

ΑΝΤΙΜΕΤΩΠΙΣΗ ΜΙΚΡΗΣ ΝΕΦΡΙΚΗΣ ΜΑΖΑΣ: Ablative τεχνικές

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Επίκουρος Καθηγητής Ουρολογίας
Πανεπιστήμιο Αθηνών
Σισμανόγλειο Νοσοκομείο



18-21/4/2013

**Πορταριά
Πήλιο**



Β' ΟΥΡΟΛΟΓΙΚΗ ΚΛΙΝΙΚΗ ΠΑΝΕΠΙΣΤΗΜΙΟΥ ΑΘΗΝΩΝ

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Σύγκρουση Συμφερόντων

ΚΑΜΜΙΑ



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ΚΑΛΟ ΤΟΥ ΑΡΡΩΣΤΟΥ



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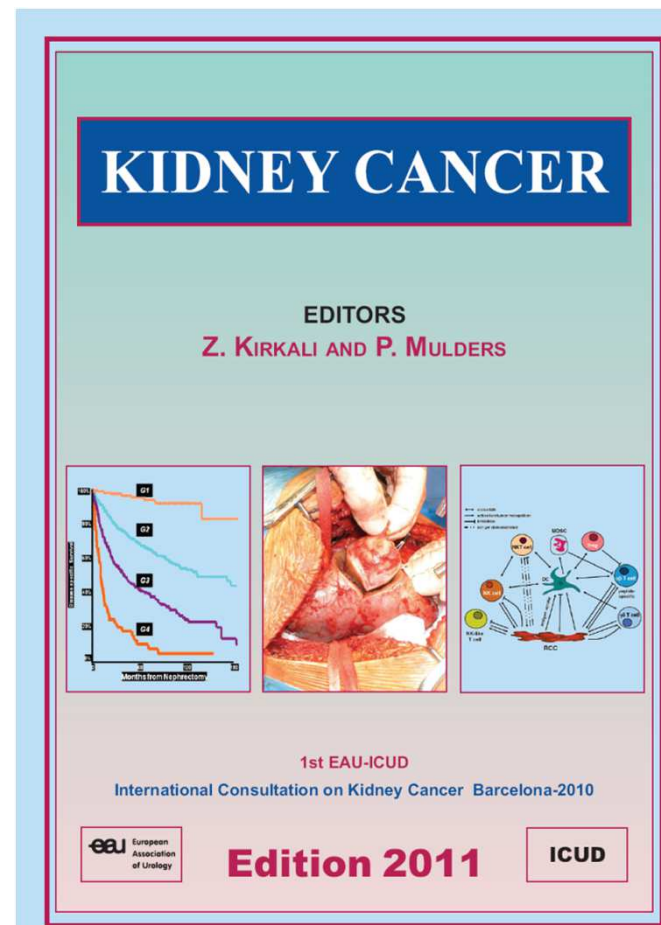


Energy ablative therapies for localized RCC		
Kunkle DA, Uzzo RG. Cryoablation or radiofrequency ablation of the small renal mass : a meta-analysis. <i>Cancer</i> 2008;113(10):2671-2680.	3	
Kunkle DA, et al. Excise, ablate or observe: the small renal mass dilemma--a meta-analysis and review. <i>J Urol</i> 2008;179(4):1227-1233; discussion 1233-1224.	3	
Hui GC, et al. Comparison of percutaneous and surgical approaches to renal tumor ablation: metaanalysis of effectiveness and complication rates. <i>J Vasc Interv Radiol</i> 2008;19(9):1311-1320.	3	
Finley DS, et al. Percutaneous and laparoscopic cryoablation of small renal masses. <i>J Urol</i> 2008;180(2):492-498; discussion 498	3	
Laguna MP, et al. Perioperative morbidity of laparoscopic cryoablation of small renal masses with ultrathin probes: a European multicentre experience. <i>Eur Urol</i> 2009;56(2):355-361.	3	
Beemster P, et al. Follow-up of renal masses after cryosurgery using computed tomography; enhancement patterns and cryolesion size. <i>BJU Int</i> 2008;101(10):1237-1242.	3	
Zagoria RJ, et al. Oncologic efficacy of CT-guided percutaneous radiofrequency ablation of renal cell carcinomas. <i>AJR Am J Roentgenol</i> 2007;189(2):429-436.	3	
McDougal WS, et al. Long-term followup of patients with renal cell carcinoma treated with radio frequency ablation with curative intent. <i>J Urol</i> 2005;174(1):61-63.	3	
Weight CJ, et al. Correlation of radiographic imaging and histopathology following cryoablation and radio frequency ablation for renal tumors. <i>J Urol</i> 2008;179(4):1277-1281; discussion 1281-1273.	3	
Hegarty NJ, et al. Probe-ablative nephron-sparing surgery: cryoablation versus radiofrequency ablation. <i>Urology</i> 2006;68(1 Suppl):7-13	3	



Διατήρηση Νεφρικής Λειτουργίας

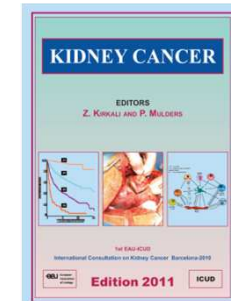
ΕΠΙΠΛΟΚΕΣ



Committee 5 : Treatment of Localized Renal Cell Carcinoma

H. Van Poppel, F. Becker, J. Cadeddu, I. Gill, G. Janetschek, M. Jewett, P. Laguna,
M. Marberger, F. Montorsi, T. Polascik, O. Ukimura, G. Zhu

Επιπλοκές - PN



EORTC (<5εκ)	OPN	ORN
Αιμορραγία	3,1%	1,2%
Επανεπέμβαση	4,4%	2,4%
Παθολογική CT	4,4%	2,0%
Φίιστουλα	4,4%	

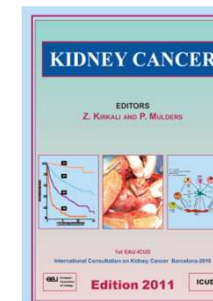
LPN	1062 ασθενείς
Επιπλοκές	21.4% (9-33%)
Αιμορραγία	5,1% (1,5-10,0%)
Διαφυγή ούρων	4.2% (1.4-13%)
Νεφρική ανεπάρκεια	0,7% (0,5-2,0%)

Van Poppel H, Da Pozzo L, Albrecht W, Matveev V, Bono A, Borkowski A, Marechal JM, Klotz L, Skinner E, Keane T, Claessens I, Sylvester R. A prospective randomized EORTC intergroup phase 3 study comparing the complications of elective nephron-sparing surgery and radical nephrectomy for low-stage renal cell carcinoma. Eur Urol 2007;51(6):1606-1615.

Porpiglia F, Volpe A, Billia M, Scarpa RM. Laparoscopic versus open partial nephrectomy: analysis of the current literature. Eur Urol 2008;53(4):732-742; discussion 742-733.



Επιπλοκές RN- Σοβαρότητα



	Ουρολογικές Επιπλοκές	Grade I	Grade II	Grade III	Grade IV	Grade V
Turna 507 pts	46%	20.6%	45%	30%	4.7%	0%
Nogueira 144pts	51%	15,4%	48,7%	28,2%	7,7%	0%
Gill 800 pts	2.1 conversion to RN			11-20% decrease in eGFR		
Venkatesh 123pts	10% (εξωφυτικοί)		47% (ενδοφυτικοί)		50% (πυλαίοι)	
Scoll 100 RAPN	Major 6%			Minor 5%		

Porpiglia F, Volpe A, Billia M, Scarpa RM. Laparoscopic versus open partial nephrectomy: analysis of the current literature. Eur Urol 2008;53(4):732-742; discussion 742-733.

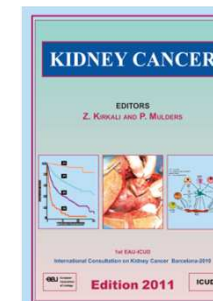
Venkatesh R, Weld K, Ames CD, Figenshau SR, Sundaram CP, Andriole GL, Clayman RV, Landman J. Laparoscopic partial nephrectomy for renal masses: effect of tumor location. Urology 2006;67(6):1169-1174; discussion 1174.

Nogueira L, Katz D, Pinochet R, Godoy G, Kurta J, Savage CJ, Cronin AM, Guillonneau B, Touijer KA, Coleman JA. Critical evaluation of perioperative complications in laparoscopic partial nephrectomy. Urology 2010;75(2):288-294.

Scoll BJ, Uzzo RG, Chen DY, Boorjian SA, Kutikov A, Manley BJ, Viterbo R. Robot-assisted Partial Nephrectomy: A Large Single-institutional Experience. Urology in press 2010.



Επιπλοκές Ablative Σειρές με >100 Ασθενείς



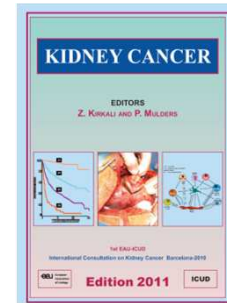
	CRYO	RF
Σύνολο	13,7%	8,3%
Ελάσσονες	12,2%	6%
Μείζονες	1,4%	2,2%
Clavien	I-II	I-II
Συχνότερη	7,2%	3%
	Πόνος ή παραισθησία στο σημείο εισόδου της βελόνας	

Johnson DB, Solomon SB, Su LM, Matsumoto ED, Kavoussi LR, Nakada SY, Moon TD, Shingleton WB, Cadeddu JA. Defining the complications of cryoablation and radio frequency ablation of small renal tumors: a multi-institutional review. J Urol 2004;172(3):874-877.

Laguna MP, Beemster P, Kumar P, Klingler HC, Wyler S, Anderson C, Keeley FX, Bachmann A, Rioja J, Mamoulakis C, Marberger M, de la Rosette JJ. Perioperative morbidity of laparoscopic cryoablation of small renal masses with ultrathin probes: a European multicentre experience. Eur Urol 2009;56(2):355-361.



Συγχο Πολλαπλών όγκων



Νο Αλλοιώσεων	2 (n=5)	3 (n=1)	4 (n=1)
Διάμετρος	2 εκ (0.7-7,5εκ)		
FU	23,3 (7-28) μήνες		
Μείζονες Επιπλοκές	0%		
Ελάσσονες Επιπλοκές	1 stent , 1 μετάγγιση		
Κρεατινίνη	ΑΜΕΤΑΒΛΗΤΗ		
Υποτροπή	0%		

DeCastro GJ, Gupta M, Badani K, Hruby G, Landman J. Synchronous cryoablation of multiple renal lesions: short-term follow-up of patient outcomes. Urology 2010;75(2):303-306.



Σύγκριση PN vs Ablative

Platinum Priority – Kidney Cancer

Editorial by Jose A. Karam and Christopher G. Wood on pp. 905–906 of this issue

Robotic Partial Nephrectomy Versus Laparoscopic Cryoablation for the Small Renal Mass

Julien Guillotreau^a, Georges-Pascal Haber^{a,*}, Riccardo Autorino^a, Ranko Miocinovic^a, Shahab Hillyer^a, Adrian Hernandez^b, Humberto Laydner^a, Rachid Yakoubi^a, Wahib Isac^a.

Table 2 – Perioper Table 4 – Functional outcomes

Variables	Time point	Variables	RPN [*]	LCA [*]	p value
EBL, ml, median (IQR)	Day 1	Mean eGFR, ml/min (%)	73.8 (22.0)	65.2 (32.0)	0.002
Warm ischemia time		Mean change in eGFR (%)	−10.1 (21.3)	+4.6 (39.9)	<0.0001
Operative time, min,	Month 1	Mean eGFR, ml/min (%)	77.6 (30.5)	53.7 (29.7)	0.0001
Hospital stay, h, med		Mean change eGFR (%)	−6.5 (24.9)	−5.1 (47.0)	0.8
Conversions, no. (%)	Month 6	Mean eGFR, ml/min (%)	76.0 (21.2)	60.1 (31.4)	0.4
Intraoperative compl		Mean change eGFR (%)	−11.2 (14.2)	−8.9 (36.7)	0.7
Postoperative compli	Last follow-up	New-onset CKD [†] , no. (%)	26 (12.2)	38 (16.2)	0.0002
Minor, Clavien 1–2, r		End-stage kidney disease [‡] , no. (%)	0 (0)	11 (4.7)	0.0009
Major, Clavien 3–5, r	RPN = robotic partial nephrectomy; LCA = laparoscopic cryoablation; eGFR = estimated glomerular filtration rate; CKD = chronic kidney disease.				
Pathologic diagnosis,	* Two hundred and ten patients underwent 212 RPN procedures, and 220 patients underwent 234 LCA procedures.				
RCC	† eGFR <60 ml/min.				
Benign	‡ eGFR <15 ml/min.				
Inconclusive					

RPN = robotic partial
carcinoma.

* Two hundred and t

RPN = robotic partial nephrectomy; LCA = laparoscopic cryoablation; eGFR = estimated glomerular filtration rate; CKD = chronic kidney disease.

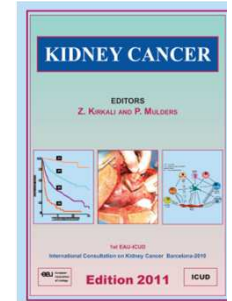
* Two hundred and ten patients underwent 212 RPN procedures, and 220 patients underwent 234 LCA procedures.

† eGFR <60 ml/min.

‡ eGFR <15 ml/min.



Υπέρ: Νεφρική Λειτουργία RF



- Καμία επίπτωση στην νεφρική λειτουργία
- Μπορεί να γίνει με οποιαδήποτε αρχική GFR
- Υπερτερεί eGFR μετά το RF συγκριτικά με την RN,PN,LPN, OPN

Jacobsohn KM, Ahrar K, Wood CG, Matin SF. Is radiofrequency ablation safe for solitary kidneys? *Urology* 2007;69(5):819-823; discussion 823.

Lucas SM, Stern JM, Adibi M, Zeltser IS, Cadeddu JA, Raj GV. Renal function outcomes in patients treated for renal masses smaller than 4 cm by ablative and extirpative techniques. *J Urol* 2008;179(1):75-79; discussion 79-80.

Raman JD, Thomas J, Lucas SM, Bensalah K, Lotan Y, Trimmer C, Cadeddu JA. Radiofrequency ablation for T1a tumors in a solitary kidney: promising intermediate oncologic and renal function outcomes. *Can J Urol* 2008;15(2):3980-3985.

Raman JD, Raj GV, Lucas SM, Williams SK, Lauer EM, Ahrar K, Matin SF, Leveillee RJ, Cadeddu JA. Renal functional outcomes for tumours in a solitary kidney managed by ablative or extirpative techniques. *BJU Int* 2010;105(4):496-500.

Stern JM, Gupta A, Raman JD, Cost N, Lucas S, Lotan Y, Raj GV, Cadeddu JA. Radiofrequency ablation of small renal cortical tumours in healthy adults: renal function preservation and intermediate oncological outcome. *BJU Int* 2009;104(6):786-789.

Aron M, Kamoi K, Remer E, Berger A, Desai M, Gill I. Laparoscopic renal cryoablation: 8-year, single surgeon outcomes. *J Urol* 2010;183(3):889-895.

Bourne AE, Kramer BA, Steiner HL, Schwartz BF. Renal insufficiency is not a contraindication for cryoablation of small renal masses. *J Endourol* 2009;23(7):1195-1198.



Σύγκριση PN vs Ablative

Cryoablation Versus Minimally Invasive Partial Nephrectomy for Small Renal Masses in the Solitary Kidney: Impact of Approach on Functional Outcomes

Kamol Panumatrassamee,* Jihad H. Kaouk,† Riccardo Autorino,* Andrew T. Lenis,* Humberto Laydner,* Wahib Isac,* Jean-Alexandre Long,* Remi Eyraud,* Ahmad Kassab,* Ali Khalifeh,* Shahab Hillyer,* Emad Rizkala,* Georges-Pascal Haber‡ and Robert J. Stein*,§

From the Center for Laparoscopic and Robotic Surgery, Glickman Urological and Kidney Institute, Cleveland Clinic (KP, JHK, RA, HL, WI, JAL, RE, AK, AK, SH, ER, GPH, RJS) and Case Western Reserve University School of Medicine (ATL), Cleveland, Ohio, and Division of Urology, Department of Surgery, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand (KP)

Table 2. Renal function studies

	Low Complexity			Intermediate Complexity			High Complexity		
	RCA	PN	p Value	RCA	PN	p Value	RCA	PN	p Value
No. pts	18	13		18	14		7	6	
Median mg/dl change sCr (IQR)	0 (0, 0.1)	0.1 (0, 0.3)	0.16	0.2 (0, 0.8)	0.2 (0, 0.6)	0.86	0.1 (-0.2, 3.5)	0.1 (0, 0.7)	0.77
Median % change sCr (IQR)	1 (-4, 12)	8 (-4, 24)	0.21	15 (2, 68)	16 (-2, 41)	0.92	8 (-12, 250)	11 (-1, 57)	0.77
Median ml/min/1.73 m ² change eGFR (IQR)	-0.4 (-6.4, 2.8)	-5.6 (-14.6, 2.1)	0.21	-9.4 (-18.4, -1.4)	-11.2 (-19.4, 1.9)	0.82	-3.4 (-42.4, 8.4)	-5.8 (-25, 0.9)	0.77
Median % change eGFR (IQR)	-1 (-12, 5)	-9 (-22, 5)	0.21	-15 (-45, -1)	-16 (-32, 3)	0.92	-8 (-76, 16)	-10 (-35, 2)	0.77





Σύγκριση PN vs Ablative

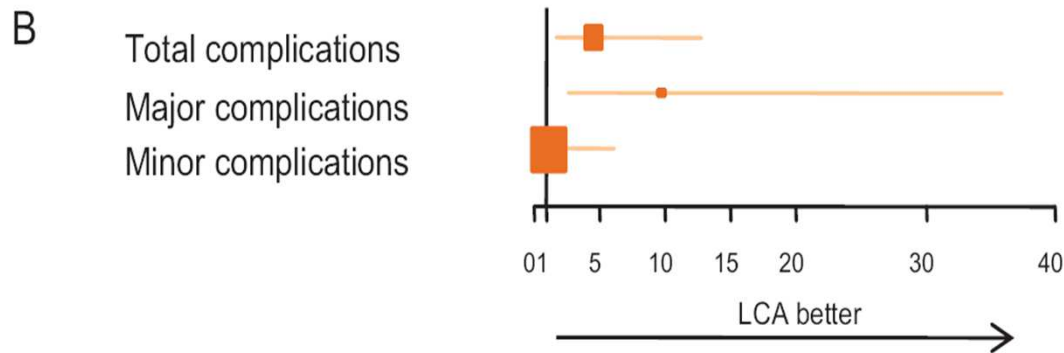
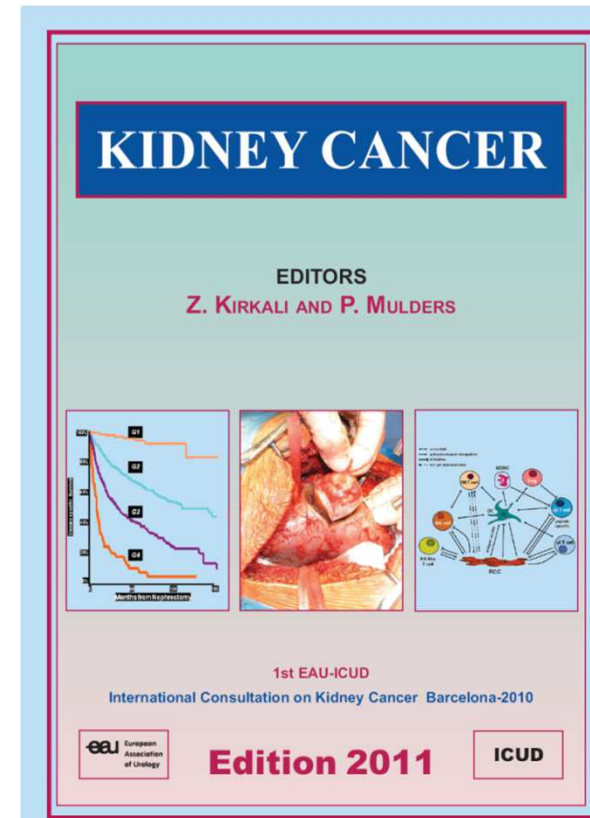


Fig. 2 – Risk ratios and 95% confidence interval (CI) of multivariable Poisson regression models with regard to (A) local progression, metastatic progression, and (B) total complications, major complications, and minor complications. The size of the squares (risk ratio) corresponds to the size of the CI. LCA = laparoscopic cryoablation; PN = partial nephrectomy.



ΤΟΠΙΚΗ ΥΠΟΤΡΟΠΗ

ΑΝΤΙΜΕΤΩΠΙΣΗ



Committee 5 : Treatment of Localized Renal Cell Carcinoma

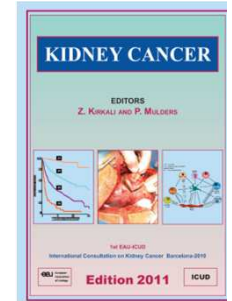
H. Van Poppel, F. Becker, J. Cadeddu, I. Gill, G. Janetschek, M. Jewett, P. Laguna,
M. Marberger, F. Montorsi, T. Polascik, O. Ukimura, G. Zhu



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PN - Τοπική υποτροπή



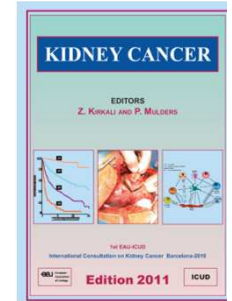
- Τι τελικά είναι πιο σημαντικό; Το margin size ($\approx 1\text{mm}$) ή το status (+/-);

These patients can be judiciously followed with periodic ultrasound and CT scan to monitor their higher risk of local recurrence (and disease progression)

Van Poppel H, Joniau S. How important are surgical margins in nephron-sparing surgery. Eur Urol Suppl 2007;6:533-539.



PN - Τοπική υποτροπή



- Τι τελικά παίζει ρόλο; Το λίγο ή το πολύ +SM;

For a large (“extensive”) positive margin it seems logical that additional surgery should be advised, either repeat PN (primary or secondary, open or laparoscopic), or in the appropriate patient, an RN

Permpongkosol S, Colombo JR, Jr., Gill IS, Kavoussi LR. Positive surgical parenchymal margin after laparoscopic partial nephrectomy for renal cell carcinoma: oncological outcomes. J Urol 2006;176(6 Pt 1):2401-2404.

Desai PJ, Andrews PE, Ferrigni RG, Castle EP. Laparoscopic partial nephrectomy at the Mayo Clinic Arizona: follow-up surveillance of positive margin disease. Urology 2008;71(2):283-286.



Τοπική υποτροπή - Τελικά

Table 4 – Predictive factors in multivariate analysis for local recurrence in 809 patients with renal tumours treated by nephron-sparing surgery

Variables	Incidence of local recurrence, no. (%)	HR (95% CI)	p value
Unilateral tumour (n = 618)	9 (1.46)	1	<0.01
Bilateral tumour (n = 185)	17 (9.19)	6.31 (2.86–13.92)	
Tumour size ≤4 cm (n = 623)	11 (1.77)	1	<0.01
Tumour size >4 cm (n = 186)	15 (8.06)	4.57 (2.13–9.77)	
NSM (n = 768)	22 (2.9)	1	<0.01
PSM (n = 12)	4 (33.3)	11.5 (4.66–45.10)	

HR = hazard ratio; CI = confidence interval; NSM = negative surgical margin; PSM = positive surgical margin.



Predictive Factors for Ipsilateral Recurrence After Nephron-sparing Surgery in Renal Cell Carcinoma

Jean-Christophe Bernhard^{a,*}, Allan J. Pantuck^b, Hervé Wallerand^a, Maxime Crepel^c, Jean-Marie Ferrière^a, Laurent Bellec^d, Sylvie Maurice-Tison^e, Grégoire Robert^a, Baptiste Albouy^f, Gilles Pasticier^a, Michel Soulie^d, David Lopes^g, Bertrand Lacroix^h, Karim Bensalah^c, Christian Pfisterⁱ, Rodolphe Thuret^j, Jacques Tostain^h, Alexandre De La Taille^g, Laurent Salomon^g, Clément Abbou^g, Marc Colombet^j, Arie S. Beldegrun^b, Jean-Jacques Patard^c

Τοπική υποτροπή - Τελικά

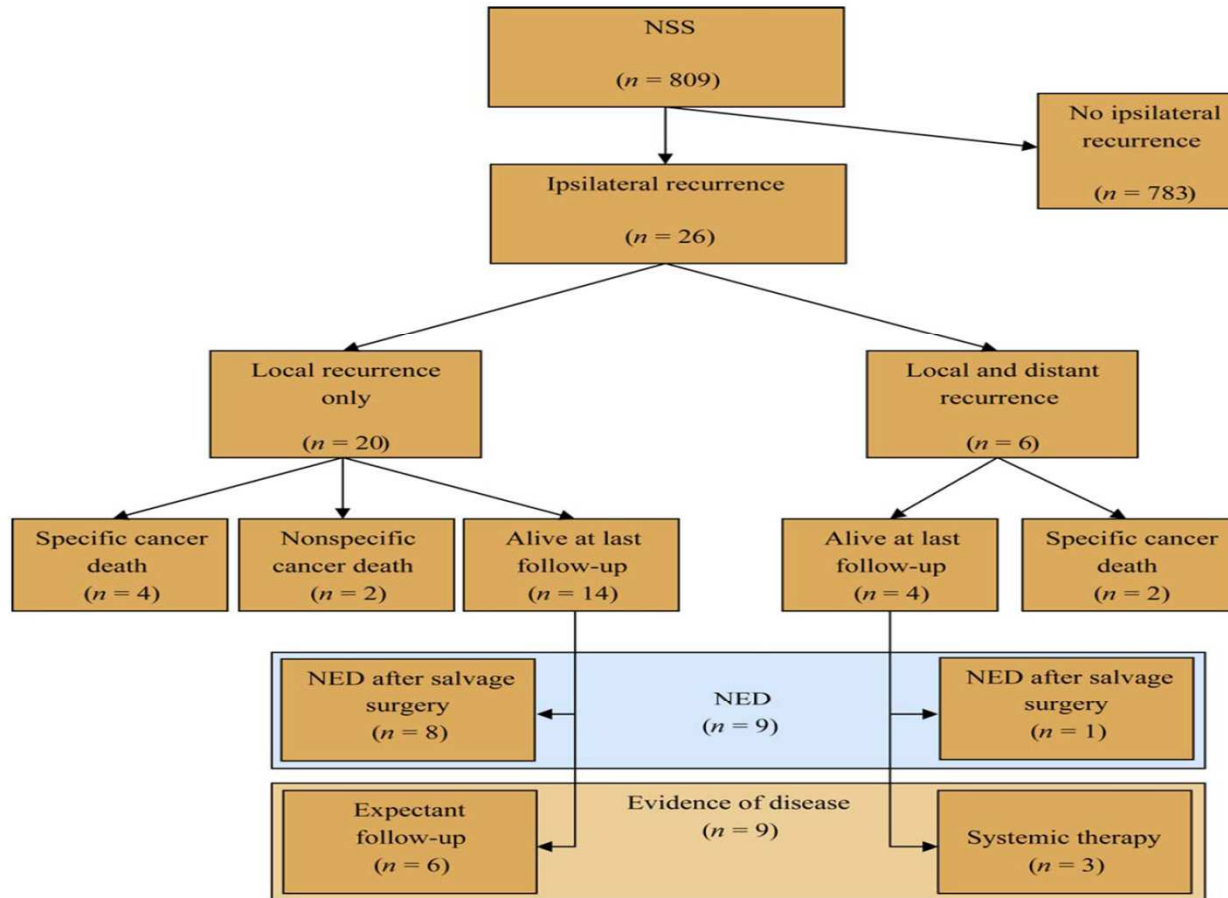
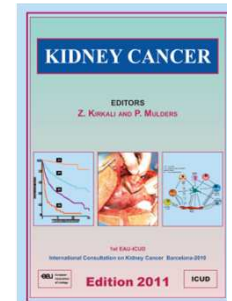


Fig. 1 – Outcome at last follow-up after ipsilateral recurrence. NSS = nephron-sparing surgery; NED = no evidence of disease.



Ablative Τοπική Υποτροπή



- Ακτινολογικά η επιτυχία καθορίζεται από την απουσία σκιαγραφικής ενίσχυσης του όγκου και από την συρρίκνωση του όγκου στο χρόνο.
- Συνδυασμός με την βιοψία

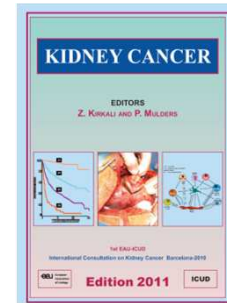
Kawamoto S, Solomon SB, Bluemke DA, Fishman EK. Computed tomography and magnetic resonance imaging appearance of renal neoplasms after radiofrequency ablation and cryoablation. Semin Ultrasound CT MR 2009;30(2):67-77.

Weight CJ, Kaouk JH, Hegarty NJ, Remer EM, O'Malley CM, Lane BR, Gill IS, Novick AC. Correlation of radiographic imaging and histopathology following cryoablation and radio frequency ablation for renal tumors. J Urol 2008;179(4):1277-1281; discussion 1281-1273.

Gill IS, Remer EM, Hasan WA, Strzempkowski B, Spaliviero M, Steinberg AP, Kaouk JH, Desai MM, Novick AC. Renal cryoablation: outcome at 3 years. J Urol 2005;173(6):1903-1907.



Ablative Τοπική Υποτροπή



- 46,2% χωρίς καμία ενίσχυση της σκιαγράφησης μετά από RF είχαν ζωντανά καρκινικά κύτταρα σε βιοψία μετά από 6 μήνες
- 6/13 ασθενείς!!!!
- Η βιοψία πριν 1^ο χρόνο δεν είναι αξιόπιστη. Κανένα ζωντανό καρκινικό κύτταρο σε βιοψία >1 ένα χρόνο μετά RFA.
- Στους 9 μήνες μετά LCRYO μόνο ένα περιστατικό είχε ενίσχυση του σήματος, υποβλήθηκε σε PN η οποία δεν κατέδειξε όγκο

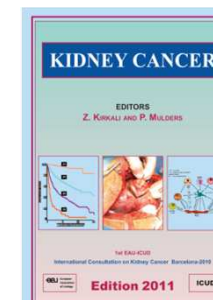
Weight CJ, Kaouk JH, Hegarty NJ, Remer EM, O'Malley CM, Lane BR, Gill IS, Novick AC. Correlation of radiographic imaging and histopathology following cryoablation and radio frequency ablation for renal tumors. J Urol 2008;179(4):1277-1281; discussion 1281-1273.

Stein AJ, Mayes JM, Mouraviev V, Chen VH, Nelson RC, Polascik TJ. Persistent contrast enhancement several months after laparoscopic cryoablation of the small renal mass may not indicate recurrent tumor. J Endourol 2008;22(11):2433-2439.

Raman JD, Stern JM, Zeltser I, Kabbani W, Cadeddu JA. Absence of viable renal carcinoma in biopsies performed more than 1 year following radio frequency ablation confirms reliability of axial imaging. J Urol 2008;179(6):2142-2145.



Ablative Τοπική Υποτροπή



Υψηλότερο ποσοστό τοπικής υποτροπής

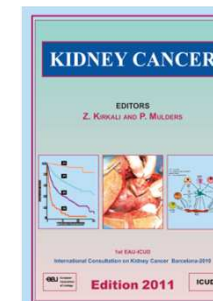
CRYO	RF	SURGERY
4.6%	7.9%	2.7%

Weld KJ, Landman J. Comparison of cryoablation, radiofrequency ablation and high-intensity focused ultrasound for treating small renal tumours. *BJU Int* 2005;96(9):1224-1229.

Kunkle DA, Egleston BL, Uzzo RG. Excise, ablate or observe: the small renal mass dilemma--a meta-analysis and review. *J Urol* 2008;179(4):1227-1233; discussion 1233-1224.



Ποιοι όγκοι όμως θα υποτροπιάσουν;



Υποτροπή		Χ-Φορές
Μεγάλοι όγκοι	Για κάθε 1εκ	4
Ενδοφυτικοί	-	11
Επιτυχία		%
Εγγύς της Πύλης		53,3%
Απω της Πύλης		96.6%

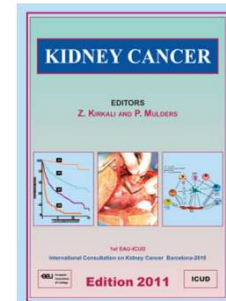
Tsivian M, Lyne JC, Mayes JM, Mouraviev V, Kimura M, Polascik TJ. Tumor size and endophytic growth pattern affect recurrence rates after laparoscopic renal cryoablation. *Urology* 2010;75(2):307-310.

Yoost TR, Clarke HS, Savage SJ. Laparoscopic cryoablation of renal masses: which lesions fail? *Urology* 2010;75(2):311-314.

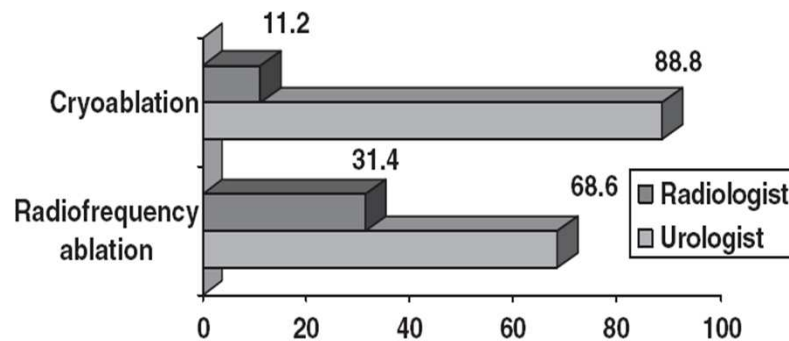
Zagoria RJ, Traver MA, Werle DM, Perini M, Hayasaka S, Clark PE. Oncologic efficacy of CT-guided percutaneous radiofrequency ablation of renal cell carcinomas. *AJR Am J Roentgenol* 2007;189(2):429-436.



Ποιος Ευθύνεται για την υποτροπή;



Η μέθοδος



Kunkle DA, Egleston BL, Uzzo RG. Excise, ablate or observe: the small renal mass dilemma--a meta-analysis and review. J Urol 2008;179(4):1227-1233; discussion 1233-1224.

Kunkle DA, Uzzo RG. Cryoablation or radiofrequency ablation of the small renal mass : a meta-analysis. Cancer 2008;113(10):2671-2680.

Long L, Park S. Differences in patterns of care: reablation and nephrectomy rates after needle ablative therapy for renal masses stratified by medical specialty. J Endourol 2009;23(3):421-426.



Η προσπέλαση

TABLE 2. REABLATION RATES FOR EACH MODALITY BY APPROACH

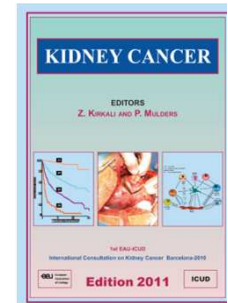
	RFA (%)	CA (%)	p-Value
Open	0	4.5	ns
Laparoscopic	0	0	ns
Percutaneous	8.8	2.5	<0.05
Total	7.4	0.9	<0.05

Carey RI, Leveillee RJ. First prize: direct real-time temperature monitoring for laparoscopic and CT-guided radiofrequency ablation of renal tumors between 3 and 5 cm. J Endourol 2007;21(8):807-813.

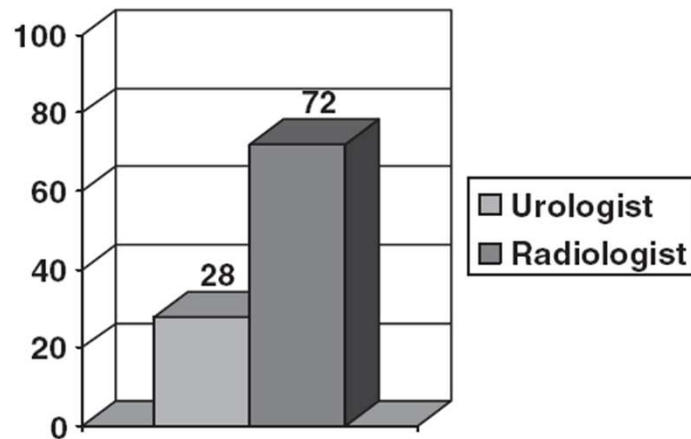
Wingo MS, Leveillee RJ. Central and deep renal tumors can be effectively ablated: radiofrequency ablation outcomes with fiberoptic peripheral temperature monitoring. J Endourol 2008;22(6):1261-1267.

Ukimura O, Mitterberger M, Okihara K, Miki T, Pinggera GM, Neururer R, Peschel R, Aigner F, Gradl J, Bartsch G, Colleselli D, Strasser H, Pallwein L, Frauscher F. Real-time virtual ultrasonographic radiofrequency ablation of renal cell carcinoma. BJU Int 2008;101(6):707-711.

Ποιος Ευθύνεται για την υποτροπή;



Ο Ιατρός



- Correlation of reablation rates with specialty.

1233-1224.

Kunkle DA, Uzzo RG. Cryoablation or radiofrequency ablation of the small renal mass : a meta-analysis. Cancer 2008;113(10):2671-2680.

Long L, Park S. Differences in patterns of care: reablation and nephrectomy rates after needle ablative therapy for renal masses stratified by medical specialty. J Endourol 2009;23(3):421-426.



Η Τεχνική

- Navigational tools and real time monitoring for RF
- Η στερεοτακτική κρυοθεραπεία είναι το παρόν

Carey RI, Leveillee RJ. First prize: direct real-time temperature monitoring for laparoscopic and CT-guided radiofrequency ablation of renal tumors between 3 and 5 cm. J Endourol 2007;21(8):807-813.

Wingo MS, Leveillee RJ. Central and deep renal tumors can be effectively ablated: radiofrequency ablation outcomes with fiberoptic peripheral temperature monitoring. J Endourol 2008;22(6):1261-1267.

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ΑΝΤΙΜΕΤΩΠΙΣΗ

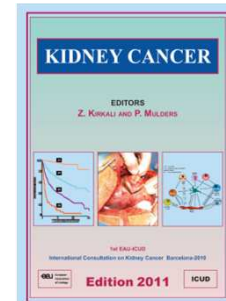
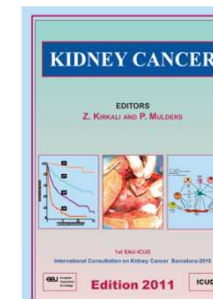


TABLE 4. RADIOFREQUENCY ABLATION

References	No. pts.	Approach	Mean tumor size (cm)	Mean follow-up (month)	CA-specific success (%)	Salvage nephrectomy	Reablation rate	Imaging
Gervais et al ⁴¹ (Rad)	20	Perc	3.2 (1.1–7.1)	55.2 (48–60)	94	0	5/16	80% CT, 20% US
Mayo-Smith et al ²⁸ (Rad)	32	Perc	2.6 (1–5)	9 (1–36)	N/A	0	6/32	CT, US
Farrell et al ²⁷ (Rad)	35	Perc	1.7 (0.9–3.6)	9 (1–23)	100	0	0	19% CT, 81% US
Zagoria et al ³⁰ (Rad)	24	Perc	3.5 (1–7)	7 (1–35)	83	0	2/24	CT
Hwang et al ³¹ (Uro)	9	Perc	2.2 (1.8–2.7)	13(12–23)	100	0	0	CT, US
Lewin et al ⁴⁷ (Rad)	10	Perc	2.3 (1–3.6)	23 (1.6–41.7)	100	0	0	MRI
Park et al ³² (Uro)	55	Perc	2.4 (1–4.1)	24.3 (12–48)	97	1	2/38	CT
Varkarakis et al ³³ (Uro)	56	Perc	2.2 (1–4)	27.5 (12–48)	96	1	5/56	CT
Sabharwal et al ³⁴ (Rad)	18	Perc	2 (1–4.3)	11 (1–24)	92	0	3/13	CT
Memarsadeghi et al ³⁶ (Rad)	24	Perc	2 (N/A)	11.2 (0.2–31.5)	90	1	2/10	MR
Hwang et al ³¹ (Uro)	15	Lap	2.2 (1.5–2.9)	13 (12–23)	93	0	0	US
Park et al ³² (Uro)	39	Lap	2.3 (1–4.2)	26 (12–36)	96	0	0	US

Rad = radiologist; Uro = Urologist; Perc = percutaneous; Lap = laparoscopic; N/A = not available.





ΑΝΤΙΜΕΤΩΠΙΣΗ

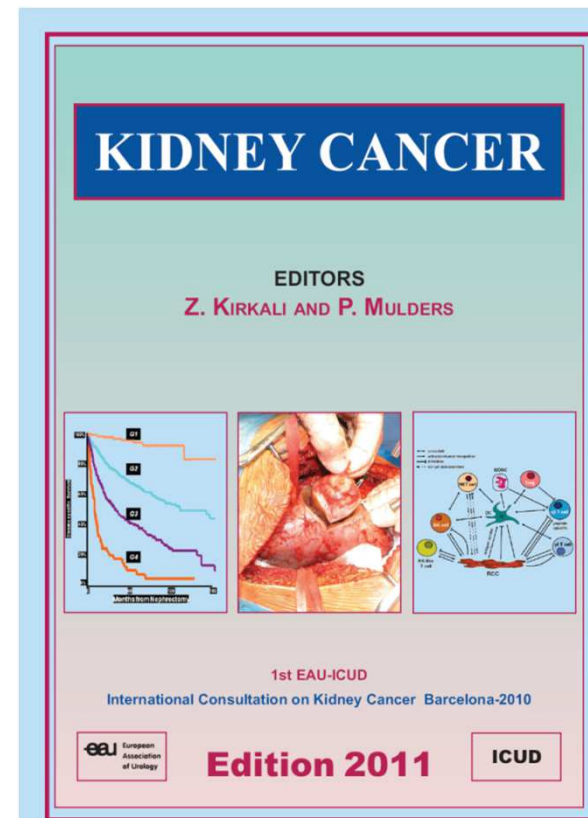
TABLE 5. CRYOABLATION SERIES

References	No. pts.	Approach	Mean tumor size (cm)	Mean follow-up (month)	CA-specific success (%)	Salvage nephrectomy	Reablation rate	Imaging
Rukstalis et al ³⁵ (Uro)	22	Open	2.2 (1-4.7)	16 (1-43)	94	0	0.045	US
Shingleton et al ¹⁷ (Uro)	22	Perc	3.0 (1.8-7)	9.1 (3-14)	N/A	0	0.04	MRI
Bassignani et al ⁴⁸ (Rad)	4	Perc	3.8 (3-6.2)	7.5 (0-13)	100	0	0	US
Silverman et al ³⁸ (Rad)	26	Perc	2.6 (1-4.6)	14(4-30)	92	1	0.041	MRI
Gupta et al ³⁹ (Rad)	27	Perc	2.4 (1.2-4.6)	6 (1.2-10.3)	94	0	0	CT
Lawatsch et al ⁴⁰ (Uro)	81	Lap	2.5 (1-5)	25.2 (N/A)	95	2	0	US
Lee et al ⁴¹ (Uro)	20	Lap	2.6 (1.4-4.5)	14.2 (1-40)	100	0	0	US
Moon et al ⁴² (Uro)	16	Lap	2.6 (1.5-3.5)	9.6 (1-28)	100	0	0	US
Cestari et al ⁴³ (Uro)	37	Lap	2.6 (1-6)	20.5 (1-36)	97	1	0	US
Gill et al ⁴⁴ (Uro)	60	Lap	2.3 (1-5)	36(36)	94	2	0	US
Bachmann et al ⁴⁵ (Uro)	7	Lap	2.6 (1.5-3.5)	13.6 (4-22)	100	0	0	US
Nadler et al ¹⁹ (Uro)	15	Lap	2.1 (1.2-3.2)	15.1 (5-27)	80	2	0	US

Rad = radiologist; Uro = Urologist; Perc = percutaneous; Lap = laparoscopic; N/A = not available.



Ογκολογικό αποτέλεσμα



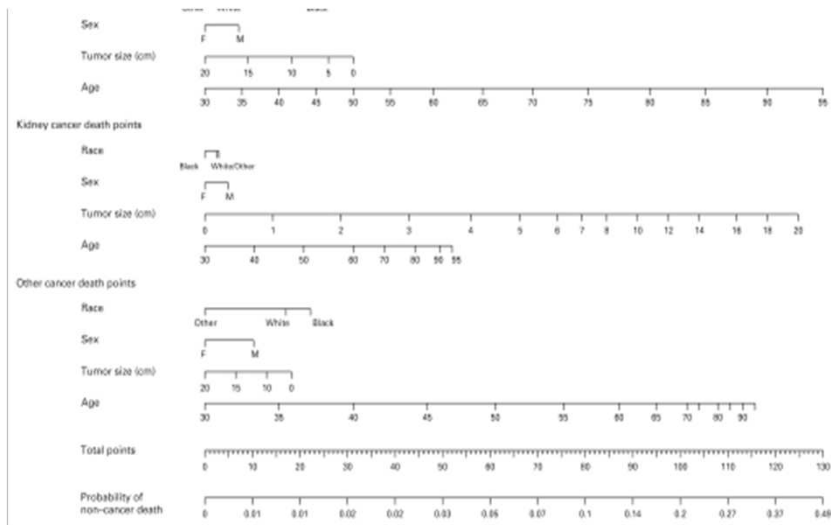
Committee 5 : Treatment of Localized Renal Cell Carcinoma

H. Van Poppel, F. Becker, J. Cadeddu, I. Gill, G. Janetschek, M. Jewett, P. Laguna, M. Marberger, F. Montorsi, T. Polascik, O. Ukimura, G. Zhu



Evaluating Overall Survival and Competing Risks of Death in Patients With Localized Renal Cell Carcinoma Using a Comprehensive Nomogram

Alexander Kutikov, Brian L. Egleston, Yu-Ning Wong, and Robert G. Uzzo



An 80 y male with 1.6cm mass

- 20% risk of non RCC death at 5y
- 16% risk of other cancer death at 5y
- 2% risk of RCC death at 5y
- 1% risk of progression to metastatic Dx



PN - Ογκολογικό Αποτέλεσμα



Vol. 188, 2009-2094, December 2012

Does Partial Nephrectomy Result in a Durable Overall Survival Benefit in the Medicare Population?

Marc C. Smaldone, Brian Egleston, Robert G. Uzzo and Alexander Kutikov*

From the Division of Urological Oncology, Department of Surgery (MCS, RGU, AK), and Department of Biostatistics and Bioinformatics (BE), Fox Chase Cancer Center, Philadelphia, Pennsylvania

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However, the survival benefit decreased with time, and little significant benefit with partial nephrectomy was observed at 5 and 10 years after surgery regardless of age (66 years or older).

partial nephrectomy compared to radical nephrectomy was observed at 1 year (age 68, HR 1.6, CI 1.2–2.3; age 75, HR 1.5, CI 1.1–1.9; age 85, HR 1.7, CI 1.1–2.5) and 3 years (age 68, HR 1.4, CI 1.03–2.0; age 75, HR 1.3, CI 1.1–1.6; age 85, HR 1.5, CI 1.02–2.3), while these trends became insignificant in patients younger than 68 and older than 85 years. However, the survival benefit decreased with time, and little significant benefit with partial nephrectomy was observed at 5 and 10 years after surgery regardless of age (66 years or older).



Ογκολογικό Αποτέλεσμα

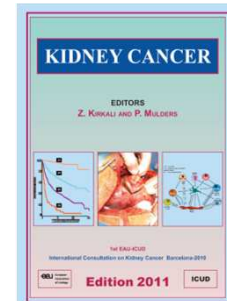


TABLE 4. RADIOFREQUENCY ABLATION

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Mayo-Smith et al ²⁸ (Rad)	32	Perc	2.6 (1–5)	9 (1–36)		US
Farrell et al ²⁷ (Rad)	35	Perc	1.7 (0.9–3.6)	9 (1–23)		60% CT, 81% US
Zagoria et al ³⁰ (Rad)	24	Perc	3.5 (1–7)	7 (1–35)		
Hwang et al ³¹ (Uro)	9	Perc	2.2 (1.8–2.7)	13(12–23)	100	CT, US
Lewin et al ⁴⁷ (Rad)	10	Perc	2.3 (1–3.6)	23 (1.6–41.7)	100	MRI
Park et al ³³ (Uro)	10	Perc	2.2 (1.5–2.9)	13 (12–23)	100	CT
Varkarakis et al ³³ (Uro)	10	Perc	2.2 (1.5–2.9)	13 (12–23)	100	CT
Sabharwal et al ³³ (Uro)	13	Perc	2.2 (1.5–2.9)	13 (12–23)	100	CT
Memarsadeghi et al ³³ (Uro)	10	Perc	2.2 (1.5–2.9)	13 (12–23)	100	MR
Hwang et al ³¹ (Uro)	15	Lap	2.2 (1.5–2.9)	13 (12–23)	93	US
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Rad = radiologist; Uro = Urologist; Perc = percutaneous; Lap = laparoscopic; N/A = not available.



Ογκολογικό Αποτέλεσμα

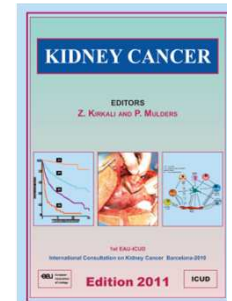


TABLE 5. CRYOABLATION SERIES

References	No. pts.	Approach	Mean tumor size (cm)	Mean follow-up (month)	CA-specific success (%)	Salvage nephrectomy	Reablation rate	Imaging
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Nadler et al ¹⁹ (Uro)	15	Lap	2.1 (1.2-3.2)	15.1 (5-27)	80	2	0	US

Rad = radiologist; Uro = Urologist; Perc = percutaneous; Lap = laparoscopic; N/A = not available.



Ογκολογικό Αποτέλεσμα

Laparoscopic Renal Cryoablation: 8-Year, Single Surgeon Outcomes

Monish Aron,* Kazumi Kamoi, Erick Remer, Andre Berger, Mihir Desai and Inderbir Gill

From the Departments of Urology and Radiology, Cleveland Clinic, Cleveland, Ohio (KK, ER), and Catherine and Joseph Aresty Department of Urology, University of Southern California Institute of Urology, Keck School of Medicine, University of Southern California, Los Angeles, California

THE JOURNAL OF UROLOGY® Vol. 183, 889-895, March 2010

Table 3. Renal cryotherapy outcomes by intraoperative precryoablation needle biopsy results

	RCC Neg	RCC Pos*
No. pts	25	55
No. recurrence (%)	0	11 (20)
No. Ca death (%)	0	6 (11)
% 5-Yr survival:		
Overall	84	84
Disease specific	100	92
Disease-free	100	81
% 10-Yr survival:		
Overall	57	51
Disease specific	100	83
Disease-free	100	78

* Including 1 patient with von Hippel-Lindau disease.



Ογκολογικό Αποτέλεσμα

Excise, Ablate or Observe: The Small Renal Mass Dilemma—A Meta-Analysis and Review

David A. Kunkle, Brian L. Eggleston and Robert G. Uzzo*

From the Departments of Urologic Oncology and Biostatistics (BLE), Fox Chase Cancer Center, Temple University School of Medicine, Philadelphia, Pennsylvania

THE JOURNAL OF UROLOGY® Vol. 179, 1227-1234, April 2008

TABLE 5. Bayesian Poisson model parameter estimates for risk of local recurrence or metastatic disease

Local Recurrence Metastatic Disease

Conclusions: Nephron sparing surgery, ablation and surveillance are viable strategies for small renal masses based on short-term and intermediate term oncological outcomes.

Observation	—	—	0.11	(0.00, .14)
Mean age	1.06	(0.98, 1.14)	1.00	(0.86, 1.16)
Mean tumor size	2.13	(1.39, 3.35)	2.74	(1.53, 5.21)
Mean followup	0.99	(0.97, 1.01)	1.01	(0.99, 1.05)

RR with a 95% CI that does not cross 1 represents statistical significance and 70 studies had complete information available for multivariate analysis.





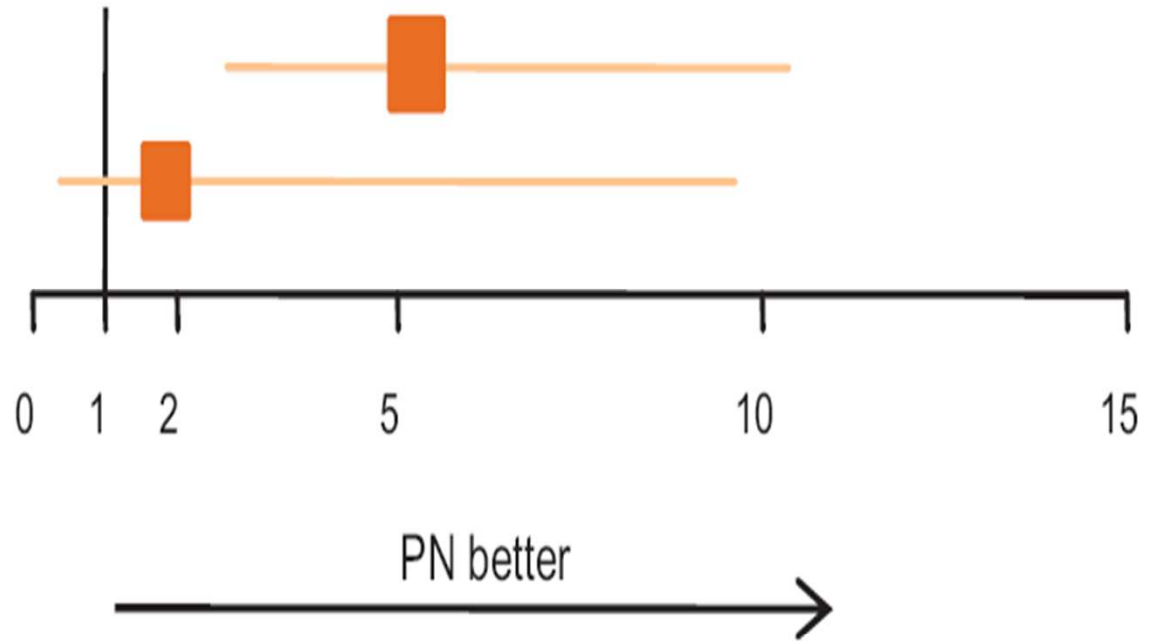
Laparoscopic Cryoablation Versus Partial Nephrectomy for the Treatment of Small Renal Masses: Systematic Review and Cumulative Analysis of Observational Studies

Tobias Klatter^{a,*}, Bernhard Grubmüller^a, Matthias Waldert^a, Peter Weibl^a, Mesut Remzi^b

^aDepartment of Urology, Medical University of Vienna, Vienna, Austria
^bDepartment of Urology, Landeskrankenhaus Wien, Vienna, Austria

Ογκολογικό αποτέλεσμα

Local progression
Metastatic progression



Ογκολογικό αποτέλεσμα - Guidelines



Systematic Review of the Clinical Effectiveness of Surgical Management for Localised Renal Cell Carcinoma

Final report


Mari Imamura, Steven MacLennan, Marie Carmela Lapitan, Imran Muhammad Omar, Thomas BL Lam, Anna Melissa Hilvano-Cabungcal, Pam Royle, Fiona Stewart, Graeme MacLennan, Sara J MacLennan, Steven J Canfield, Philipp Dahm, Michael Aitchison, Sam McClinton, T R Leyshon Griffiths, Börje Ljungberg, James N'Dow, the UCAN Systematic Review Reference Group and the EAU Guideline Group for renal cell carcinoma


October 2011




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Current Versions

 Systematic Review of the Clinical Effectiveness of Surgical Management for Localised Renal Cell Carcinoma - ENGLISH

 Full Guideline - 2013 - ENGLISH

978-90-79754-71-7

 Pocket Guideline - 2013 - ENGLISH

978-90-79754-73-1

 European Urology Article - 2012 - ENGLISH

Eur Urol 2012;61:972-93

Ογκολογικό αποτέλεσμα - Guidelines

Systematic Review of the Clinical Effectiveness of Surgical Management for Localised Renal Cell Carcinoma

Ablation vs. partial nephrectomy (Chapter 8, section 4). For the comparisons of minimally invasive ablative procedures and partial nephrectomy, no definitive conclusions can be drawn because the review identified very few non-randomised studies which were uniformly small with short follow-up. The included studies provided no information about long-term survival or quality of life. Regarding peri-operative outcomes, the limited evidence that is available suggests a reduction in blood loss after ablative procedures compared with partial nephrectomy (either open or laparoscopic), but other outcomes including renal function appear similar between the groups.

Σας Ευχαριστώ

