P023 Comparison between systematic and targeted biopsy with the radical prostatectomy specimen

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Introduction & Objectives: Biopsy by MRI-fusion (TB) provides a higher detection of clinically significant prostate cancer (csPCa) decreasing the low-risk one versus systematic biopsy (SB). The literature describes an under-staging rate between 30-40% of the biopsy with respect to the specimen and over-staging between 15-30%. Our aim is to analyze the histopathological concordance between TB and SB and the radical prostatectomy specimen (RPS), and to show the results of the overall biopsy (GB=SB + TB).

Materials & Methods: Prospective observational analysis of 75 patients undergoing radical prostatectomy following SB and TB results of PIRADS ≥3 lesions performed in our center between 2018 and 2020 using 3 Teslas MRI and Koelis ultrasound with Trinity elastic fusion software. Statistical analysis was performed using SPSS v23 being csPCa defined as ISUP grade ≥2.

Results: We analyzed 75 patients who underwent radical prostatectomy surgery with a median age of 65 years, PSA 7.45 ng/mL, PSAd 0.19 ng/ml^2 and volume 40cc. MRI detected 9% PIRADS 3, 63% PIRADS 4 and 28% PIRADS 5 lesions. In both the SB and the TB, 14.67% of the PCa was not diagnosed. In SB 46.67% of ncsPCa and 38.67% of csPCa were detected, with ISUP 2 29.33% and 3 2.67%. TB revealed 41.33% ncsPCa and 44% csPCa, with 16% in ISUP 2 and 3. The concordance between SB and TB with the RPS was 40% and 33.33%. The rate of under-staging and over-staging was 54.67% and 0% SB and 48% and 12% TB, respectively (Table 1).

	ISUP RPS						
ISUP TB	**0**	**1**	**2**	**3**	**4**	**5**	**TOTAL**
0	0	3	6	2	0	0	11
1	0	11	18	2	0	0	31
2	0	0	6	5	1	0	12
3	0	1	4	5	0	2	12
4	0	1	1	2	2	0	6
5	0	0	1	0	1	1	3
TOTAL	0	16	36	16	4	3	75

	ISUP RPS						
ISUP SB	**0**	**1**	**2**	**3**	**4**	**5**	**TOTAL**
0	0	1	1	8	1	0	11
1	0	12	21	2	0	0	35
2	0	1	14	5	1	1	22
3	0	0	0	1	0	1	2
4	0	1	0	0	2	0	3
5	0	1	0	0	0	1	2
TOTAL	0	16	36	16	4	3	75

Table 1. Comparison between systematic and targeted biopsy with the radical prostatectomy specimen

The concordance between GB and RPS was 42.67%, highlighting that 55.57% of ISUP 1 ncsPCa in GB corresponded to csPCa in the RPS. The rate of under-staging of the biopsy-specimen was 41.33% and over-staging was 12%.

Conclusions: Our study suggests that TB decreases the rate of under-staging with the RPS by 12.20% and increases by 5.33% the detection of csPCa versus SB.