while for PCa cohort – 65.4± 4.8 years and 10.0 ±4.2 ng/ml, respectively. The total detection rate for cancer was as 135 of 396 (34.1%) men while BPH was revealed in majority of patients- in 223 (56.3%), pre-cancer lesion such high-grade prostatic intraepithelial neoplasia (HG-PIN)- in 23 (5.8%) and atypical small acinar proliferation (ASAP) – in 15 (3.5%) , respectively.
Mean TRUS prostate volumes for PCa was 37.8 ±4.5 ml., and BPH- 51.1±4.8 ml. ($p<0.01$), respectively. The prostate volume highly correlated with PSA in BPH, but not in PCa group. In PCa group, the Gleason Score (GS) of 6, GS of 7 and GS of >7 accounted for 45.2% (n=61), 43.0% (n=58) and 11.9% (n=16), respectively. The distribution of the mean numbers of positive cores was as following : 3.4±1.5 for GS of 6 group, 6.7±1.9 for GS of 7 and 10.2±2.1 for GS >7 group while the percent of positive cores were 4.7±1.6, 21.3±3.1 and 41.9±4.9 in these groups, respectively ($p<.001$). Thus, the GS correlated with PSA, number positive cores, percent of positive cores, perineural invasion, and clinical stage. Otherwise, highest Spearman coefficient suggested a strong correlation between percent of tumor involvement, number of positive cores, and GS. Ultimately, an absolute majority of diagnosed PCa cases represented a low risk disease in 49 (36.3%) patients, intermediate risk- in 59 (43.7%) and high risk – in 28 (20.7%) men, respectively, according to D'Amico definition.

Conclusion: This is the first report of results of PSA-based PCa risk assessment with subsequent TRUS-guided PNB of Afro-Caribbean Americans of Haitian decent as a pure population. Our single-institution data of screening program demonstrated a high level of low- and intermediate risk of prostate cancer in 87 (80%) of patients when most of patients can be eligible for active surveillance or different schemes of focal ablation.