(MP13-18) Gleason Grade Group Concordance Between Preoperative Targeted Biopsy and Radical Prostatectomy: A Comparison Between In-Bore MRI-Guided and MRI-TRUS Fusion Prostate Biopsies

Daniel N. Costa, Debora Recchimuzzi, Alberto Diaz de Leon, Claus Roehrborn, Jeffrey Cadeddu, Vitaly Margulis, Liwei Jia, Kenneth Goldberg, Neil M. Rofsky, Ivan Pedrosa, Aditya Bagrodia

INTRODUCTION

- Prostate **biopsy grade group (GG) is the foundation of PCa management**, therefore accurate preoperative determination of PCa GG is crucial for optimal treatment decisions
- Targeted biopsies improve the detection of csPCa
- Different targeting approaches exist and it is unknown whether different techniques yield distinct GG concordance between biopsy and radical prostatectomy

OBJECTIVE

To determine and compare the **rates of grade group concordance between preoperative in-bore (IBBx) versus MRI-TRUS fusion (FBx) biopsies and radical prostatectomy**

PATIENTS & METHODS

- **Design**: Single-center, retrospective review of prospectively generated data

- **Eligibility**: All men with abnormal mpMRI who subsequently underwent IBBx or FBx between May/2017-Jan/2019 and May/2017-April/2018, respectively, followed by radical prostatectomy

- FBx included targeted and systematic sampling; IBBx was limited to sampling the MRI-visible lesions

- **Reference standard**: GG of the index lesion on the radical prostatectomy specimen served as the gold-standard; the highest GG on the preoperative biopsy specimens was used at a patient level

- **Analysis**: Two-sided two-proportion z-tests were used with significant level set at 0.05

RESULTS

- **191 men** (90 IBBx and 101 FBx; mean age 65y, PSA 8.3 ng/mL, prostate volume 53 cc, PSA density 0.18 ng/mL/cc) were eligible

- **Differences in concordance** (IBBx: 67%, 60/90, FBx: 57%, 57/101) **and downgrade** (IBBx: 20%, 18/90; FBx: 16%, 16/101) rates **were not statistically significant** (p=0.16 and 0.47, respectively)

- There **were fewer upgrades in the IBBx** (13%,12/90) than in the FBx (28%, 28/101) group (p=0.01)

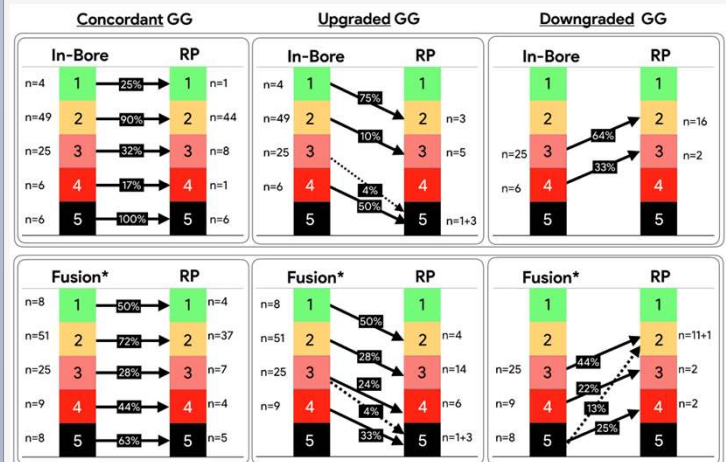- Most (62%,46/74) reclassified cases involved GG 2-3 changes

Fig. 1 - Correlation between prostate cancer grade group (GG) revealed by preoperative targeted (in-bore or fusion) biopsy and radical prostatectomy (RP). *Fusion biopsy includes systematic sampling; *n*, number of men; % are relative to *n* in each biopsy GG subgroup

DISCUSSION AND CONCLUSION

- In our study, in-bore biopsies **IBBx had lower incidence of GG upgrade after RP** suggesting that it may provide preoperative risk stratification superior compared to FBx

- Concordance and downgrade rates were not significantly different between the two targeting approaches