Actas Urol Esp. 2014;38(6):405–412

Actas Urológicas Españolas

www.elsevier.es/actasuro

REVIEW ARTICLE

Focal therapy for prostate cancer. Rationale, indications and selection☆

F. Gómez-Veiga[a,*], P. Portela-Pereira[a], J.M. Cozar-Olmo[b], H. Ahmed[c], C. Moore[c], L. Dickinson[c], F. Algaba[d], L. Izquierdo[e], A. Alcaraz Asensio[e], S. Martinez-Breijo[a], M. Emberton[c]

[a] *Servicio de Urología, Hospital Universitario de Salamanca y Complejo Hospitalario Universitario de A Coruña, A Coruña, Spain*
[b] *Servicio de Urología, Hospital Universitario de Granada, Granada, Spain*
[c] *Urology Department, University College London Hospital, Londres, UK*
[d] *Servicio de Urología, Fundación Puigvert, Barcelona, Spain*
[e] *Servicio de Urología, Hospital Clínic de Barcelona, Barcelona, Spain*

Received 13 December 2013; accepted 19 December 2013
Available online 13 April 2014

KEYWORDS
Prostate cancer;
Focal therapy;
Diagnosis;
Treatment

Abstract
Context: The great controversy surrounding the treatment of localized prostate cancer is related with its possibilities of radical treatment or active surveillance. The objective of this paper is to analyze the rationale selection among current focal therapy modalities regarding tumor and patient selection.
Evidence acquisition: Current articles about advantages and disadvantages on the treatment of localized prostate cancer as well as information about focal therapy regarding tumor selection, characteristics and indications cited in MEDLINE search were reviewed.
Summary of evidence: Focal therapy standardized criteria must be: low risk tumors, PSA < 10–15, Gleason score ≤ 6, and unilateral presentation all supported by image-guided biopsy and nuclear magnetic resonance (NMR). There are doubts about the suitability of focal therapy in cases of bilateralism or in those with Gleason score 3 + 4 or PSA > 15.
Conclusions: Focal therapy is an alternative for localized prostate cancer treatment. However, some aspects of their diagnosis and selection criteria should be defined by prospective studies which should provide knowledge about the indication for focal therapy.

PALABRAS CLAVE
Cáncer de próstata;
Terapia focal;

Terapia focal en cáncer de próstata. Racionalidad, indicaciones y selección

Resumen
Contexto: El tratamiento del cáncer de próstata localizado está sujeto a gran controversia en lo referente a sus posibilidades de tratamiento, radical o seguimiento activo. El objetivo de

☆ Please cite this article as: Gómez-Veiga F, Portela-Pereira P, Cozar-Olmo JM, Ahmed H, Moore C, Dickinson L, et al. Terapia focal en cáncer de próstata. Racionalidad, indicaciones y selección. Actas Urol Esp. 2014;38:405–412.

* Corresponding author.
E-mail address: fgveiga@telefonica.net (F. Gómez-Veiga).

2173-5786/$ - see front matter

Diagnóstico;
Tratamiento

este trabajo es analizar la racionalidad de la terapia focal, selección de tumores y pacientes en el entorno de las alternativas existentes.
Adquisición de evidencia: Revisamos la literatura actual en Medline, relacionada con las ventajas e inconvenientes sobre el tratamiento de cáncer de próstata localizado, así como la información publicada sobre la terapia focal en referencia a la selección de tumores, características e indicaciones para terapia focal.
Síntesis de evidencia: Los tumores de bajo riesgo, PSA < 10–15, Gleason $\leq$ 6, junto con las biopsias guiadas apoyadas con la resonancia magnética nuclear (RMN) y la unilateralidad deben ser el estándar para dicha selección. Existen dudas sobre la conveniencia de la terapia focal en los casos de bilateridad o aquellos de Gleason 3 + 4 o PSA > 15.
Conclusiones: La terapia focal puede ser una alternativa para tratar el cáncer de próstata localizado, si bien algunos de sus aspectos diagnósticos y de selección deberán ser definidos por estudios prospectivos, que esperamos nos puedan aportar conocimiento sobre la indicación de la terapia focal.

Background and rationale

To date, the therapeutic strategies employed for clinically localized prostate cancer (CLPC) consist of proposing active treatments such as radical surgery. Although these procedures have been shown to be highly effective in achieving high rates of healing in CLPC, they do involve significant morbidity and reduced quality of life.[1,2]

To avoid the morbidity associated with the overdiagnosis and subsequent radical overtreatment of CLPC, a noninvasive therapeutic option known as active surveillance has emerged during the last decade.

Between these 2 strategies lies focal therapy (FT) in CLPC, a therapeutic modality that seeks to treat the prostate gland under the principle of organ preservation. The effect is achieved by eliminating the major focus of the tumor (tumor index), which determines the total prostate tumor volume, the Gleason tumor grade and the tumor's biological aggressiveness.

The main limitations that urologists face nowadays when indicating FT for low to intermediate risk CLPC concern the location of the tumor, the understaging of the disease and oncologic safety when implementing a technique.

Only the scientific knowledge gained from the experience and results of various published series can answer these questions and put FT in its proper place.

Urologists should deepen their knowledge on the following aspects:

1) The type and characteristics of patients who can benefit from FT.
2) Which imaging techniques and minimal diagnoses should be required for its correct indication.
3) How to properly assess the information provided by biopsies to define the tumor index.

Urologists should be well versed in this type of information and should consider it when proposing this alternative to their patients. They should inform their patients properly about the therapy's advantages and disadvantages, as well as the quality of life that the therapy will maintain. If FT achieves quality of life, we will be witness to a paradigm shift in the local management of this prevalent disease.

The objective of this review is to develop and analyze the published studies that provide an overall view of the relevance of FT and the diagnosis and selection of patients who could be considered candidates for FT.

Rationale and biopsy methods for focal therapy

FT has gained special interest in the last 5 years as a paradigm shift in treatment, placing it in the middle ground between surveillance and radical therapy.[3] However, there is still no consensus on which patients are candidates for this therapy.[4,5] A number of authors consider that FT is an alternative to active surveillance,[6] while others argue that FT should be considered an alternative to radical therapies.[7,8] The arguments for performing FT exclusively on patients who are candidates for active surveillance include the following:

1) Reduced psychological morbidity (emotional burden) that not undergoing cancer treatment represents.
2) Reduced cancer progression rate in approximately 1/3 of patients who require late intervention within the subsequent 5 years. Up to 10% of patients who underwent active surveillance elected to undergo surgery within 5 years, even in the absence of histological progression.[9,10]

The application of FT can be seen as a strategy to reduce the adverse reactions associated with conventional therapy on the full gland. Even when patients are at a high-risk stage of the disease, the evidence indicates that the benefits of radical therapies in terms of controlling the cancer and preventing death are seen only after 10 years.[11,12]

A strategy that treats the cancer and carefully monitors the tissue unaffected by *de novo* cancer can prevent the need for future radical therapy (or delay it a few years). Patients can therefore benefit from the lack of adverse reactions related to radical therapy.