Comparison of SelectMDx, Prostate Health Index, and MRI for Diagnosis of High-Grade Prostate Cancer

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Evaluated performance of SelectMDx, prostate health index (phi), and mpMRI for diagnosis of high-grade (HG) and clinically significant (CS) PCa

- Used histopathology of 5 mm grid interval transperineal mapping biopsy (TMB) as reference (Fig. A)
- TMB identified 34/39 (87%) patients with prostate cancer, 15/34 (44%) had high grade prostate cancer, and 18/34 (53%) had CS PCa. (Fig B)

- Serum and post-DRE urine used for phi and Select MDx tests
- mpMRI classified using PIRADS scores (Fig C)
- Multivariate logistic regression analyses (MLRA) and receiver operating characteristic (ROC) curves were used to determine diagnostic accuracy. DeLong test was used to determine statistical significance of ROC curves.
• Except between SelectMDx and PSA (0.753 vs 0.6, p=0.04) for CS PCa, there were no differences in ROC curves of SelectMDx, phi, PIRADS, PSA, PSAD, proPSA, and free PSA for the diagnosis HG or CS PCa.

• LRA showed SelectMDx test was significantly better than the rest for diagnosis of HG (β = 5.57, p = 0.001) and CS (β = 4.05, p = 0.004) PCa with an overall accuracy of 82% and 74%, respectively.

• SelectMDx is better suited to identify patients with HG or CS PCa prior to prostate biopsy. Patients with negative SelectMDx test results may be spared from prostate biopsy.

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