



Is systematic biopsy needed in the era of MRI guided prostate biopsy?

PK Chiu, A Mok, **WHB Siu**, JJ Leow, K Zhang, CH Chiang, PF Hsieh, W Lam, CH Leung, JY Teoh, WC Tsang, HC Chan, CF Li, MC Law, CLH Leung, CM Li, HS So, PL Liu, WH Au, YH Fan, TP Lin, T Hayashi, K Kamoi, H Uno, J Letran, Y Zhu, HF Wang, ICH Ko, KL Lo, TY Chan, CY Huang, PSK Chu, G Zhu, JHL Tsu, HC Wu, E Chiong, CF Ng, S Shoji

Objective: To evaluate the additional role of systematic biopsy in predicting clinically significant prostate cancer(csPCa) among Asian men with MRI-guided prostate biopsies performed.

Patient & Methods:

The analyses included 5240 Asian men in a multicenter MRI-guided biopsy database of 21 Asian centers in Hong Kong, Shanghai, Beijing, Taiwan, Singapore, Japan, and the Philippines. Each men underwent MRI-targeted and systematic biopsy. The role of systematic biopsy in various PI-RADS and PSA levels in predicting clinically significant prostate cancer(ISUP \geq 2) was evaluated.

Result:

4627 men with PI-RADS score available were included. 4.9%, 42.6%, 35.8% and 14.7% patients had highest PI-RADS score 2, 3, 4 and 5, respectively. The median PSA, PSA density, targeted cores, and systematic cores were 8.2, 0.19, 3 and 12 respectively. 54.9% had PCa and 41.1% had csPCa. csPCa was diagnosed in 9.7%, 22.5%, 57.2% and 78.1% of men with PI-RADS score 2,3,4 and 5, respectively. csPCa diagnosed only on systematic biopsy but not on targeted biopsy is shown in Table 1.

Conclusion:

csPCa on additional systematic biopsy was only 5.6% in men with PSA density <0.15. Additional systematic biopsy has limited role in men with highest PI-RADS score of 2 or 3, and PI-RADS 4 with PSA density<0.15.

Highest PI-RADS	csPCa only on systematic biopsy but not on targeted biopsy		
	Whole cohort	PSA density < 0.15	PSA density \geq 0.15
PI-RADS 2	4.2% (9/215)	1.9% (2/104)	7.0% (6/86)
PI-RADS3	5.4% (87/1615)	4.7% (36/767)	6.1% (46/755)
PI-RADS4	14.1% (117/831)	7.7% (28/363)	20.0% (83/416)
PI-RADS5	30.6% (75/245)	14.9% (11/74)	39.5% (62/157)
Total	9.6% (296/3080)	5.6% (81/1445)	13.1% (215/1635)

