Actas Urol Esp. 2014;38(1):1–6

Actas Urológicas Españolas

www.elsevier.es/actasuro

ORIGINAL ARTICLE

Active surveillance for small renal masses diagnosed in elderly or comorbid patients: Looking for the best treatment strategy☆

E. Brunocilla[a], M. Borghesi[a,*], R. Schiavina[a], F. Palmieri[b], R. Pernetti[b], C. Monti[c], G. Martorana[a]

[a] *Department of Urology, University of Bologna, S. Orsola-Malpighi Hospital, Bologna, Italy*
[b] *Department of Urology, S. Maria delle Croci Hospital, Ravenna, Italy*
[c] *Department of Radiology, M.F. Toniolo Hospital, Bologna, Italy*

Received 28 March 2013; accepted 11 April 2013
Available online 21 November 2013

KEYWORDS
Small renal masses;
Renal cell carcinoma;
Active surveillance;
Follow-up

Abstract
Introduction: Aim of this study is to provide our results after long-term active surveillance (AS) protocol for small renal masses (SRMs), and to report the outcomes of patients who remained in AS compared to those who underwent delayed surgical intervention.
Patients and methods: We retrospectively reviewed our database of 58 patients diagnosed with 60 contrast enhancing SRMs suspicious for renal cell carcinoma (RCC). All patients had clinical and radiological follow-up every 6 months. We evaluated the differences between patients who remained on AS and those who underwent surgical delayed intervention.
Results: The mean age was 75 years, the mean follow-up was 88.5 months. The median initial tumor size at presentation was 2.6 cm, and the median estimated tumor volume was 8.7 cm^3. The median linear growth rate of the cohort was 0.7 cm/year, and the median volumetric growth rate was 8.8 cm^3/year. Death for metastatic disease occurred in 2 patients (3.4%). No correlation was found between initial tumor size and size growth rate. The mean linear and volumetric growth rates of the group of patients who underwent surgery were higher than in those who remained on surveillance (1.9 vs. 0.4 cm/year and 16.1 vs. 4.6 cm^3/year, respectively; $p < .001$).
Conclusions: Most of SRMs demonstrate to have an indolent course and low metastatic potential. Malignant disease could have faster linear and volumetric growth rates, thus suggesting the need for a delayed surgical intervention. In properly selected patients with low life-expectancy, AS could be a reasonable option in the management of SRMs.

☆ Please cite this article as: Brunocilla E, Borghesi M, Schiavina R, Palmieri F, Pernetti R, Monti C, et al. Vigilancia activa de masas renales pequeñas diagnosticadas en pacientes de edad avanzada o con comorbilidad: en busca de la mejor estrategia de tratamiento. Actas Urol Esp. 2014;38:1–6.

* Correspondiing author.
E-mail address: mark.borghesi@gmail.com (M. Borghesi).

2173-5786/$ - see front matter

PALABRAS CLAVE
Masas renales pequeñas;
Cáncer de células renales;
Vigilancia activa;
Seguimiento

Vigilancia activa de masas renales pequeñas diagnosticadas en pacientes de edad avanzada o con comorbilidad: en busca de la mejor estrategia de tratamiento

Resumen

Introducción: El objetivo de este trabajo es proporcionar nuestros resultados tras un protocolo de vigilancia activa (VA) a largo plazo de masas renales pequeñas (MRP), e informar de los resultados obtenidos en pacientes que permanecieron bajo VA comparándolos con aquellos sometidos a intervenciones quirúrgicas tardías.

Pacientes y métodos: Se llevó a cabo una revisión retrospectiva de nuestra base de datos de 58 pacientes a los que se había diagnosticado 60 MRP captantes de contraste y con sospecha de cáncer de células renales (CCR). Todos los pacientes tenían una revisión de seguimiento clínico y radiológico cada 6 meses. Se evaluaron las diferencias entre los pacientes que permanecieron bajo VA y aquellos sometidos a intervenciones quirúrgicas tardías.

Resultados: La media de edad era de 75 años y la duración media del seguimiento fue de 88,5 meses. El tamaño medio del tumor en el inicio fue de 2,6 cm, y se estimó que el tamaño medio tumoral era de 8,7 cm^3. La tasa media de crecimiento lineal del grupo fue de 0,7 cm/año y el crecimiento volumétrico medio fue de 8,8 cm^3/año. Se produjo el fallecimiento de 2 pacientes debido a enfermedad metastásica (3,4%). No se encontró ninguna relación entre el tamaño tumoral inicial y el grado de crecimiento. Las tasas medias de crecimiento lineal y volumétrico del grupo de pacientes sometidos a cirugía fueron más elevadas que las de aquellos que permanecieron bajo vigilancia (1,9 frente a 0,4 cm/año y 16,1 frente a 4,6 cm^3/año, respectivamente; $p < 0{,}001$).

Conclusiones: La mayoría de las MRP presentan una evolución poco activa y un potencial metastásico reducido. La enfermedad maligna podría presentar tasas de crecimiento lineal y volumétrico más rápidas, sugiriendo así la necesidad de una intervención quirúrgica tardía. En los pacientes adecuadamente seleccionados, con baja esperanza de vida, la VA podría ser una opción razonable en el manejo de las MRP.

Introduction

The increasing utilization of noninvasive abdominal imaging (computed tomography, magnetic resonance imaging and ultrasonography) during the past 20 years has led to a significant growing number of incidentally detected small, asymptomatic, renal masses (SRMs).[1,2] Most of these are classified in clinical stage T1a (≤4 cm in dimension), and in several cases they are diagnosed in elderly and co-morbid patients.[3] Because of this increasing number of incidentally discovered renal masses, renal cell carcinoma (RCC) has been going through a stage and size migration.[4] Traditionally, radical nephrectomy (RN) was the most common surgical treatment for renal cancer, regardless of the tumor size; more recently, nephron-sparing surgery (NSS) (performed by traditional open or minimally invasive approaches) has been considered the current standard of care for clinically localized RCC whenever technically feasible,[5] with promising oncological results,[6] lower renal function impairment[7] when compared to RN, and low rate of positive surgical margins,[8] even in the most challenging and complex procedures.[9] Recent large surgical series indicate that 20–30% of SRMs are benign at final histology, with low metastatic potential,[3] and only 20–25% of those renal masses have potentially aggressive behavior.[10] Several retrospective and prospective reports showed that most of these masses grow slowly, with low risk of distant metastases (1–3%).[11–13] The management of SRMs, especially in elderly and co-morbid patients, poses a frequent and controversial problem; thermal ablations (cryotherapy and radiofrequency ablation) and active surveillance (AS) are valid treatment strategies in selected patients who are not optimal surgical candidates or who may have a limited life expectancy.[14] In patients initially managed with AS, the radiographic linear and volumetric growth pattern seems to be a useful indicator for aggressive behavior of SRM, thus suggesting the needing for an active treatment of the tumor.[13] With this retrospective study we provide our experience with long-term active surveillance management, and we report the oncological outcomes of patients in AS compared with those who underwent delayed surgical intervention.

Patients and methods

We retrospectively reviewed our database of 58 patients diagnosed with 60 contrast enhancing SRMs suspicious for renal cell carcinoma (RCC), detected during imaging procedures between January 1996 and December 2012. Indications for an active surveillance management were: relevant co-morbidities, advanced age, or patient refusal of surgery. Patients with Von Hippel–Lindau syndrome, history of hereditary RCC, and metastatic disease at presentation were not included in the cohort. Our follow-up protocol has been recently described.[13] Briefly, we performed physical examination, blood sampling, and imaging studies every 3 or 6 months for the first year, and then annually; chest X-ray