MP53-07

PREDICTORS OF IPSILATERAL EXTRAPROSTATIC EXTENSION ON RADICAL PROSTATECTOMY USING 3-TESLA MULTIPARAMETRIC MRI AND CONTEMPORARY PATHOLOGIC FEATURES

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Introduction:

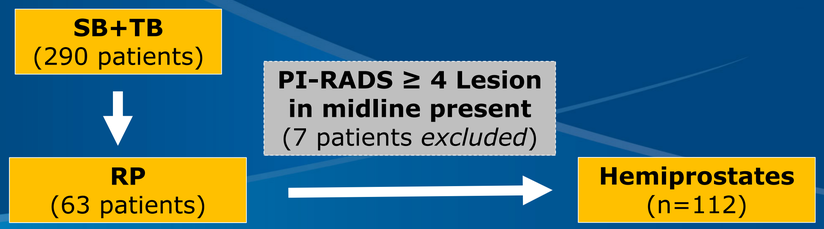
- When using existing pre-radical prostatectomy (RP) risk models to predict pathologic stage, the laterality of extraprostatic extension (EPE) on RP may not be clearly established.
- The incorporation of multiparametric MRI (mpMRI) in pre-RP staging has been generally limited due to poor sensitivity for detecting microscopic EPE.

Objective:

- To utilize mpMRI and contemporary pathologic criteria to determine predictors of ipsilateral EPE at RP.

Methods:

- Retrospective review of patients who underwent systematic biopsy (SB) and MRI/US fusion targeted biopsy (TB) of PI-RADS ≥ 4 lesions followed by RP.
- mpMRI was performed using 3-Tesla MRI scanners using pelvic phased-array coil and scored using PI-RADS version 2.
- Highest Gleason Grade Group (GGG) and Gleason pattern 4 (GP4) components on biopsy were recorded.
- Associations between covariates and ipsilateral EPE at RP were determined using logistic regression analyses.



Results:

	OR	95% CI	p
# of Positive Cores (SB)	1.4	(1.10-1.78)	0.0063
# of Positive Sextants (SB)	1.85	(1.22-2.81)	0.0041
% of Cores Positive (SB+TB)	1.03	(1.02-1.05)	0.0002
Max Core % Involved (SB+TB)	1.03	(1.01-1.04)	0.0002
Gleason Grade Group (SB+TB)			0.0027
1	0.86	(0.15-4.76)	
2	2.18	(0.67-7.13)	
3	10.80	(2.68-43.52)	
4	12.00	(2.34-61.45)	
5	>999	(<0.001->999)	
Max Core % GP4 (SB+TB)	1.03	(1.02-1.04)	<0.0001
GP4 Category (SB+TB)			
Cribriform	4.95	(1.75-13.96)	0.0025
Fused	2.64	(1.13-6.21)	0.0258
Poorly Formed	5.26	(2.13-12.98)	0.0003
# of Cores Cribriform (SB+TB)	1.45	(1.12-1.87)	0.0051
PNI (SB+TB)	2.97	(1.20-7.31)	0.0181
PNI (SB)	1.19	(0.41-3.46)	0.7503
PNI (TB)	5.48	(1.3-23.17)	0.0207

- **TABLE 1A.** Univariate Analysis for Pathologic Covariates. *PNI = perineural invasion

MEDICINE *of* THE HIGHEST ORDER

	OR	95% CI	p
PI-RADS 5 Lesion	5.44	(2.08-14.26)	0.0006
PI-RADS ≥ 4 Lesion	5.36	(2.07-13.85)	0.0005
Lesion Capsule Abutment/Bulging			
No	3.7	(1.36-10.08)	0.0005
Yes	15.10	(3.65-62.52)	0.0005

- **TABLE 1B.** Univariate Analysis for MRI Covariates.

	OR	95% CI	p
PI-RADS 5 Lesion	3.83	(1.29-11.33)	0.0154
Max Core % GP4 (SB+TB)	1.03	(1.01-1.04)	<0.0001

- **TABLE 2.** On multivariate analysis, only the presence of a **PI-RADS 5 lesion** and **maximum core % GP4 on SB+TB** were independently predictive of ipsilateral EPE at RP.

Conclusions:

- Incorporation of contemporary pathologic criteria after MRI/US fusion biopsy can enhance pre-RP staging.
- Our data suggests that ipsilateral NVB-sparing at RP may be considered in the absence of a PI-RADS 5 lesion and with low volume GP4 involvement on MRI/US fusion biopsy.

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