Poster 28

Comparison between Systematic and MRI Targeted Prostate Biopsy for patient with no history of prostate cancer attending a first round of trans-rectal ultrasound biopsy procedure

Coffin G[1,2], Chevreau G[1], Renard-Penna R[3], Comperat E[4], Vitrani MA[2], Torterotot C[2], Conort P[1], Bitker MO[1], Mozer P[1,2]

[1]Academic Department of Urology, La Pitié-Salpêtrière hospital, Assistance-Publique Hôpitaux de Paris, Paris, France
[2]ISIR laboratory, University Pierre and Marie Curie, CNRS-UMR7222, Paris, France
[3]Academic Department of Radiology, La Pitié-Salpêtrière hospital, Assistance-Publique Hôpitaux de Paris, Paris, France
[4]Academic Department of Anatomopathology, La Pitié-Salpêtrière hospital, Assistance-Publique Hôpitaux de Paris, Paris, France

Objective: to compare the effectiveness of systematic biopsies and MRI targeted biopsies for a first round of prostate biopsy procedure among a population of men at risk of localized prostate cancer with no history of prostate cancer.

Methods: We retrospectively reviewed all patients who came at our department for a first round of prostate biopsies and who were at risk of localized prostate cancer.

Exclusion criteria were: **history of prostate cancer**, previous prostate **biopsy**, **local advanced** (≥T3a TNM stage)or **metastatic** prostate cancer at examination (digital rectal and clinical examination, PSA serum level>20ng/mL, prostate MRI staging ≥T3a).

Inclusion criteria were:prostate multiparametric **MRI** showing suspicious intra-prostatic **lesion**.

All patients attended trans-rectal ultrasound biopsies with a Medison V10 Ultrasound system and the Urostation® registration device (Koelis, France): **12 systematic cores** were realized and **2 or 3 additional** cores in **the MRI targeted lesion**

Positive core was defined by the presence of prostate cancer on anatomopathological examination.

Results :

Number of patients	80
Age (years)	63.9±7.34[49.9;81.2]
Prostate Volume (mL)	44±22[17;160]
Suspicious DRE	20
PSA serum level (ng/mL)	7.85±3.45[2.8;20]

Table 1. Patients Characteristics. Results are showed as Mean±Sd[Range] . DRE: Digital Rectal Examination

	Systematic Biopsies	MRI Targeted Biopsies	p
Number of cores	948	201	
Number of positive cores	158	77	
% of Positive cores (number)	16.67%	38.31%	<0.001
Cancer mean length by core (mm)	6.72	8.93	0.002

Table 2. Anatomopathological results of prostate biopsy cores.

Conclusion:

MRI targeted cores seem to be **more accurate** than systematic cores to detect localized prostate cancer and could prevent the use of systematic prostate biopsies to detect cancer and consequently **decrease the number of cores** for a prostate biopsy diagnosis procedure.