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First French experience of prostate targeted biopsies with URONAV system

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Introduction & Objective

The aim of this study is to report the first and only French experience to date of transrectal prostate-targeted biopsies with URONAV system, allowing elastic fusion of MRI and ultrasound images in real time.

Methods

This is a retrospective study conducted between January 1 and September 30, 2018. The parameters studied are age, PSA level, history of biopsies and active surveillance of prostate cancer (PCa), prostatic volume, the number of MRI targets, the Pirads-2 score, the location, the target volume, the Gleason score, the name of the radiologist interpreting prostate MRI. Targeted biopsies and systematic sextant cores were performed.

Results

398 patients were included, mean age 67 years, mean PSA of 10 for a prostatic volume of 73 cc. 550 targets were biopsied. 7% of targeted areas were less than 5mm. 61% of the lesions were classified Pirads 4 or 5 and 39% Pirads 3. 17% of the targets are Gleason > 6 PCa. One hundred and twenty-one patients (22%) had systematic positive biopsies, of which eighty five (71%) were Gleason 6. Thirty three targets (14%) Pirads 3 corresponded to an adenocarcinoma with a Gleason score > 6. Biopsies of forty four Pirads 5 targets (57%) are negative. Only one Pirads 3 target located in transitional zone is associated with PCa. Twenty four of the targets below 5mm (63%) are a PCa. Thirty five of the 60 biopsied patients under active surveillance (58%) had to leave the protocol and need to be treated because of a larger or more aggressive disease underdiagnosed with previous non-MRI targeted biopsies. PCa was diagnosed for sixty seven patients (17%) with previous negative cores.

Conclusions

The transrectal freehand URONAV system is easy to use and very precise in its guidance for both small targets and those located in the anterior zone. The relevance of biopsy targeting leads in our study to a modification of initial management in more than one out of four cases. This tool reinforces the necessary collaboration between radiologists and urologists. This teamwork improves the quality of MRI interpretation and targeted cores. The short learning curve is enhanced with this expert team.