Actas Urol Esp. 2018;42(5):338–343

Actas Urológicas Españolas

www.elsevier.es/actasuro

NEW TECHNIQUES AND TECHNOLOGIES

Functional outcomes after prostatic cryosurgery☆

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Received 28 June 2017; accepted 11 September 2017
Available online 26 April 2018

KEYWORDS
Prostatic cryosurgery;
Lower urinary tract symptoms;
Quality of life;
Functional outcomes

Abstract
Objective: To assess the functional effects of prostatic cryosurgery on micturition.
Material and methods: Prospective study of men who underwent cryosurgery (CS) for prostate cancer between 2013 and 2015. Low urinary tract symptoms (LUTS) and quality of life (QoL) were assessed 1 month before surgery using IPSS questionnaire, a three-day voiding diary (3 DVD) and uroflowmetry with ultrasound-measured postvoid residual volume. Need of medical treatment for LUTS was also recorded. The same assessment was performed at 3, 6 and 12 months after CS. Outcomes after surgery were compared to those prior to surgery.
Results: Forty-five patients underwent a CS during the study period, of whom 25 patients could be recruited in the study. Mean age was 73.5 years (range 66–84). Nineteen CS (76%) were performed as a primary procedure, while 6 CS (24%) as a salvage procedure. No statistical differences were found comparing results of IPSS, QoL, D3vd or uroflowmetry and PVR at 3, 6 or 12 months after CS compared to before surgery. Before CS, 8 (32%) patients were on medical treatment for LUTS, while at 6 and 12 months after surgery, 3 (13.6%) and 2 (9.5%) patients required some medication, respectively.
Conclusion: According to the punctuation of IPSS, QoL questionnaire, and a 3-day voiding diary, LUTS does not worsen after CS. Prostatic cryosurgery does not seem to impact uroflowmetry results.

☆ Please cite this article as: Mateu L, Peri L, Franco A, Roldán F, Musquera M, Ribal MJ. Resultados funcionales después de crioterapia prostática. Actas Urol Esp. 2018;42:338–343.

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2173-5786/

PALABRAS CLAVE
Crioterapia prostática;
Síntomas del tracto urinario inferior;
Calidad de vida;
Resultados funcionales

Resultados funcionales después de crioterapia prostática

Resumen

Objetivo: Evaluar las implicaciones funcionales de la crioterapia (CT) prostática sobre la micción.

Material y métodos: Estudio prospectivo de los pacientes tratados mediante CT prostática por cáncer de próstata entre 2013 y 2015. Un mes previo a la cirugía se realizó el cuestionario IPSS con una pregunta sobre calidad de vida (QoL), un diario miccional de 3 días (DM3D) y una flujometría con cálculo ecográfico del residuo posmiccional (RPM). También evaluamos la necesidad de tratamiento médico para sintomatología del tracto urinario inferior (STUI). A los 3, 6 y 12 meses tras la CT, los pacientes se sometieron a la misma evaluación. Los resultados tras la cirugía se compararon con los previos a CT.

Resultados: Cuarenta y cinco pacientes se sometieron a CT en el período del estudio y 25 pudieron incluirse en el estudio. La edad media fue 73,5 años (rango 66-84). Diecinueve CT (76%) se realizaron como procedimiento primario, mientras 6 CT (24%) como procedimiento de rescate. No se encontraron diferencias significativas en los resultados del IPSS, QoL, DM3D, o RPM entre los 3, 6 o 12 meses tras la CT respecto a antes de a la CT. Previo a la CT, 8 (32%) pacientes recibían tratamiento médico para STUI, mientras a los 6 y 12 meses, 3 (13,6%) y 2 (9,5%) pacientes recibían tratamiento, respectivamente.

Conclusión: De acuerdo con los resultados del IPSS, QoL y diario miccional, la CT no empeora la STUI. La CT no parece afectar a los resultados de la flujometría.

Introduction

Prostatic cryosurgery (CS) is a minimally invasive treatment of localized prostate cancer, with the aim of providing equivalent oncologic safety to radical prostatectomy or radiotherapy with reduced toxicity and improved functional outcomes.[1]

So far, the majority of studies focus their analysis on the oncologic results of CS and its most widely accepted complications. A rate of incontinence requiring the use of pads of 2.9%,[2] erectile dysfunction in 91% of patients,[2] rectal fistula in less than 0.5% of cases,[2,3] urethral stricture in about 3% of patients,[4] temporary urinary retention in 6% of cases,[5] and the need for a transurethral resection of the prostate (TURp) has been reported in approximately 1% of cases.[5] Since 2008, 164 CS have been performed in the Hospital Clinic of Barcelona, and the complication rate observed is similar to that previously described, with a 99% rate of erectile dysfunction, 8% of temporary urinary retention, 1.8% of incontinence requiring pads, 2.5% of urethral stricture, 1.2% of TURp, and 0% of fistula.

Little literature is found detailing functional outcomes of CS regarding the occurrence of lower urinary tract symptoms (LUTS).[3,6] Due to its pathophisiology,[7] it seems reasonable that cryosurgery can lead to LUTS. Thus, our objective was to assess the functional effects of prostatic cryosurgery on micturition.

Materials and methods

Patient population

Prospective study of those consecutive men who underwent a CS for a localized or locally advanced prostate cancer between 2013 and 2015. Among 45 patients who underwent a CS in that period, 18 patients did not consent the inclusion and 2 patients were on a dialysis programme without diuresis. Thus, 25 patients were recruited. Patients' characteristics are summarized in Table 1. Ethical approval was obtained from the Ethical Board and all patients signed a written informed consent prior to entering the study.

Pre-procedure preparation and data collection

Before surgery, all patients underwent a transrectal ultrasound (TRUS) to measure the prostate volume. Seven (28%) patients received 3 months of hormonal treatment due to a prostate volume greater than 40 ccs. Patients' low urinary tract symptoms were evaluated 1 month before surgery with the IPSS questionnaire, which includes a single question regarding quality of life (QoL), a 3-day bladder diary (3dBD) and an uroflowmetry with ultrasound-measured post-void residual urine (PVR). The need for medical treatment for LUTS was also recorded.