INTRODUCTION AND OBJECTIVE: Transrectal (TR) ultrasound-guided prostate biopsy has long been the gold standard for diagnosing prostate cancer, however, a transperineal (TP) approach has been noted to significantly decrease infectious complications by avoiding seeding the prostate with rectal flora. Prior evaluation of the modified Barzell 12-core TP template demonstrated a lower overall and ≥GG2 cancer detection rate (CDR). We aim to evaluate the novel Michigan Urological Surgery Improvement Collaborative (MUSIC) TP template.

METHODS: The MUSIC TP template was developed using corelocation specific CDR data based on initial results of the Barzell template (Figure 1). All patients undergoing in-office TP or TR biopsy under local anesthesia from February to August 2019 were included for this study. Patient characteristics, CDR, and 30-day complications were prospectively collected and analyzed. A multivariable logistic regression was used to compare cancer detection rate between the two biopsy approaches, adjusting for age, prostate specific antigen (PSA), gland volume, prior cancer diagnosis, digital rectal exam (DRE), race and family history.

RESULTS: In total, 5161 patients (215 TP and 4946 TR) were evaluated. The overall CDR was 53.0% for TP and 55.3% for TR (p=0.51). The rate of ≥GG2 cancer was 33.5% for TP and 38.0% for TR (p=0.18). Patients undergoing TP were more likely to be African American and with family history, and less likely to have a positive DRE result (p<0.05 each). Age at biopsy, pre-biopsy PSA, prostate volume and prior cancer diagnosis were not significantly different between the groups. On multivariable analysis, there was no significant difference in the odds of detecting any cancer (OR 0.93, p=0.64) or ≥GG2 cancer (OR 0.89, p=0.47) for TP compared to TR. While not statistically significant, the rates of infectious hospitalization were lower in those undergoing TP than TR (0.17% vs 0.71%, p=0.20).

CONCLUSIONS: The new MUSIC TP biopsy template achieves similar overall and ≥GG2 CDR when compared to TRUS biopsy. TP biopsies are associated with lower rates of infectious complications.

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