DAY CLINIC HIGH-INTENSITY FOCUSED ULTRASOUND (HIFU) FOCAL THERAPY (FT) TO PRIMARY TREATMENT OF LOCALIZED PROSTATE CANCER: INITIAL EXPERIENCE OF 39 PATIENTS

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INTRODUCTION

HIFU has the potential to provide an alternative to radical surgery or radiotherapy with fewer complications and similar oncological outcomes in selected patients. The proposal is a focal ablative therapy. A non-invasive, radiation-free treatment using a robotic arm, with real time magnetic resonance image (MRI) trans-rectal ultrasound image fusion. It consists in a single-shot, but if needed can be repeated with non-cumulative effect. HIFU uses focused beam of ultrasound waves that thermally ablate a selected portion of prostate gland. The more the gland is ablated, the better oncological results appear, but with worse functional results.

OBJECTIVES

To demonstrate the safety and feasibility of day clinic HIFU FT as a primary option of treatment in a prospective study of 39 patients.

METHODS

To identify the candidates it was taken in consideration serum PSA (<15 ng/ml); mpMRI with no extracapsular extension; no seminal vesicle invasion or pelvic lymph node disease; targeted MRI-TRUS fusion biopsy with Gleason score (ISUP 1-3); unilateral disease, negative bone scintigraphy or when available, Ga-PSMA PET/RM; prostate volume; mild lower urinary tract symptoms, patients who refuse gold standard radical treatment like prostatectomy or active surveillance. This research consists in a single-center prospective analysis of 39 patients with unilateral prostate cancer candidates for FT (Hemigland, Zonal or Focal ablation) as the primary treatment option from August 2018 to March 2019. Of those 39 patients, 13 were excluded and 26 included.

RESULTS

Hemi-gland ablation was performed in 20 patients and Focal ablation in 6 patients. 2 patients (5.1%) had refractory urinary retention treated with Transurethral resection of the prostate (TURP). None patient had urinary incontinence, worsening of erectile function, bleeding, infectious complications or rectal fistulae reported. 20 patients underwent control biopsy after 6 months of HIFU, being negative in 19 patients (95%).1 patient treated with focal HIFU presented ISUP 2 in the same lobe and was referred for radical prostatectomy.

CONCLUSION

This study demonstrates a significant improvement in the performance of prostate biopsy with US- MRI fusion compared to random US-guided biopsies, detecting more high risk and fewer low-risk cancers, with potential clinical impact.

Key Words
HIFU; Focal Therapy; Localized Prostate Cancer

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