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CHOOSING ACTIVE SURVEILLANCE VERSUS DEFINITIVE TREATMENT FOR PROSTATE CANCER: WHAT IS THE VALUE OF AN APPROACH COMBINING MULTIPARAMETRIC MRI (MPMRI) AND TRUS-GUIDED BIOPSY?

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Introduction: The value of a combined approach using prostate mpMRI and TRUS-guided (TRUS-G) systematic biopsy to determine candidacy for active surveillance (AS) versus definitive treatment in the setting of prostate cancer (PCa) is unknown.

Methods: In this retrospective, HIPAA-compliant, IRB-approved study, 157 patients underwent 3T mpMRI with endorectal coil and TRUS-G biopsy before radical prostatectomy (RP). The Prognostic Grade Group (PGG) system was used to categorize mpMRI and TRUS-G biopsy results into low grade (PGG 1, Gleason 3+3=6) and intermediate-high grade (PGG 2-5, Gleason 7+) disease. Additional subset analysis of intermediate grade (PGG 2, Gleason 3+4=7) was also performed. Descriptive statistics were used to assess how often clinical management was impacted by mpMRI and/or TRUS-G biopsy PGG score and compared against final PGG score as determined at RP. In our model, when mpMRI and TRUS-G biopsy score were both PGG 1, we postulated that AS could be considered. When mpMRI and/or TRUS-G biopsy score were PGG 2-5, more definitive treatment could be considered. If there was discordance between the scores, the higher score was used to determine potential clinical management.

Results: In our model, 147/157 patients were candidates for definitive treatment and 10/157 were candidates for AS. Based on RP PGG score, 81.6% of patients were correctly classified as having PGG 2-5 PCa in our model. 18.4% were found to have PGG 1 disease on RP, despite being classified as PGG 2-5 on mpMRI and/or TRUS-G biopsy. In patients deemed to be AS candidates, 80% were correctly identified as having PGG 1 PCa on RP; 20% had PGG 2 disease and 0% had PGG 3-5.

Conclusion: The combination of mpMRI and TRUS-G biopsy has a high rate of accuracy in predicting PGG score on RP (~80%). This was true for patients who were candidates for either definitive treatment or AS. In ~20% of patients, the grade of disease was misclassified; however, in two-thirds of these cases, it is due to mpMRI misclassifying disease as PGG 2 versus PGG 1. In only ~15% of misclassified patients did mpMRI alone classify disease as PGG 3-5 when RP PGG score was 1.