II JORNADA DE ACTUALIZACIÓN EN
URO-ONCOLOGÍA:
UPDATE 2025

Madrid, 25 de febrero de 2025

Tratamiento quirúrgico en cáncer renal localizado: papel de la nefrectomía parcial y de las técnicas ablativas

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Unidad de Urología Oncológica. Servicio de Urología

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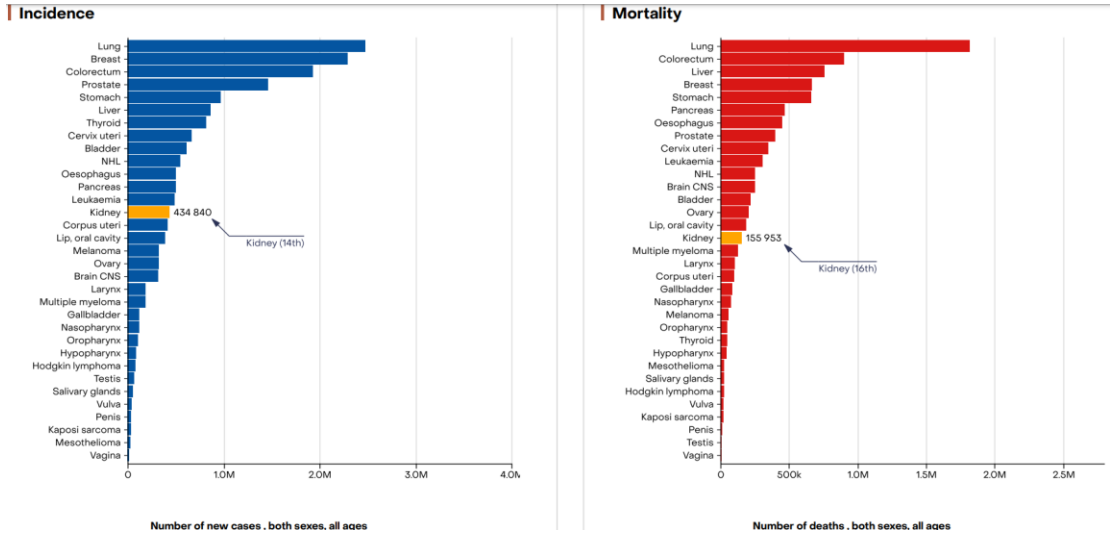
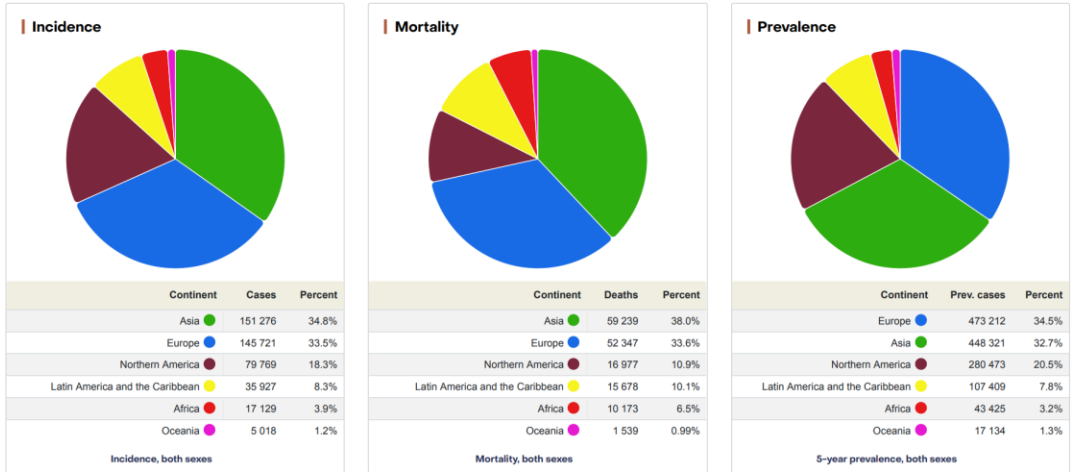
Ca renal

- Neoplasia común
- Más frecuente en Europa, Oceanía y Estados Unidos (mayor detección incidental en estudios radiológicos)
- Aumenta incidencia 1% /año y disminución tasa mortalidad del 2%
- Pico de incidencia 60- 70 a
- Más común en hombres que en mujeres (ratio 3:2)
- **NO ES RADIORESISTENTE** (Correa RJM et al. Eur Urol Focus 2019)
- Células claras (75%-80%), Papilar (10%-15%), Cromófobo (5%)

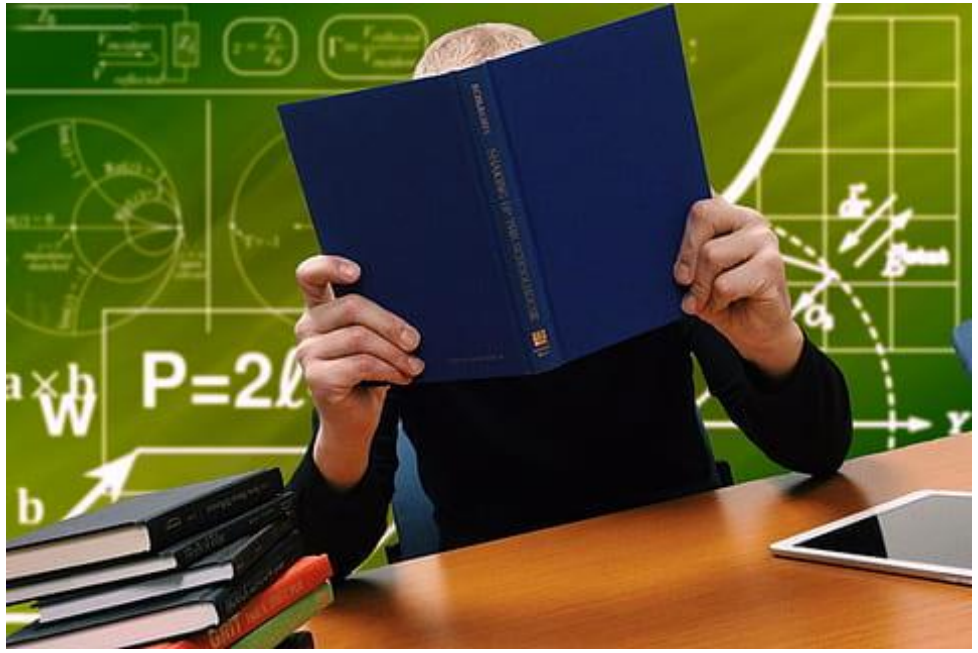




Siegel RL, Miller KD,Wagle NS, Jemal A. Cancer statistics, 2023. CA Cancer J Clin. 2023;73(1):17-48.

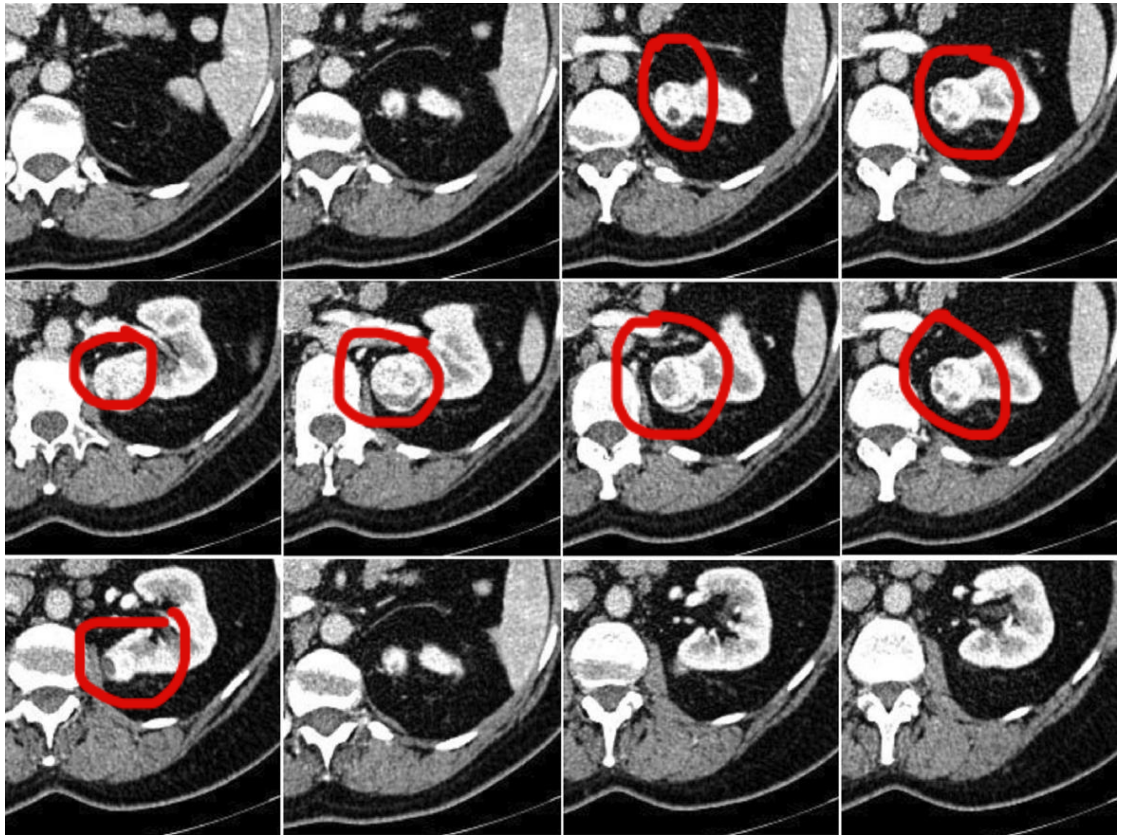
Ferlay J, Ervik M, Lam F, Laversanne M, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2024). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: https://gco.iarc.who.int/today, accessed [26/01/2025].

- Profesor de 63 años. Soltero
- Monorreno congénito
- Sobrepeso (IMC de 29.7 kg/m2). HTA controlada con Atenolol
- Niega tabaquismo, exposición ocupacional ni antecedentes familiares oncológicos
- No sintomatología urinaria, hematuria, dolor lumbar, pérdida de peso o síntomas constitucionales
- EF sin masas palpables
- AS Creatinina de 0.99 mg/dL con FG 75 mL/min/1.73 m2



- Hallazgo incidental TAC:
  - Masa renal exofítica 2.9 x 2.7 cm, predominantemente sólida, bien definida y capta contraste, en región interpolar posterior de RI (R.E.N.A.L. score 8)
  - Sin signos invasión grasa perirrenal, vena o seno renal
  - No adenopatías
  - Riñón contralateral ausente

- Rx tórax sin alteraciones



Estadiaje

- Al diagnóstico, 70% estadio I, y 11% estadio IV
- Pronóstico asociado con:
  - Tamaño del tumor
  - Diseminación a ganglios linfáticos.
  - Metástasis
  - Grado (medida de la agresividad histológica del tumor)
  - WHO/ISUP 4 niveles de graduación

ESTADIO

Table 1. Overview of Stage Definitions and Prognosis of Renal Cell Carcinoma

Stage	Extent of disease	Diagnosis, %[34]	Typical treatment	Five-year cancer-specific survival, %[34-36]
I	≤7 cm tumor, limited to kidney	70	Surgery	94-97
II	>7 cm tumor, limited to kidney	11	Surgery	90
III	Extends to perinephric tissues or major veins or involves regional lymph node	8	Surgery	63-78
IV	Extends to beyond Gerota fascia (including into ipsilateral adrenal) or distant metastases	11	Systemic therapy	27-28

Histopathology
Histopathology 2017, 71, 918–925. DOI: 10.1111/his.13311

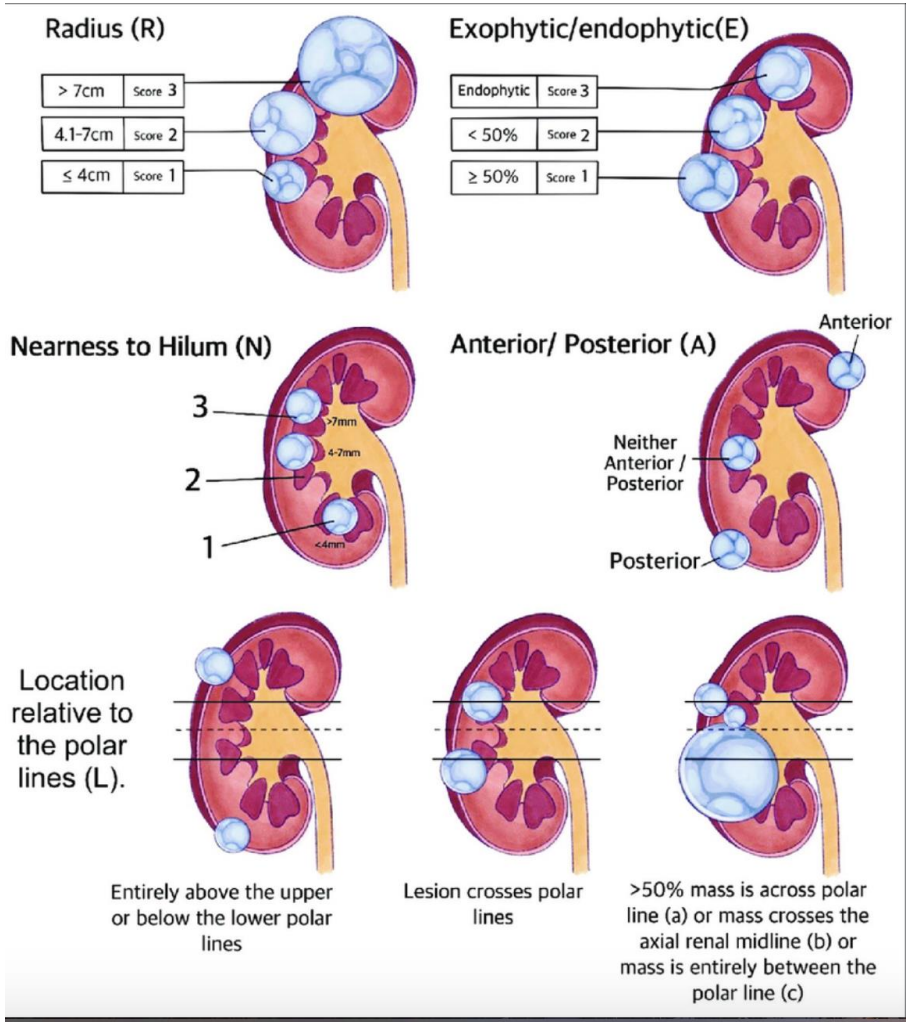
Clear cell renal cell carcinoma: validation of World Health Organization/International Society of Urological Pathology grading

Julien Dagher,[1,2,3] Brett Delahunt,[1,4] Nathalie Rioux-Leclercq,[2,3] Lars Egevad,[5] John R Srigley,[1,6] Geoffrey Coughlin,[7] Nigel Dunglinson,[7] Troy Gianduzzo,[7] Boon Kua,[7] Greg Malone,[8] Ben Martin,[9] John Preston,[8] Morgan Pokorny,[7] Simon Wood,[8] John Yaxley[7] & Hemamali Samaratunga[1,10]

Table 1: 2017 TNM classification system

T - Primary Tumour		
TX	Primary tumour cannot be assessed	
T0	No evidence of primary tumour	
T1	Tumour ≤ 7 cm or less in greatest dimension, limited to the kidney	
	T1a	Tumour ≤ 4 cm or less
	T1b	Tumour > 4 cm but ≤ 7 cm
T2	Tumour > 7 cm in greatest dimension, limited to the kidney	
	T2a	Tumour > 7 cm but ≤ 10 cm
	T2b	Tumours > 10 cm, limited to the kidney
T3	Tumour extends into major veins or perinephric tissues but not into the ipsilateral adrenal gland and not beyond Gerota fascia	
	T3a	Tumour extends into the renal vein or its segmental branches, or invades the pelvicalyceal system or invades peri-renal and/or renal sinus fat*, but not beyond Gerota fascia*
	T3b	Tumour grossly extends into the vena cava below diaphragm
	T3c	Tumour grossly extends into vena cava above the diaphragm or invades the wall of the vena cava
T4	Tumour invades beyond Gerota fascia (including contiguous extension into the ipsilateral adrenal gland)	
N - Regional Lymph Nodes		
NX	Regional lymph nodes cannot be assessed	
N0	No regional lymph node metastasis	
N1	Metastasis in regional lymph node(s)	

R.E.N.A.L score



World Journal of Urology (2023) 41:1847–1853
https://doi.org/10.1007/s00345-023-04448-2

ORIGINAL ARTICLE

A three-dimensional renal tumor anatomy and intrarenal relationship nephrometry (ADDD) for robot-assisted partial nephrectomy

3D-CT based nephrometry for RAPN

Xinfei Li[1] · Dapeng Wu[2] · Xuepei Zhang[3] · Xiang Wang[1] · Yangyang Xu[1] · Shubo Fan[1] · Zhihua Li[1] · Kunlin Yang[1] · Xiaoteng Yu[1] · Zhongyuan Zhang[1] · Lin Cai[1] · Zheng Zhang[1] · Cheng Shen[1] · Jin Tao[3] · Hailong Hu[4] · Liqun Zhou[1] · Xuesong Li[1]

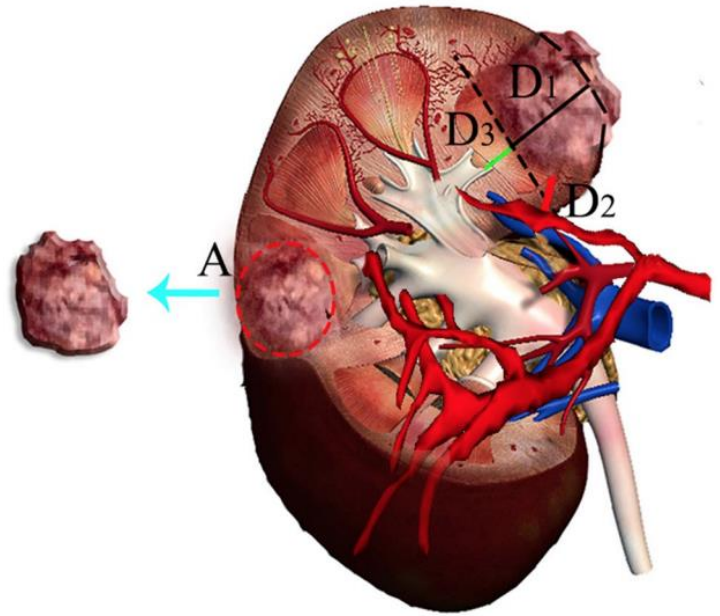


Fig. 1 ADDD nephrometry score. Red dotted line: the contact surface area between tumor and renal parenchyma; black line: the maximal diameter inside of tumor; green line: the distance from the tumor to the corticomedullary junctions or collecting system; red line: the distance from the tumor to the main intrarenal vessels

A tener en cuenta:

➢ **MASA RENAL PEQUEÑA** (4 cm)

- Hasta un 20% se clasifican como malignas (radiología) pero son benignas (AP)
- Tto elección: Nefrectomía parcial (supervivencia Ca específica a 5 años 94-97%)

➢ **BIOPSIA**:

- Guiada por imagen (ECO o TC)
- Estratificación de riesgo en pacientes con masas renales pequeñas con componente quístico o aquellos pacientes con un alto riesgo quirúrgico
- No existe mayor riesgo de sobre-estadiaje o recurrencia tumoral
- No diagnóstica 14%, hematoma 5%, dolor clínicamente significativo 1%

Pierorazio PM, Johnson MH, Patel HD, et al. J Urol. 2016;196(4):989-999

EUROPEAN UROLOGY 62 (2012) 617–619

available at www.sciencedirect.com
journal homepage: www.europeanurology.com

European Association of Urology

Platinum Correspondence

Margin, Ischemia, and Complications (MIC) Score in Partial Nephrectomy: A New System for Evaluating Achievement of Optimal Outcomes in Nephron-sparing Surgery

(PSM) is defined as cancer cells at the level of the inked parenchymal excision surface [2].

More controversial is the method and timing of evaluating postprocedure renal function. Renal function

Adult Urology

Oncology: Adrenal/Renal/Upper Tract/Bladder

Preoperatively Misclassified, Surgically Removed Benign Renal Masses: A Systematic Review of Surgical Series and United States Population Level Burden Estimate

David C. Johnson,* Josip Vukina, Angela B. Smith, Anne-Marie Meyer, Stephanie B. Wheeler, Tzy-Mey Kuo, Hung-Jui Tan, Michael E. Woods,† Mathew C. Raynor,‡ Eric M. Wallen, Raj S. Pruthi and Matthew E. Nielsen§

ELSEVIER

Urologic Oncology: Seminars and Original Investigations 38 (2020) 798.e9–798.e16

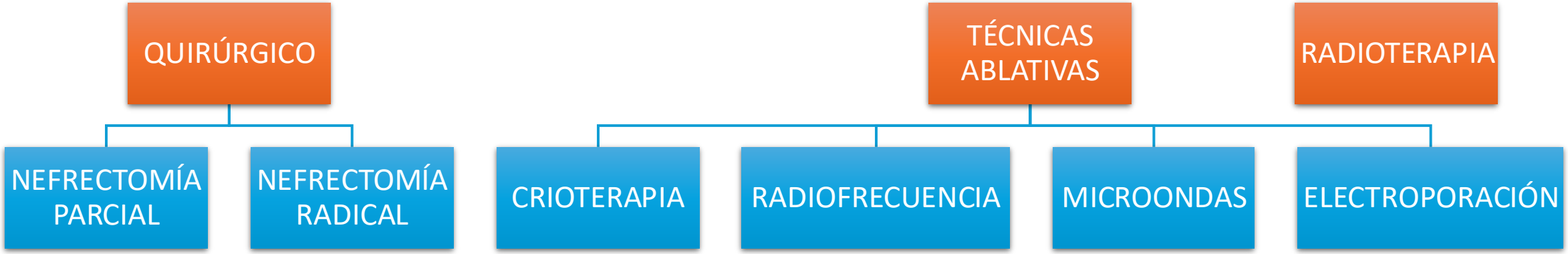
UROLOGIC ONCOLOGY

Clinical-Kidney cancer

Does renal tumor biopsies for small renal carcinoma increase the risk of upstaging on final surgery pathology report and the risk of recurrence?

Charles Asselin, M.D.[a], Antonio Finelli, M.D., M.Sc., F.R.C.S.C.[b], Rodney H. Breau, M.D., M.Sc., F.R.C.S.C.[c,d], Ranjeeta Mallick, Ph.D., M.Sc., B.Sc.[d], Anil Kapoor, M.D., F.R.C.S.C.[e,f], Ricardo A. Rendon, M.D., M.Sc., F.R.C.S.C.[g], Simon Tanguay, M.D., F.R.C.S.C.[h], Frédéric Pouliot, M.D., Ph.D., F.R.C.S.C.[i], Adrian Fairey, M.D., M.Sc., F.R.C.S.C.[j], Luke T. Lavallée, M.D.C.M., M.Sc., F.R.C.S.C.[b], Franck Bladou, M.D.[k], Jun Kawakami, M.D., F.R.C.S.C.[l], Alan I. So, M.D., F.R.C.S.C.[m], Patrick O. Richard, M.D., M.Sc., F.R.C.S.C.[a,*]

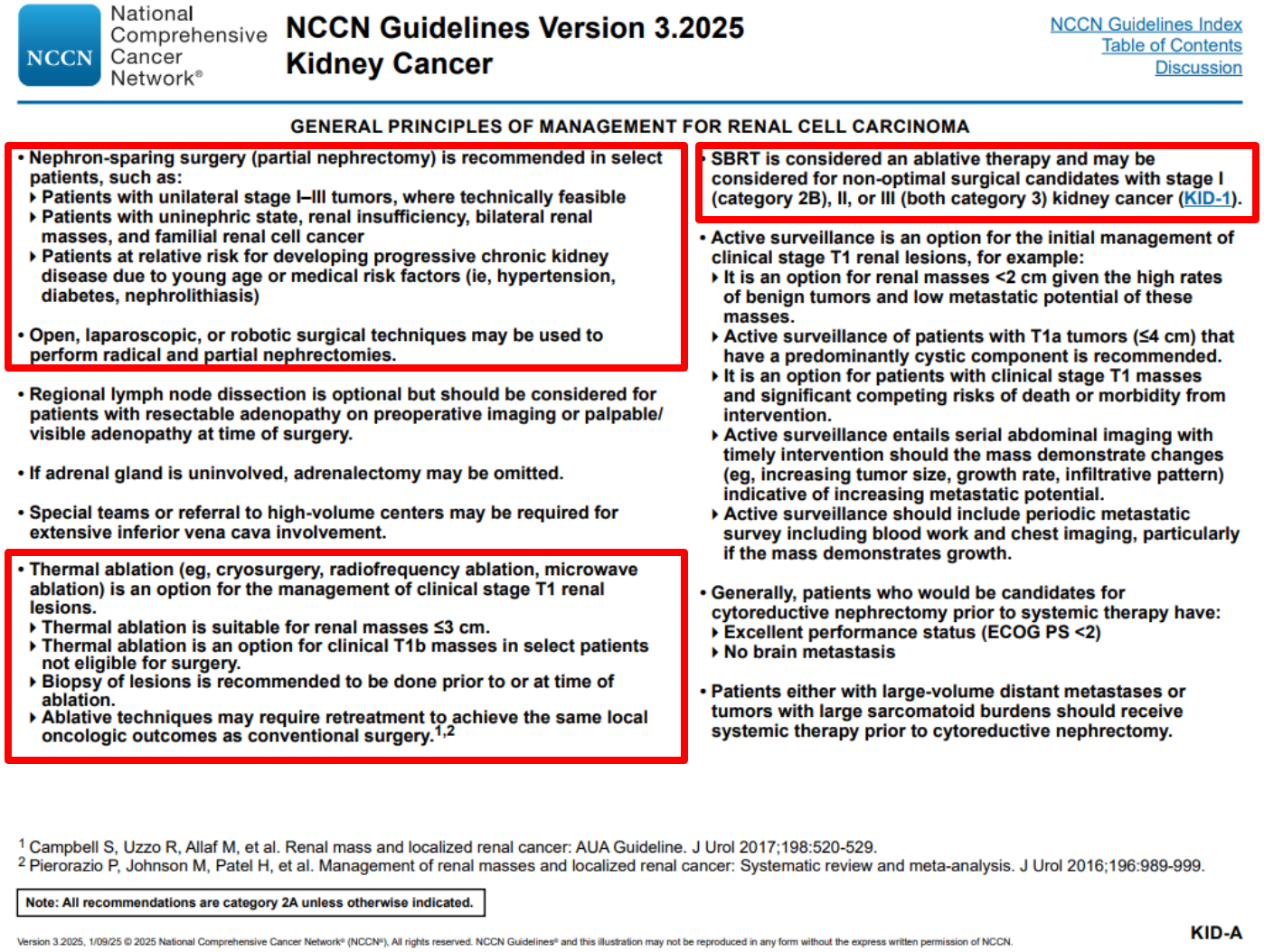
Tratamiento Ca renal localizado



Nefrectomía parcial

- Abordaje conservador de nefronas: resección del tumor y preservación de tejido renal remanente no tumoral
- Abordaje abierto, laparoscópico o robótico

Resultados oncológicos similares entre **nefrectomía parcial** comparada con **nefrectomía radical** en T1 (≤ 7 cm), por lo que se recomienda la nefrectomía parcial en estos casos



National Comprehensive Cancer Network®

NCCN Guidelines Version 3.2025
Kidney Cancer

NCCN Guidelines Index
Table of Contents
Discussion

GENERAL PRINCIPLES OF MANAGEMENT FOR RENAL CELL CARCINOMA

- Nephron-sparing surgery (partial nephrectomy) is recommended in select patients, such as:
  - Patients with unilateral stage I–III tumors, where technically feasible
  - Patients with uninephric state, renal insufficiency, bilateral renal masses, and familial renal cell cancer
  - Patients at relative risk for developing progressive chronic kidney disease due to young age or medical risk factors (ie, hypertension, diabetes, nephrolithiasis)
- Open, laparoscopic, or robotic surgical techniques may be used to perform radical and partial nephrectomies.
- Regional lymph node dissection is optional but should be considered for patients with resectable adenopathy on preoperative imaging or palpable/visible adenopathy at time of surgery.
- If adrenal gland is uninvolved, adrenalectomy may be omitted.
- Special teams or referral to high-volume centers may be required for extensive inferior vena cava involvement.
- Thermal ablation (eg, cryosurgery, radiofrequency ablation, microwave ablation) is an option for the management of clinical stage T1 renal lesions.
  - Thermal ablation is suitable for renal masses ≤3 cm.
  - Thermal ablation is an option for clinical T1b masses in select patients not eligible for surgery.
  - Biopsy of lesions is recommended to be done prior to or at time of ablation.
  - Ablative techniques may require retreatment to achieve the same local oncologic outcomes as conventional surgery.[1,2]
- SBRT is considered an ablative therapy and may be considered for non-optimal surgical candidates with stage I (category 2B), II, or III (both category 3) kidney cancer (KID-1).
- Active surveillance is an option for the initial management of clinical stage T1 renal lesions, for example:
  - It is an option for renal masses <2 cm given the high rates of benign tumors and low metastatic potential of these masses.
  - Active surveillance of patients with T1a tumors (≤4 cm) that have a predominantly cystic component is recommended.
  - It is an option for patients with clinical stage T1 masses and significant competing risks of death or morbidity from intervention.
  - Active surveillance entails serial abdominal imaging with timely intervention should the mass demonstrate changes (eg, increasing tumor size, growth rate, infiltrative pattern) indicative of increasing metastatic potential.
  - Active surveillance should include periodic metastatic survey including blood work and chest imaging, particularly if the mass demonstrates growth.
- Generally, patients who would be candidates for cytoreductive nephrectomy prior to systemic therapy have:
  - Excellent performance status (ECOG PS <2)
  - No brain metastasis
- Patients either with large-volume distant metastases or tumors with large sarcomatoid burdens should receive systemic therapy prior to cytoreductive nephrectomy.

[1] Campbell S, Uzzo R, Allaf M, et al. Renal mass and localized renal cancer: AUA Guideline. J Urol 2017;198:520-529.
[2] Pierorazio P, Johnson M, Patel H, et al. Management of renal masses and localized renal cancer: Systematic review and meta-analysis. J Urol 2016;196:989-999.

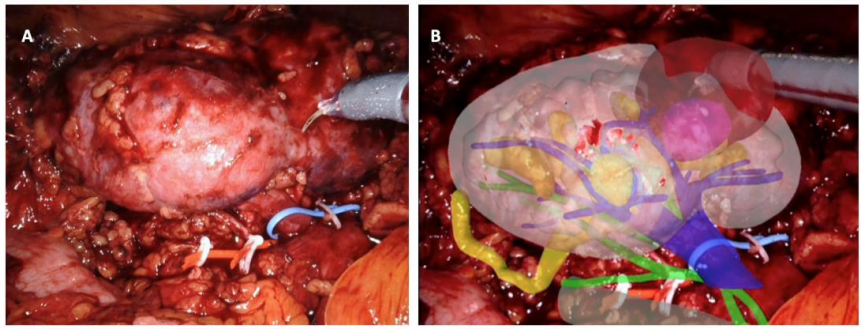
Note: All recommendations are category 2A unless otherwise indicated.

KID-A

Nefrectomía parcial

- **EVOLUCIÓN** TRATAMIENTO CA RENAL LOCALIZADO (avances técnicas mínimamente invasivas y pruebas de imagen)
- **Cirugía desafiante**
- **Planificación quirúrgica,** evaluación factores paciente, tumor y cirujano
- **Consideraciones específicas** paciente: función renal preoperatoria, anticoagulación/antiagregantes, antecedentes quirúrgicos y preferencias
- **Hoja de ruta** mental anatomía (vascular, s. colector y contorno tumor)
- **Modelos 3D**
- R.E.N.A.L > 10: peor supervivencia, mayor riesgo recurrencia y muerte por cualquier causa

Figure 1. Intraoperative automatic augmented-reality co-registration process, using the software ikidney through CNN technology. (**A**) Right kidney, as it appears after renal-lodge dissection; the renal artery was tagged with a red vessel loop and the renal vein with a blue vessel loop; the tumor is partially esophytic, and it is located at the middle portion of the kidney. (**B**) Automatic overlapping of the virtual kidney over the real one, leveraging CNN technology; upper urinary tract is in yellow, arterial vessels in green, and venous vessels in blue; the tumor is in brown.



cancers

MDPI

Article

Automatic 3D Augmented-Reality Robot-Assisted Partial Nephrectomy Using Machine Learning: Our Pioneer Experience

Alberto Piana [1,*,†], Daniele Amparore [1,†], Michele Sica [2], Gabriele Volpi [2], Enrico Checcucci [2], Federico Piramide [1], Sabrina De Cillis [1], Giovanni Busacca [1], Gianluca Scarpelli [3], Flavio Sidoti [3], Stefano Alba [3], Pietro Piazzolla [1], Cristian Fiori [1], Francesco Porpiglia [1,‡] and Michele Di Dio [4,‡]

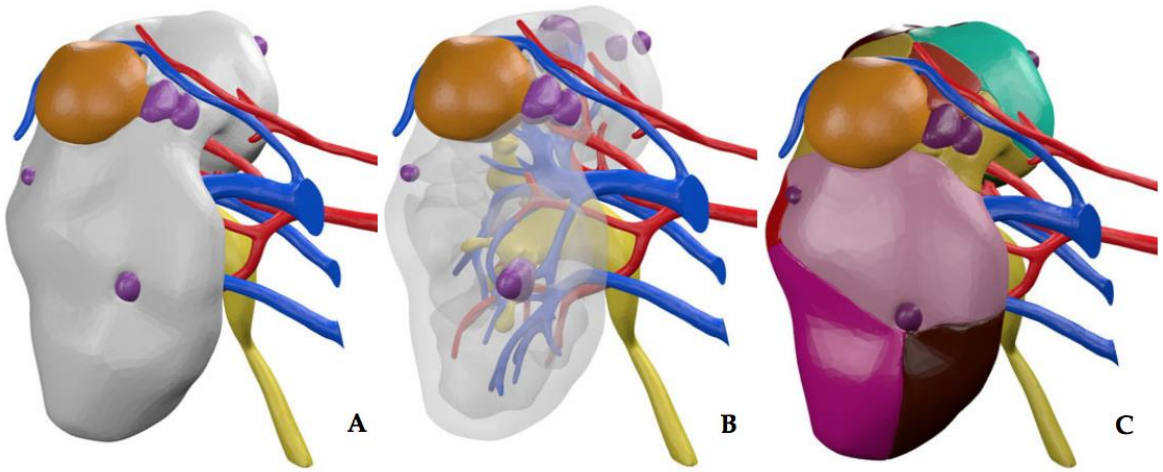


Figure 3. HA3D® virtual model. (**A**) Standard 3D virtual model. (**B**) Standard 3D virtual model with transparent parenchyma. (**C**) A 3D virtual perfusion model.

diagnostics

MDPI

Case Report

Artificial Intelligence-Based Hyper Accuracy Three-Dimensional (HA3D®) Models in Surgical Planning of Challenging Robotic Nephron-Sparing Surgery: A Case Report and Snapshot of the State-of-the-Art with Possible Future Implications

Michele Di Dio [1,*,†], Simona Barbuto [2,†], Claudio Bisegna [1], Andrea Bellin [2,*], Mario Boccia [2], Daniele Amparore [2], Paolo Verri [2], Giovanni Busacca [2], Michele Sica [2], Sabrina De Cillis [2], Federico Piramide [2], Vincenzo Zaccone [1], Alberto Piana [2,3], Stefano Alba [3], Gabriele Volpi [4], Cristian Fiori [2], Francesco Porpiglia [2] and Enrico Checcucci [2]

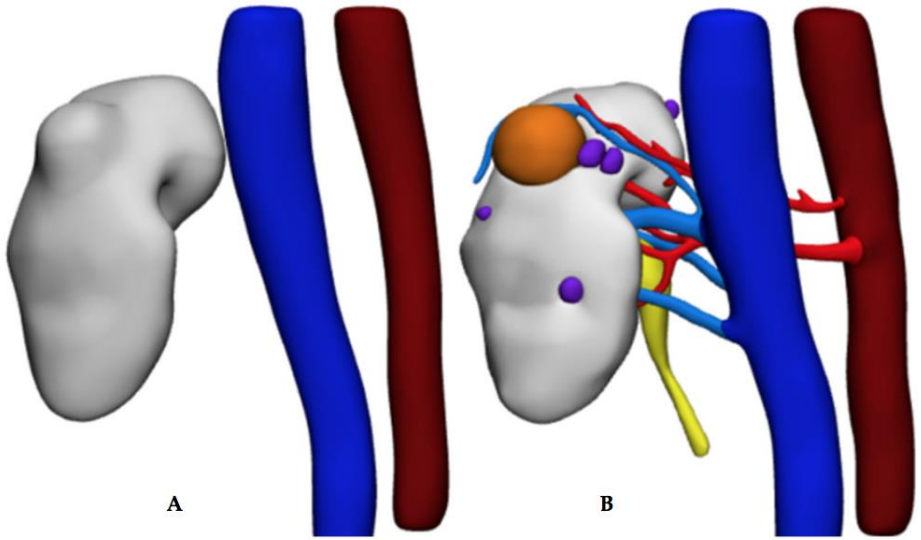
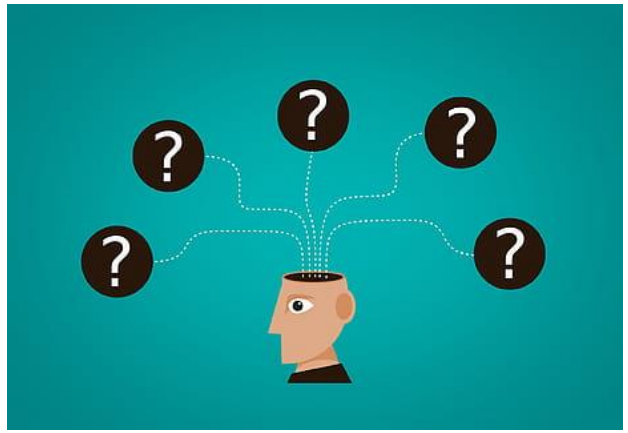
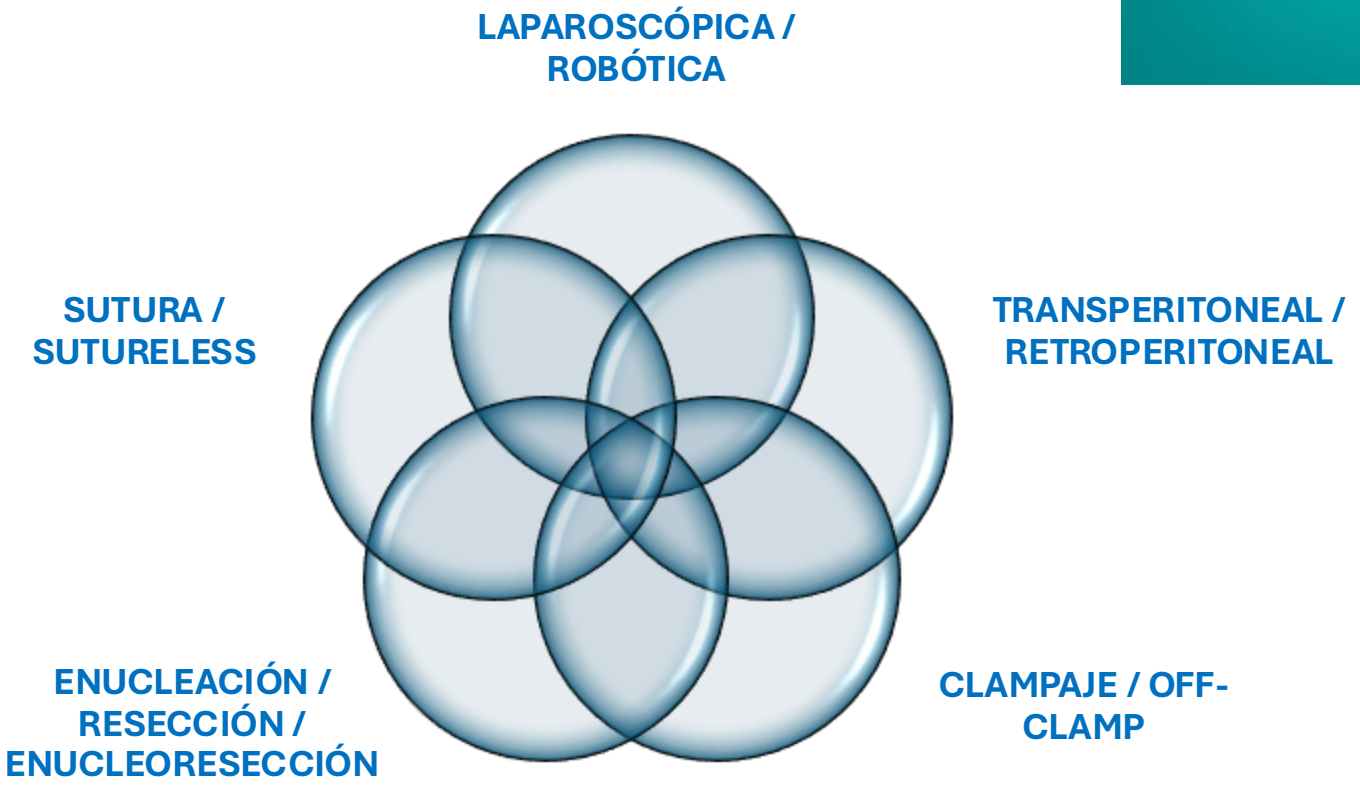


Figure 6. Results of 3D reconstruction: (**A**) deep learning only; (**B**) deep learning combined with computer vision.

Nefrectomía parcial (NP)



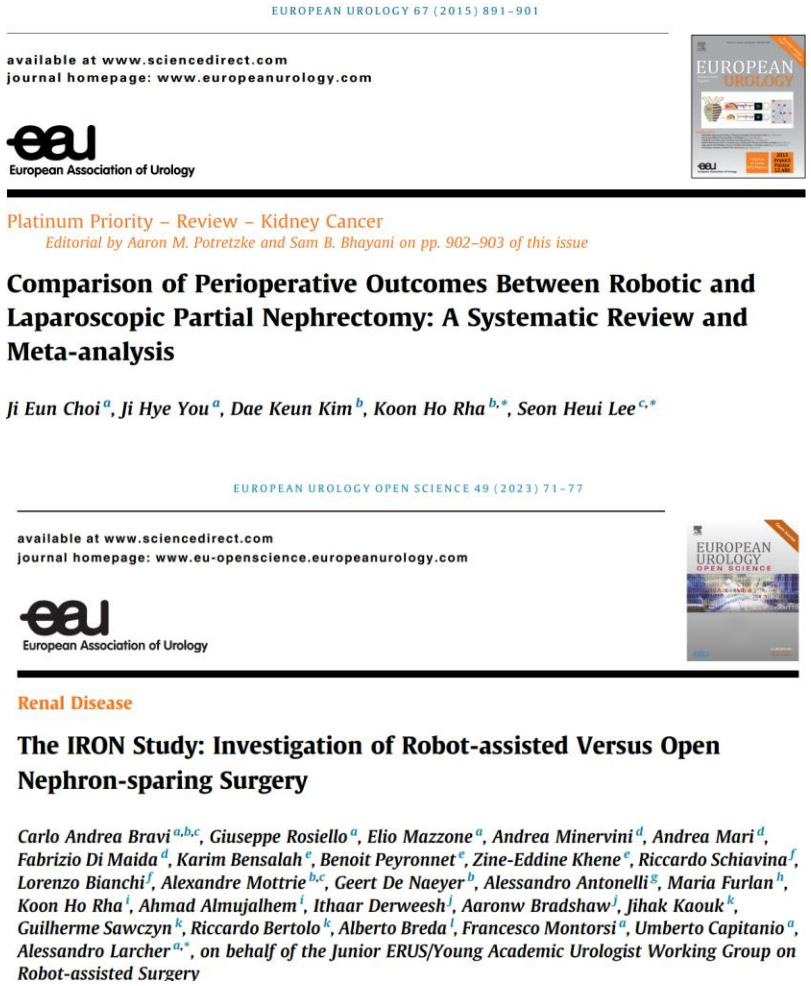


NP ¿laparoscópica o robótica?

Laparoscópica (NPL)/ Robótica (NPR): NO diferencias significativas entre los 2 grupos (complicaciones, tiempo operatorio, pérdida sanguínea y márgenes positivos)

1ª **NPR** 2002:

- Tratamiento **estándar** Ca renal localizado
- Ha reemplazado a NPL como el abordaje mínimamente invasivo de **elección**
- **cT1 y cT2 seleccionados** (capacidad de tratar Tm más grandes y complejos)
- Se prefiere a NP Abierta (NPA)
- Mejora tiempo operatorio y de isquemia caliente en comparación con NPL
- Menor pérdida sanguínea, estancia hospitalaria y complicaciones que NPA
- **Resultados funcionales** dependen principalmente de **isquemia caliente**



EUROPEAN UROLOGY 67 (2015) 891–901

available at www.sciencedirect.com
journal homepage: www.europeanurology.com

European Association of Urology

Platinum Priority – Review – Kidney Cancer

Editorial by Aaron M. Potretzke and Sam B. Bhayani on pp. 902–903 of this issue

Comparison of Perioperative Outcomes Between Robotic and Laparoscopic Partial Nephrectomy: A Systematic Review and Meta-analysis

Ji Eun Choi[a], Ji Hye You[a], Dae Keun Kim[b], Koon Ho Rha[b,], Seon Heui Lee[c,*]*

EUROPEAN UROLOGY OPEN SCIENCE 49 (2023) 71–77

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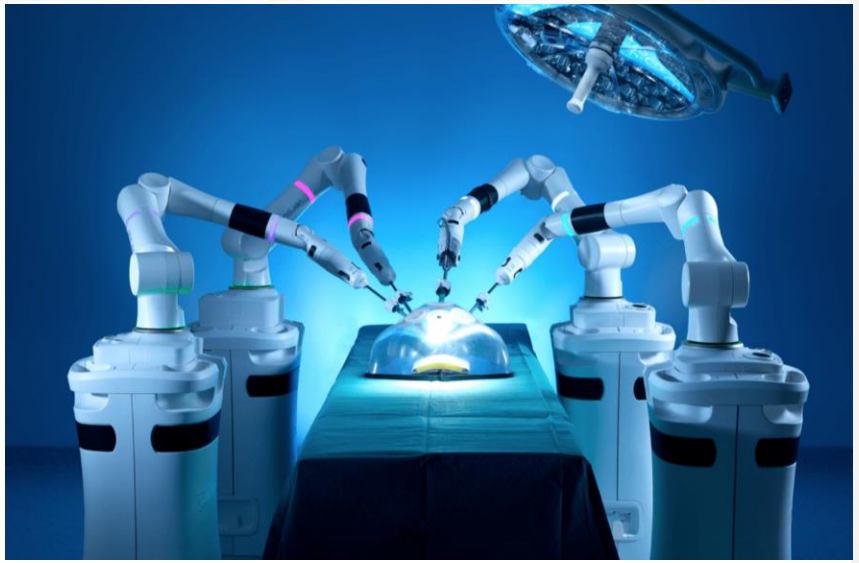
European Association of Urology

Renal Disease

The IRON Study: Investigation of Robot-assisted Versus Open Nephron-sparing Surgery

Carlo Andrea Bravi[a,b,c], Giuseppe Rosiello[a], Elio Mazzone[a], Andrea Minervini[d], Andrea Mari[d], Fabrizio Di Maida[d], Karim Bensalah[e], Benoit Peyronnet[e], Zine-Eddine Khene[e], Riccardo Schiavina[f], Lorenzo Bianchi[f], Alexandre Mottrie[b,c], Geert De Naeyer[b], Alessandro Antonelli[g], Maria Furlan[h], Koon Ho Rha[i], Ahmad Almujalhem[i], Ithaar Derweesh[j], Aaronw Bradshaw[j], Jihak Kaouk[k], Guilherme Sawczyn[k], Riccardo Bertolo[k], Alberto Breda[l], Francesco Montorsi[a], Umberto Capitanio[a], Alessandro Larcher[a,], on behalf of the Junior ERUS/Young Academic Urologist Working Group on Robot-assisted Surgery*

II JORNADA DE ACTUALIZACIÓN EN **URO-ONCOLOGÍA:**
UPDATE 2025



NPR ¿transperitoneal o retroperitoneal?

Transperitoneal (TP): espacio anatómico predefinido

Retroperitoneal (RP): establecerlo (dilatación con balón)

➢ Estudio Randomizado Controlado, Comparación NPRR y NPRT

✓ NPRR

- Beneficios :
  - T operatorio (81 vs 105 min; P = 0.0047)
  - T acceso arteria renal (7.5 vs 18 min; P < 0.0001)
  - Alternativa segura
  - Tasas de márgenes positivos similares
  - Menor morbilidad postIQ

- Desventajas:
  - Espacio limitado para la colocación de puertos
  - Choque de brazos

BJU Int 2025 doi:10.1111/bju.16653

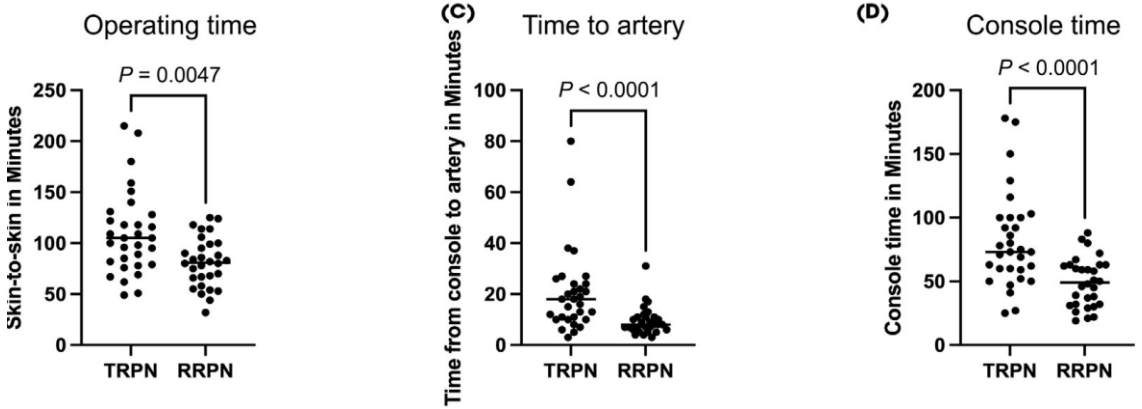
BJUI BJU International

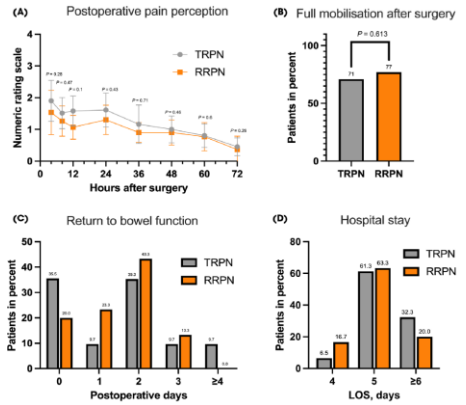
Original Article

Randomised controlled feasibility trial of retroperitoneal vs transperitoneal robot-assisted partial nephrectomy: the ROPARN study

Sebastian Kälble[1], Simon U. Engelmann[1], Hannah Schrutz[1], Florian Zeman[2], Emily Rinderknecht[1], Maximilian Haas[1], Christoph Pickl[1], Christopher Goßler[1], Yushan Yang[1], Stefan Denzinger[1], Maximilian Burger[1], Johannes Bründl[1] and Roman Mayr[1]

[1]Department of Urology, St. Josef Medical Center, University of Regensburg, and [2]Center for Clinical Studies, University Hospital Regensburg, Regensburg, Germany





Complications at 90 days	Patients, *n* (%)		*P* value
	RRPN (*n* = 30)	TRPN (*n* = 31)	
No complications	27 (90)	28 (90)	0.955*
Grade I	0	1	
Grade II	2	1	
Grade IIIa	0	1	
Grade IIIb	1	0	
Complications by severity			0.967*
Minor complications	2 (6.7)	2 (6.5)	
Major complications	1 (3)	1 (3)	

*Minor complications were defined as Clavien–Dindo grade ≤ 2 and major complications as Clavien–Dindo grade > 2. RRPN, retroperitoneal robotic partial nephrectomy; TRPN, transperitoneal robotic partial nephrectomy. *Mann–Whitney U-test.*

NEFRECTOMÍA PARCIAL

- TRIFECTA (criterios para evaluar la calidad de NP)
  - Márgenes quirúrgicos negativos
  - Tiempo de isquemia caliente < 25 minutos
  - Sin complicaciones perioperatorias

EUROPEAN UROLOGY 62 (2012) 617–619

available at www.sciencedirect.com
journal homepage: www.europeanurology.com

European Association of Urology

Platinum Correspondence

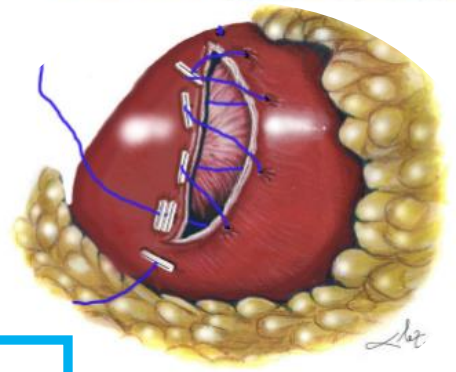
Margin, Ischemia, and Complications (MIC) Score in Partial Nephrectomy: A New System for Evaluating Achievement of Optimal Outcomes in Nephron-sparing Surgery

¿Clampaje/off clamp?

- **Clampaje <25 minutos** predictor de resultados función renal postIQ
- **Desclamplaje precoz** (previo a cierre cortical, tras primera sutura lecho)
- **Clampaje segmentario** (inicialmente en riñón solitario)
- **Zero isquemia** NO EN TODOS LOS CASOS

- Isquemia cero: aumenta márgenes + (5,6 % vs 3,8 %) y recurrencia local (3,1 % vs 1,8 %). Mayor pérdida sanguínea
- Tumores de alta complejidad con tiempos de isquemia más prolongados, asociado a **isquemia fría (**reducir impacto de isquemia y daño reperfusión) vs enfriamiento interarterial o ureteral retrógrado
- Se desconoce duración óptima de isquemia caliente, tiempos más prolongados en comparación con más cortos en riñones únicos función a largo plazo comparable

¿Sutura/Sutureless?



- **Doble capa:** base interna y cortical externa
- **Continua:** reduce tiempo de isquemia, operatorio y complicaciones
- **Barbada:** medular y cortical, ventajas significativas en tiempo isquemia, sin aumentar complicaciones

- **<u>Preservación del volumen renal funcional</u>**

  • *Reconstrucción del parénquima:* uno de los principales determinantes

  • *Cierre de una sola capa* espera maximizar el volumen funcional, proporciona menos líneas de sutura. La evaluación volumétrica muestra menor pérdida de volumen, pero no se correlaciona con diferencias funcionales

  • **Sutura selectiva/sin sutura** para preservar parénquima funcional

  • Si no se encuentra sangrado arterial, se aplican **agentes hemostáticos** al lecho

✓ **Técnica sin sutura** disminuye el tiempo en aprox 25 % con reducción de FG postoperatoria del 4 %*

* Resultados de un cirujano de gran volumen y uso de técnica sin sutura fue un grupo de pacientes altamente seleccionado

ELSEVIER

Urologic Oncology: Seminars and Original Investigations 000 (2024) 1–7

UROLOGIC ONCOLOGY

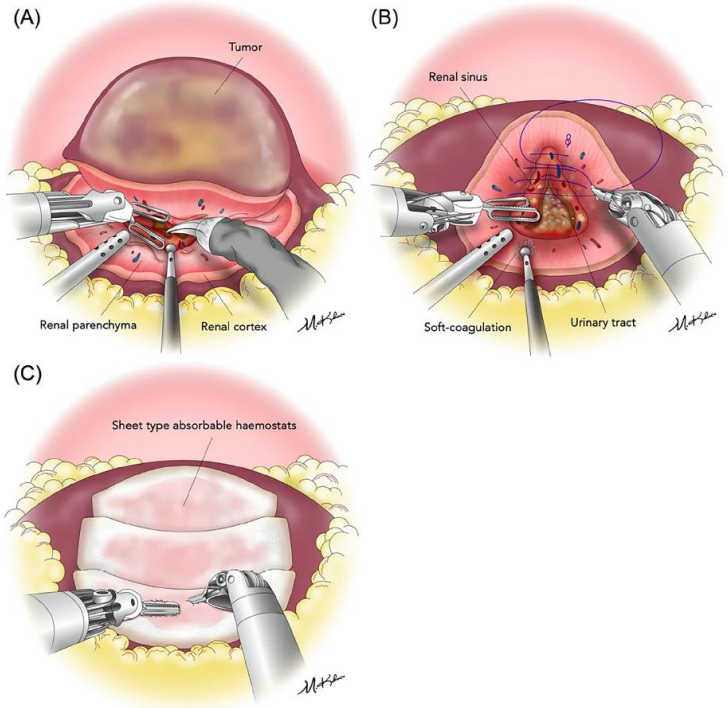
Seminars article

Robotic partial nephrectomy: Indications, patient selection, and setup for success

Patrick Etta, Michael Chien, Yuzhi Wang, Amit Patel*

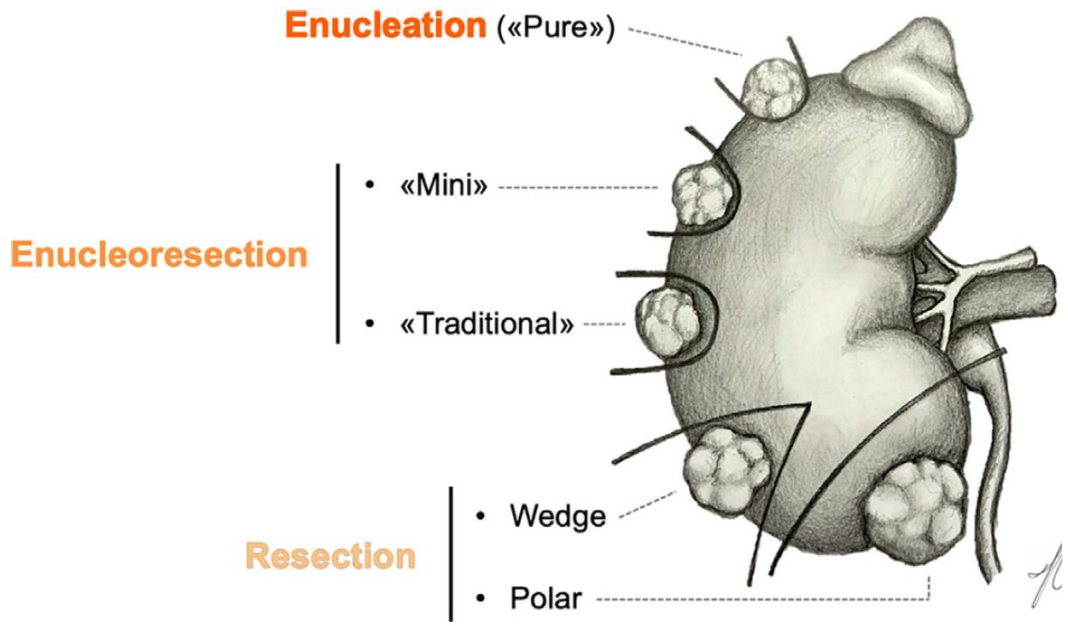
Henry Ford Health, Detroit, MI

Received 14 March 2024; received in revised form 2 July 2024; accepted 27 August 2024



¿Qué técnica de resección?

- **ENUCLEACIÓN:**
  - CCR hereditario, riñón solitario o ERC severa
  - Preservar la mayoría de tejido sano
  - Dudas control oncológico
  - Tasa de márgenes + del 2.8%
- **ENUCLEORESECCIÓN:**
  - Margen de tejido sano pequeño (mm)
  - Mayores tasas de márgenes + que resección
- **RESECCIÓN:**
  - Margen amplio de tejido sano (0.5 a 1 cm)
  - Angulada/ Polar



EUROPEAN UROLOGY OPEN SCIENCE 52 (2023) 7–21

available at www.sciencedirect.com
journal homepage: www.eu-openscience.europeanurology.com

European Association of Urology

Review

Resection Techniques During Robotic Partial Nephrectomy: A Systematic Review

Riccardo Bertolo [a,,†,‡], Alessio Pecoraro [b], Umberto Carbonara [c,†], Daniele Amparore [d,†], Pietro Diana [e,†], Stijn Muselaers [f,†], Michele Marchioni [g,h,†], Maria Carmen Mir [i], Alessandro Antonelli [j], Ketan Badani [k], Alberto Breda [l,‡], Ben Challacombe [m,‡], Jihad Kaouk [n], Alexandre Mottrie [o,p,‡], Francesco Porpiglia [d], Jim Porter [q], Andrea Minervini [b,‡], Riccardo Campi [b,r,†], European Association of Urology Young Academic Urologists Renal Cancer Working Group*

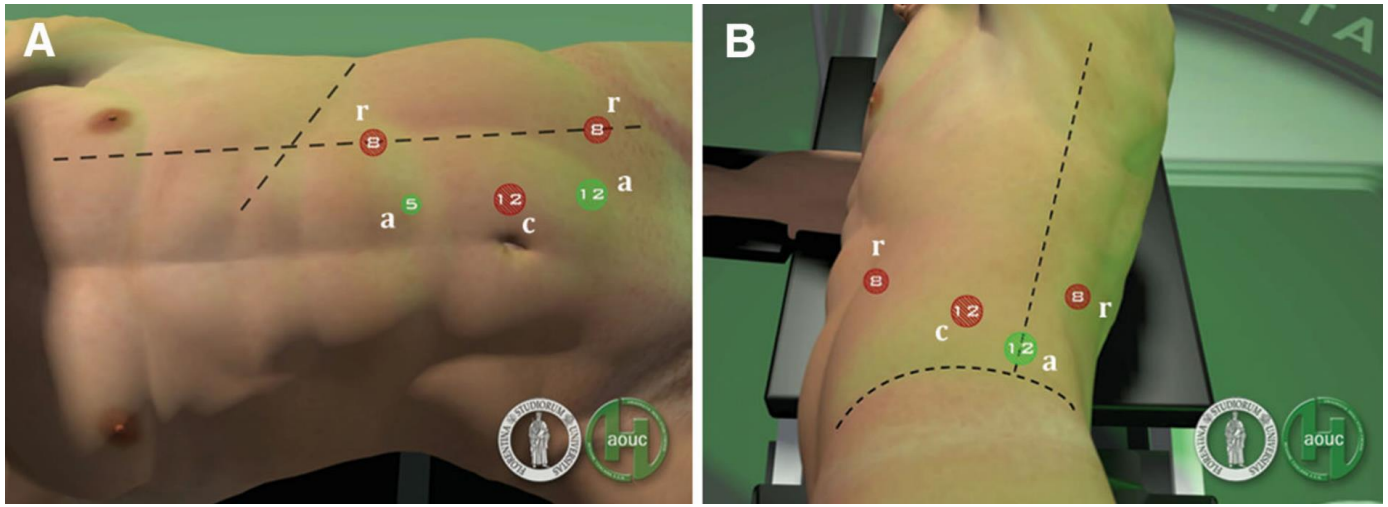
II JORNADA DE ACTUALIZACIÓN EN **URO-ONCOLOGÍA:**
UPDATE 2025

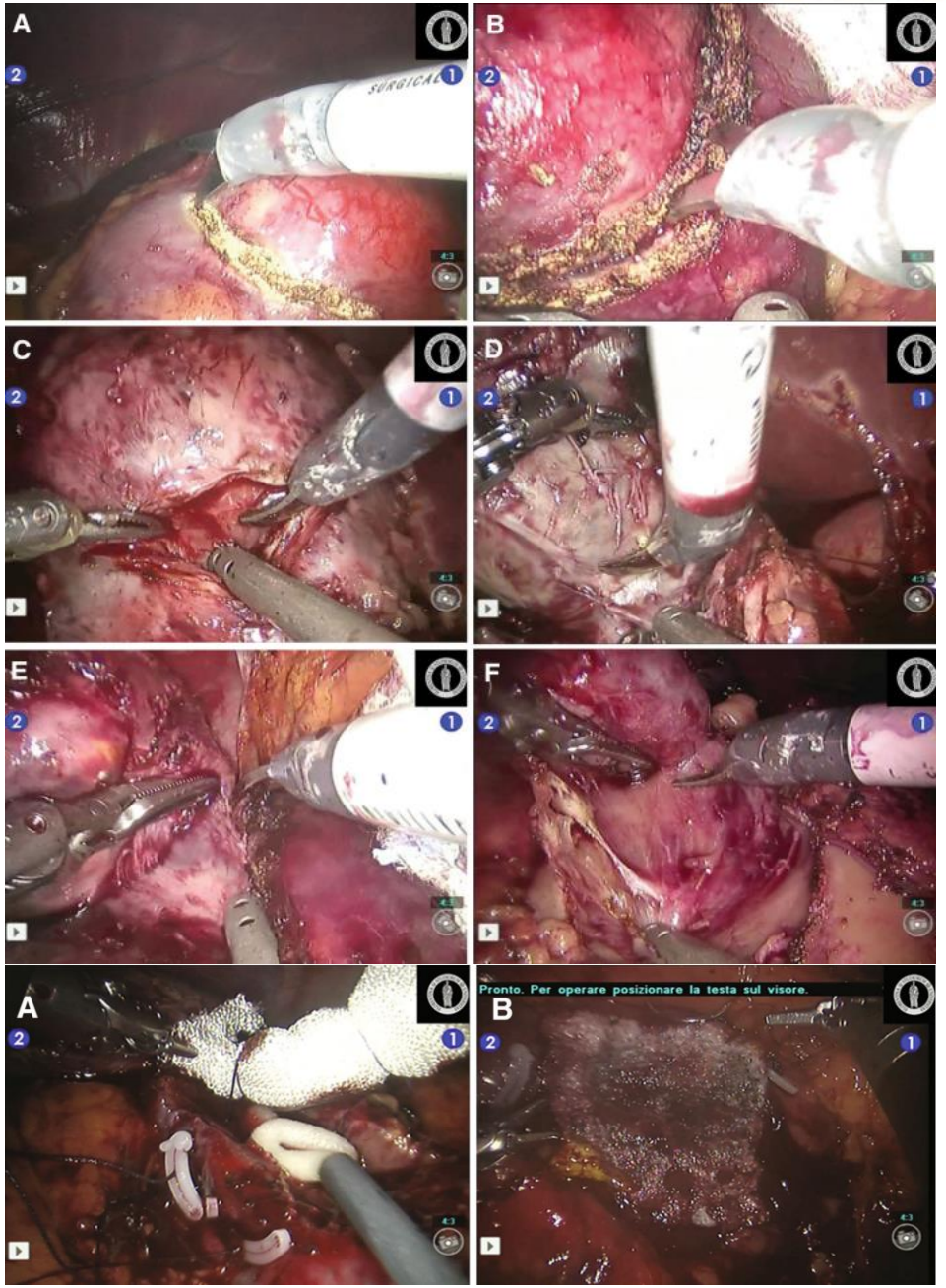
Surg Endosc (2015) 29:1241–1249
DOI 10.1007/s00464-014-3807-0

DYNAMIC MANUSCRIPT

Endoscopic robot-assisted simple enucleation (ERASE) for clinical T1 renal masses: description of the technique and early postoperative results

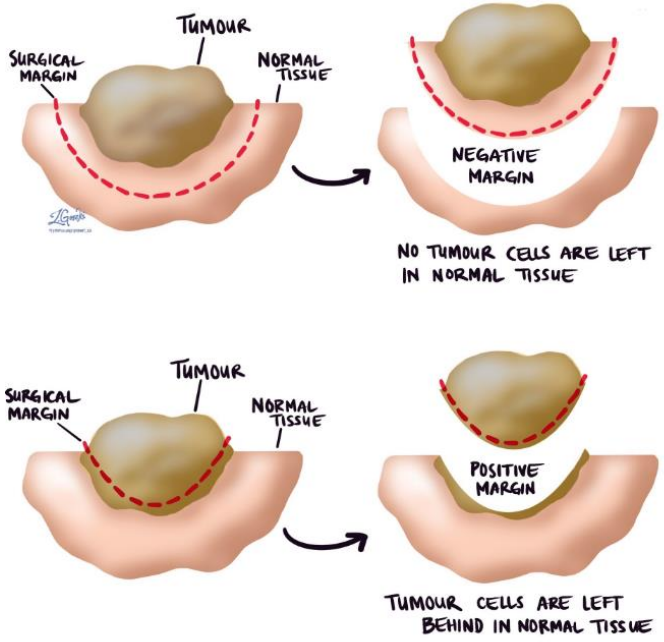
Andrea Minervini · Agostino Tuccio · Lorenzo Masieri · Domenico Veneziano · Gianni Vittori · Giampaolo Siena · Mauro Gacci · Graziano Vignolini · Andrea Mari · Arcangelo Sebastianelli · Matteo Salvi · Sergio Serni · Marco Carini





✓ MÁRGENES QUIRÚRGICOS POSITIVOS:

- Células neoplásicas a nivel del plano de la resección del parénquima pintado con tinta china
- 2%-8%
- Impacto en resultados oncológicos controvertido



Clinical Genitourinary Cancer, Vol. 17, No. 1, e26-31 © 2018 Elsevier Inc. All rights reserved.

Original Study

Check for updates

Positive Surgical Margins Predict Progression-free Survival After Nephron-sparing Surgery for Renal Cell Carcinoma: Results From a Single Center Cohort of 459 Cases With a Minimum Follow-up of 5 Years

Riccardo Tellini,[1] Alessandro Antonelli,[1] Regina Tardanico,[2] Simona Fisogni,[2] Alessandro Veccia,[1] Maria Chiara Furlan,[1] Francesca Carobbio,[1] Alberto Cozzoli,[1] Tiziano Zanotelli,[1] Claudio Simeone[1]

www.nature.com/scientificreports

scientific reports

Check for updates

OPEN

Positive surgical margin's impact on short-term oncological prognosis after robot-assisted partial nephrectomy (MARGINS study: UroCCR no 96)

Scientific Reports | (2022) 12:18342 | https://doi.org/10.1038/s41598-022-23146-4 nature portfolio

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Online version at http://www.minervamedica.it

Minerva Urology and Nephrology 2021 April;73(2):233-44
DOI: 10.23736/S0393-2249.20.03728-5

ORIGINAL ARTICLE

Impact of positive surgical margins on survival after partial nephrectomy in localized kidney cancer: analysis of the National Cancer Database

Stephen T. RYAN [1], Devin N. PATEL [1], Fady GHALI [1], Sunil H. PATEL [1], Reith SARKAR [2], Kendrick YIM [1], Ahmed ELDEFRAWY [1], Brittney H. COTTA [1], Aaron W. BRADSHAW [1], Margaret F. MEAGHER [1], Zachary A. HAMILTON [1], James D. MURPHY [2], Ithaar H. DERWEESH [1] *

APERTURA DE LA CÁPSULA TUMORAL (ACT):

- Impacto en resultados oncológicos
- 253 pacientes, 2010-2020 (NPR o NPL)
- Grupo ACT: tumores más grandes, menor tasa TRIFECTA, mayor sangrado, menor tasa de células claras
- Tasa recurrencia 13.8% en ACT y 1% en grupo sin ACT
- ACT **factor pronóstico independiente** para supervivencia libre de enfermedad
- NO células claras: mayor probabilidad de ACT (espesor cápsula significativamente más delgado en AP)

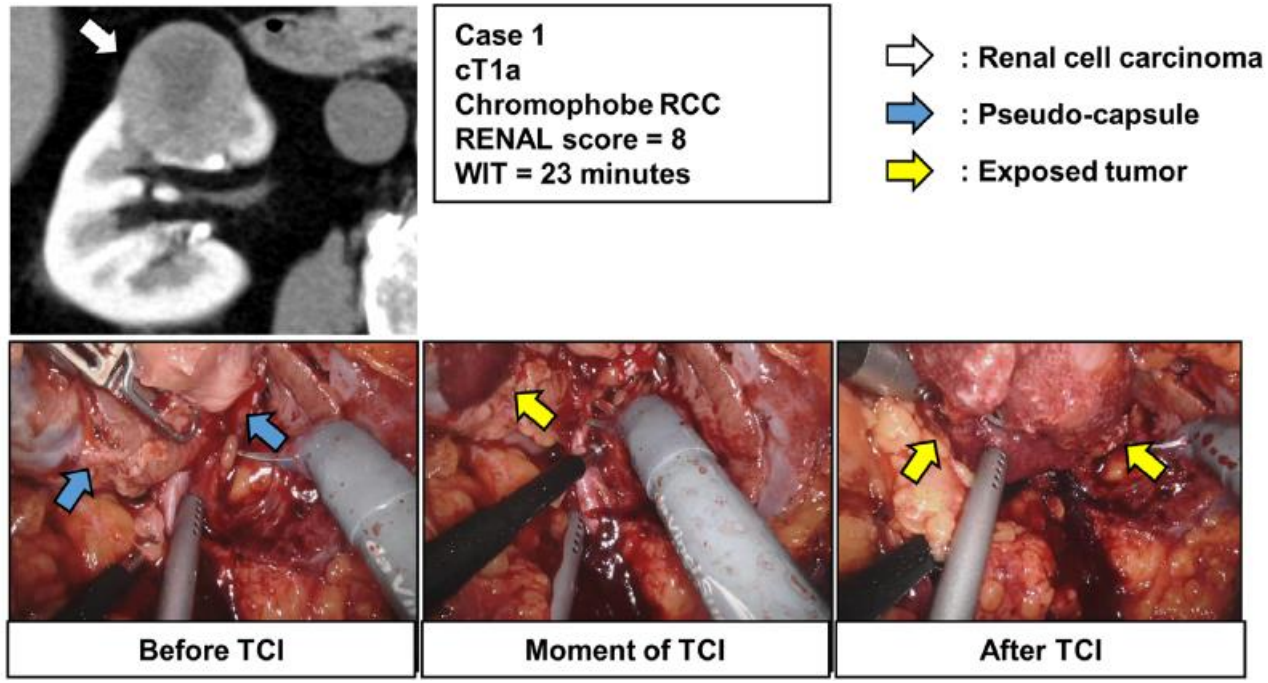
INTERNATIONAL JOURNAL OF UROLOGY
International Journal of Urology (2025) doi: 10.1111/iju.15617

Original Article
Clinical Investigation

Intraoperative tumor capsule injury in patients with renal cell carcinoma receiving partial nephrectomy

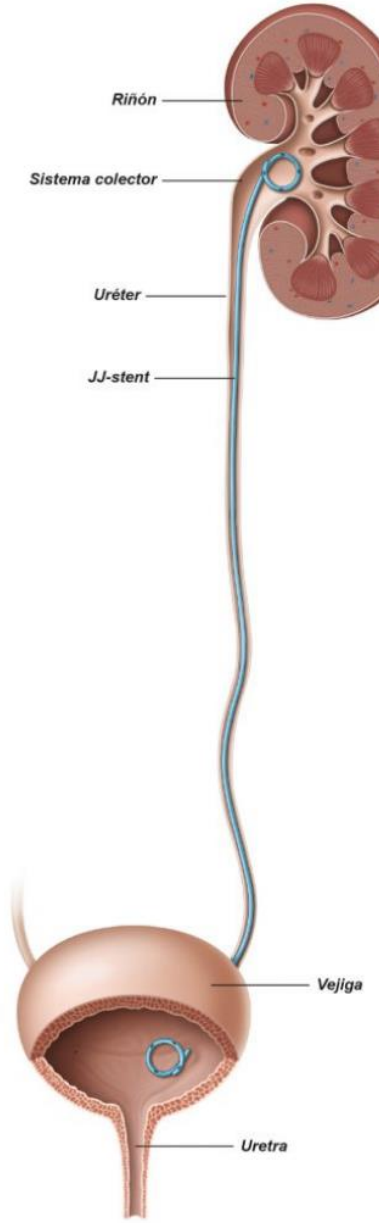
Takuto Shimizu,[1] Makito Miyake,[1] Kazuki Ichikawa,[1] Nobutaka Nishimura,[1] Mitsuru Tomizawa,[1] Kenta Onishi,[1] Shunta Hori,[1] Yosuke Morizawa,[1] Daisuke Gotoh,[1] Yasushi Nakai,[1] Kazumasa Torimoto,[1] Tatsuo Yoneda,[1] Tomomi Fujii,[2] Nobumichi Tanaka[3] and Kiyohide Fujimoto[1]

[1]Department of Urology, Nara Medical University, Kashihara, Nara, Japan, [2]Department of Diagnostic Pathology, Nara Medical University, Kashihara, Nara, Japan, and [3]Department of Prostate Brachytherapy, Nara Medical University, Kashihara, Nara, Japan



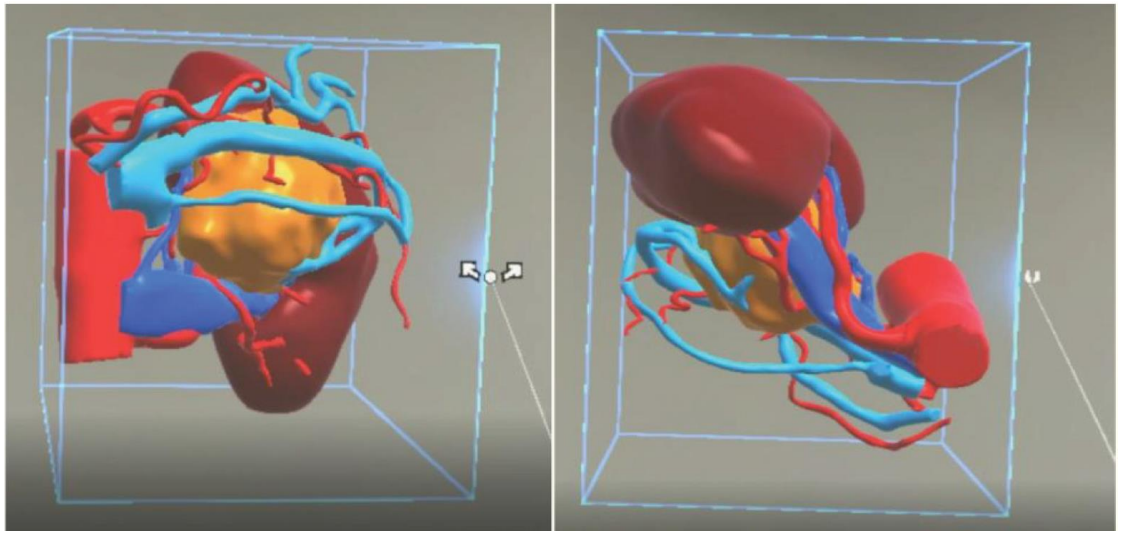
NP complicaciones

- Malformaciones arteriales (1-5%) y fugas de orina (0,6- 3%) se observan menos desde NPR
- **Sangrado postoperatorio:** tto conservador, algunos embolización y reintervención minoritaria
- **Fuga urinaria:** tto conservador con catéter doble J vs drenaje percutáneo



Presente y futuro de la NP

- Planning preoperatorio efectivo
- Navegación intraoperatoria precisa+ ECO intraoperatoria
- Realidad Mixta en NPR (basados en R.E.N.A.L. score)



frontiers | Frontiers in Oncology

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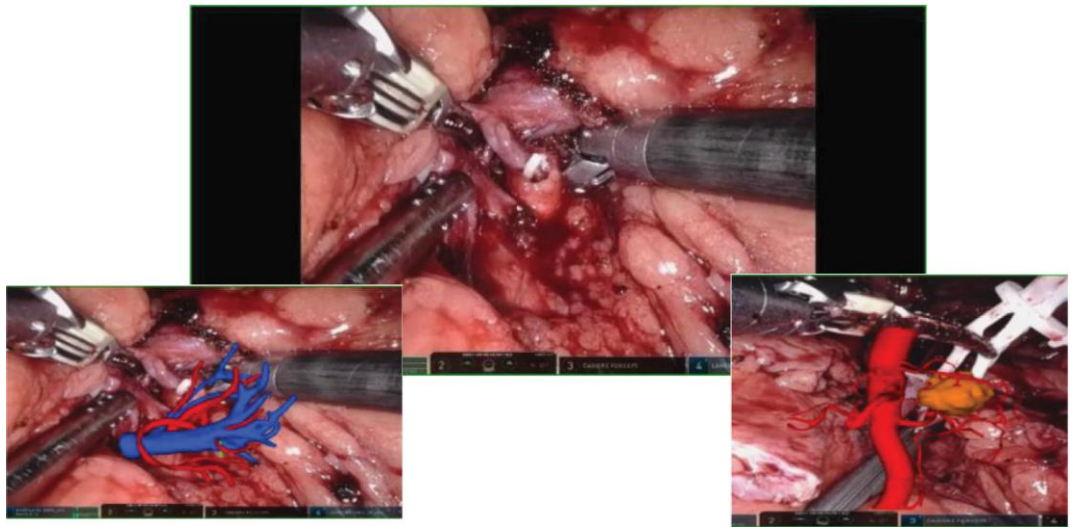
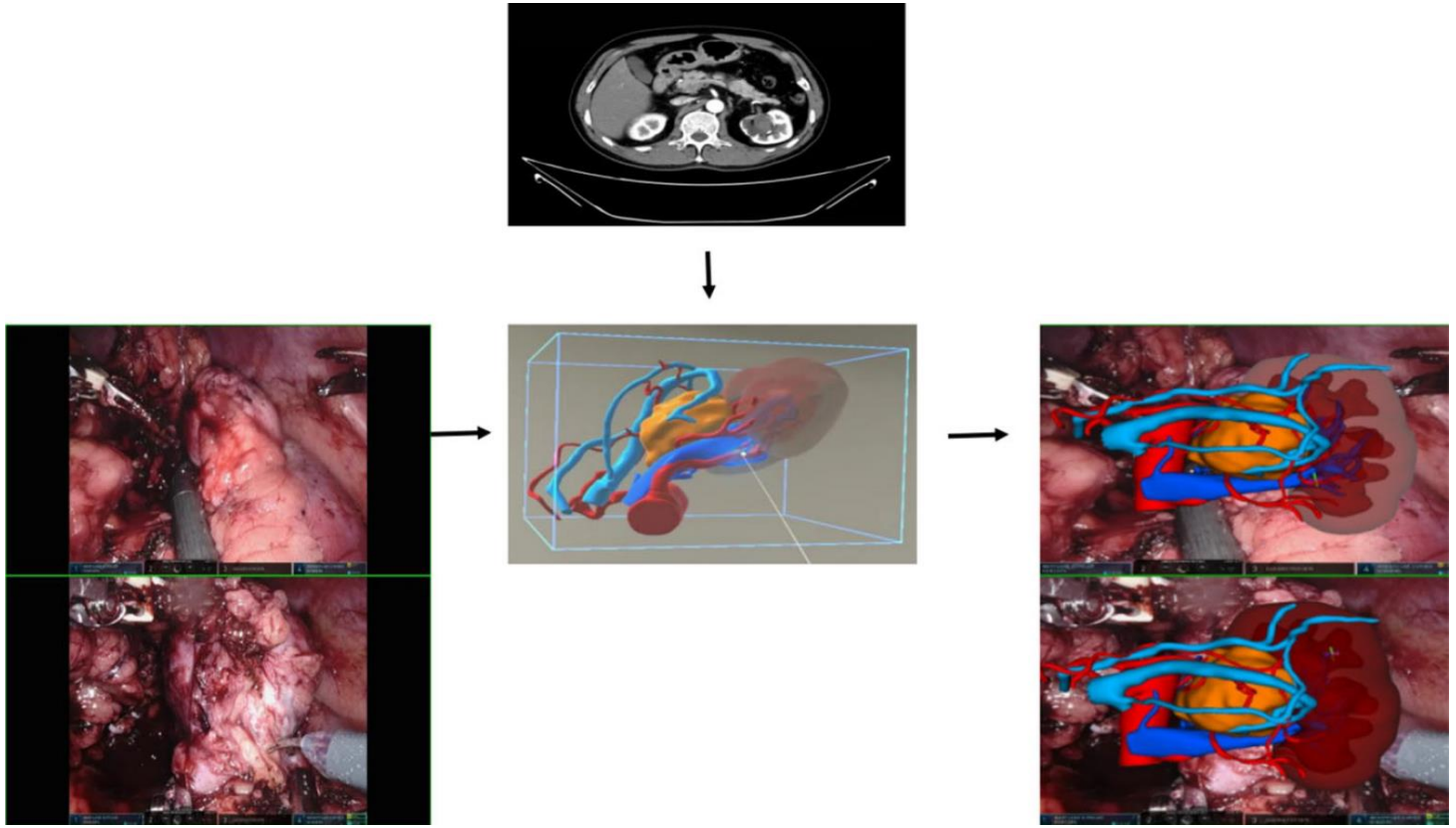
The clinical application value of mixed reality in robotic laparoscopic partial nephrectomy

Xin Chang Zou[1], Xiang Da Xu[2], Jian Biao Huang[1], Hai Chao Chao[2] and Tao Zeng[2*]

[1]The Second Affiliated Hospital, Jiangxi Medical College, Nanchang University, Nanchang, China, [2]Department of Urology, Second Affiliated Hospital of Nanchang University, Nanchang, China

Purpose: Robot-assisted laparoscopic partial nephrectomy (RAPN) has become





			(%), $\bar{x} \pm S$, M (Q_1, Q_3)
	MR group (n = 28)	Control group (n = 40)	P
Operation time, mean ± sd (min)	135.89 ± 23.49	165.00 ± 34.33	<0.001
Warm ischemia time, mean ± sd (min)	20.36 ± 3.97	23.80 ± 6.899	0.020
Estimated amount of bleeding (Q_1, Q_3) (mL)	60 (50, 100)	90 (60, 110)	0.013
Postoperative hemoglobin, mean ± sd (g/L)	122.07 ± 15.84	119.68 ± 15.53	0.537
Postoperative serum creatinine (Q_1, Q_3) (μmol/L)	91.00 (80.00, 125.25)	93.00 (79.00, 115.25)	0.562
Hemoglobin changes (Q_1, Q_3) (g/L)	17.5 (10.25, 24.75)	19 (11.25, 26.00)	0.694
Changes in serum creatinine (Q_1, Q_3) (μmol/L)	13.00 (2.25, 16.75)	8.00 (4.25, 15.00)	0.798
Postoperative hospital stay (Q_1, Q_3) (day)	7 (6, 8)	7 (6, 8)	0.563
Postoperative extubation time (Q_1, Q_3) (day)	6 (5, 7)	6 (6,7.75)	0.738
Postoperative complications, n (%)			0.263
No Yes	28 (100.0%) 0 (0)	37 (92.5%) 3 (7.5%)	

World Journal of Urology (2023) 41:2985–2990
https://doi.org/10.1007/s00345-023-04593-8

ORIGINAL ARTICLE

A new machine-learning model to predict long-term renal function impairment after minimally invasive partial nephrectomy: the Fundació Puigvert predictive model

Alessandro Uleri[1] · Michael Baboudjian[1] · Andrea Gallioli[1] · Angelo Territo[1] · Josep Maria Gaya[1] · Isabel Sanz[1] · Jorge Robalino[1] · Marta Casadevall[1] · Pietro Diana[1] · Paolo Verri[1] · Giuseppe Basile[1] · Oscar Rodriguez-Faba[1] · Antonio Rosales[1] · Joan Palou[1] · Alberto Breda[1]

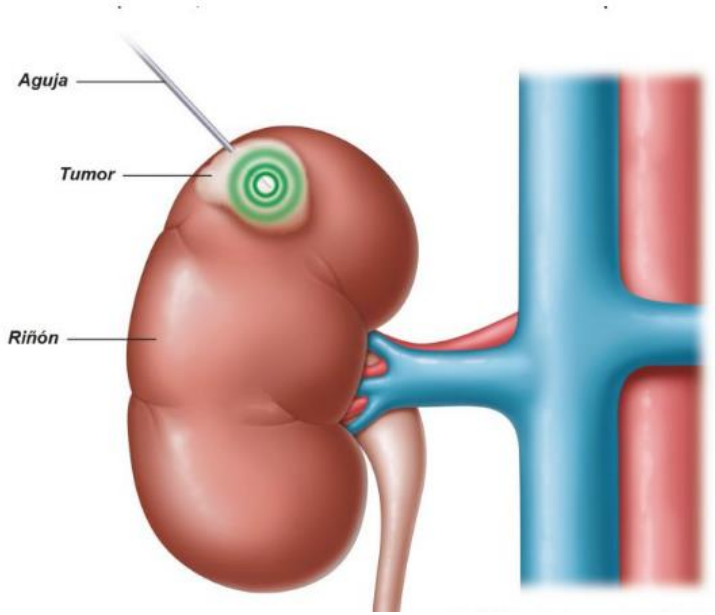
Table 2 Cox regression for CKD progression at the last follow-up

Variable	HR (95% CI)	*p*
ACCI, (continuous)	1.48 (1.31–1.67)	< 0.01
Age, (continuous)	1.05 (1.03–1.06)	< 0.01
CKD stage, (continuous)	2.55 (1.96–3.32)	< 0.01
Solitary kidney		
Yes vs no	2.46 (1.37–4.43)	0.03
Diabetes		
Yes vs no	1.85 (1.48–4.25)	< 0.01
Hypertension		
Yes vs no	2.82 (1.17–2.93)	< 0.01
PADUA score, (continuous)	0.98 (0.74–1.30)	0.89
Surgical approach		
Robotic vs laparoscopic	0.97 (0.87–1.09)	0.87
WIT (continuous)	0.98 (0.96–1.01)	0.1
Operative time, (continuous)	1.00 (0.99–1.01)	0.97
CKD progression after surgery		
Yes vs no	4.67 (3.17–6.89)	< 0.01
AKI		
Yes vs no	1.95 (1.26–3.01)	< 0.01
Postoperative complications		
Yes vs no	1.35 (0.90–1.37)	0.145

CKD chronic kidney disease, *ACCI* age-adjusted Charlson Comorbidity Index, *WIT* warm ischemia time, *AKI* acute kidney injury

Técnicas ablativas

- Alternativa a cirugía
- Crioterapia, radiofrecuencia, microondas
- Pacientes con co-morbilidades y alto riesgo quirúrgico
- Tm < 3 cm
- Sin/Con biopsia previa
- Recurrencia local no resecable
- Enfermedad multifocal
- Localización tumoral desfavorable
- Sangrado 2-4%, Lesión ureteral 2%, Fuga urinaria 0-4%, ITU 2%
- No recomendadas ≧ T1b (falta estudios a largo plazo)
- **Embolización pre-ablación minimizar complicaciones hemorrágicas T1b**



Vascular and Interventional Radiology • Review

AJR FOCUS ON:

Renal Ablation Techniques: State of the Art

Radiology Case Reports 19 (2024) 4017–4023

Available online at www.sciencedirect.com
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ELSEVIER

RCR RADIOLOGY CASE REPORTS

Case Report

Combined therapy for managing a clear cell renal cell carcinoma in a horseshoe kidney: A case report☆,☆☆

Valentina Mejía-Quiñones[a,b,*], *Enrique Carlos García-Pretelt*[b], *Alfonso José Holguín-Holguín*[c], *Juan Sebastián Toro-Gutiérrez*[c]

[a] *Centro de Investigaciones Clínicas, Fundación Valle del Lili, Cali, Colombia*
[b] *Facultad de Ciencias de la Salud, Universidad Icesi, Cali, Colombia.*
[c] *Departamento de Radiología e Imágenes Diagnósticas, Fundación Valle del Lili, Cali, Colombia.*

Técnicas ablativas. Crioterapia

Percutánea/ laparoscopia

Éxito > 95%

No diferencia complicaciones percutánea/ laparoscopia

Percutánea estancia hospitalaria más corta

Complicaciones 8%- 20% (mayoría menores)

No definición precisa recurrencia tumoral

Resultados oncológicos favorables en cT1a

Recurrencia local 7.7 % cT1a, 34.5 % cT1b

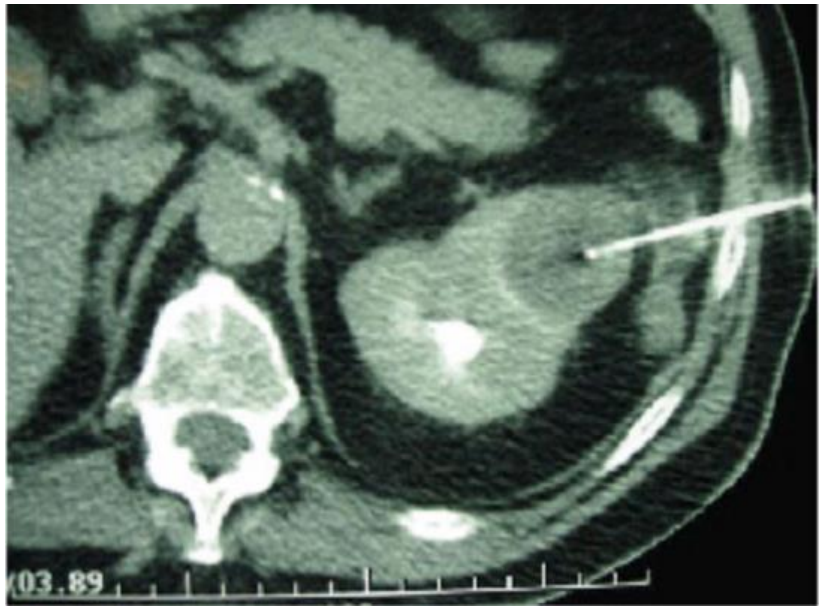
Control local tumor 60.3% a los 3 años

Mortalidad Ca específica a 5 años 7.6%- 9%

Recrioablación, solo 45% permanecen libres de enfermedad a los 2 años

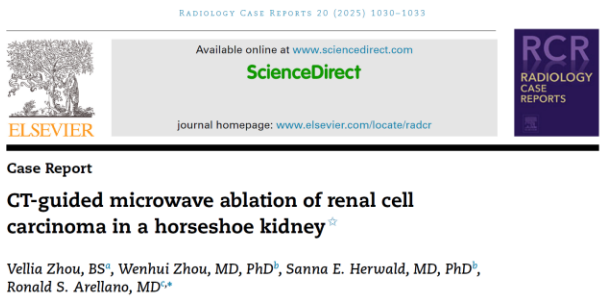
Técnica ablativas. Radiofrecuencia

- Laparoscópica/percutánea
- cT1a complicaciones hasta 29%, en su mayoría menores
- Tasa éxito inicial (1 mes) 94 % cT1a y 81 % cT1b
- re-RFA tasas éxito > 95%
- Resultados oncológicos favorables cT1a, 3-4 cm menos alentadores
- Supervivencia LDE 10 años 82 %, disminución al 68 % > 3 cm
- Resultados oncológicos peores que NP, pero datos comparativos muy sesgados
- Mayoría recurrencias localmente, > 5 a son raras



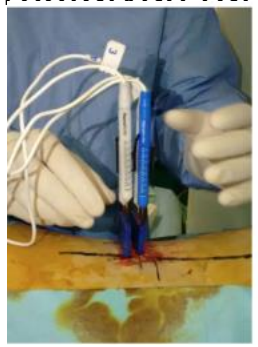
Técnicas ablativas. Microondas

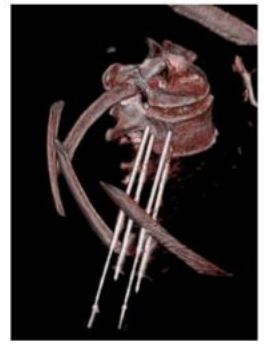
- Ventaja sobre crioablación: tratamiento más corto y uso de una sola antena
- Ventajas frente radiofrecuencia: menos susceptible a los efectos del disipador de calor, no requiere almohadillas de conexión a tierra
- Ablación uniforme en menos tiempo, más efectivo en ubicaciones anatómicamente complejas



Electroporación

- Técnica de ablación no térmica
- Pulsos eléctricos alto voltaje entre pares de agujas
- Segura en localizaciones cercanas a estructuras vasculares
- Alto nivel de complejidad
- Control a largo plazo del crecimiento y de las recidivas tumorales inferior a radiofrecuencia





Radioterapia estereotática corporal (SBRT)

- No candidatos a cirugía
- Edad avanzada
- Comorbilidades como ERC e IC
- No cumplen criterios para terapias ablativas (tamaño/ localización tumoral y riesgo anestésico
- Alta tasa de control local: 94.5% a 5 años (IROCK)
- Baja toxicidad (1% ≥ grado 3)
- Impacto limitado sobre función renal global

Clinical and Translational Radiation Oncology 50 (2025) 100891

Contents lists available at ScienceDirect

Clinical and Translational Radiation Oncology

journal homepage: www.sciencedirect.com/journal/clinical-and-translational-radiation-oncology

Stereotactic ablative radiotherapy for primary kidney cancer – An international patterns of practice survey

Katherine Taplin [a], Raquibul Hannan [b], Simon S. Lo [c], Scott C. Morgan [d], Muhammad Ali [e], Samantha Sigurdson [f], Matthias Guckenberger [g], Anand Swaminath [f,*]

Stereotactic ablative body radiotherapy for primary kidney cancer (TROG 15.03 FASTRACK II): a non-randomised phase 2 trial

Shankar Siva, Mathias Bressel, Mark Sidhom, Swetha Sridharan, Ben G L Vanneste, Ryan Davey, Rebecca Montgomery, Jeremy Ruben, Farshad Foroudi, Braden Higgs, Charles Lin, Avi Raman, Nicholas Hardcastle, Michael S Hofman, Richard De Abreu Lourenco, Mark Shaw, Pascal Mancuso, Daniel Moon, Lih-Ming Wong, Nathan Lawrentschuk, Simon Wood, Nicholas R Brook, Tomas Kron, Jarad Martin, David Pryor, together with the FASTRACK II Investigator Group*

Lancet Oncol 2024; 25: 308–16

Summary

Background Stereotactic ablative body radiotherapy (SABR) is a novel non-invasive alternative for patients with

EUROPEAN UROLOGY 84 (2023) 275–286

available at www.sciencedirect.com
journal homepage: www.europeanurology.com

European Association of Urology

Platinum Priority – Kidney Cancer – Editor's Choice

Editorial by Rohann J.M. Correa, Sree Appu, Shankar Siva on pp. 287–288 of this issue

Phase 2 Trial of Stereotactic Ablative Radiotherapy for Patients with Primary Renal Cancer

Raquibul Hannan [a,b,], Mark F. McLaughlin [a], Laurentiu M. Pop [a], Ivan Pedrosa [b,c,d], Payal Kapur [b,d,e], Aurelie Garant [a,b], Chul Ahn [b,f], Alana Christie [b], James Zhu [g], Tao Wang [g], Liliana Robles [a], Deniz Durakoglugil [a], Solomon Woldu [b,d], Vitaly Margulis [b,d], Jeffrey Gahan [b,d], James Brugarolas [b,h], Robert Timmerman [a,b], Jeffrey Cadeddu [b,d]*

Clinical Oncology 35 (2023) 20–28

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Clinical Oncology

journal homepage: www.clinicaloncologyonline.net

Stereotactic Body Radiotherapy for Renal Cell Carcinoma: Oncological and Renal Function Outcomes

R.M. Glicksman *†, P. Cheung *‡, R. Korol *‡, M. Niglas §, H. Nusrat *‡, D. Erler *‡, D. Vesprini *‡, A. Swaminath ¶||, M. Davidson *‡, L. Zhang ‡, W. Chu *‡

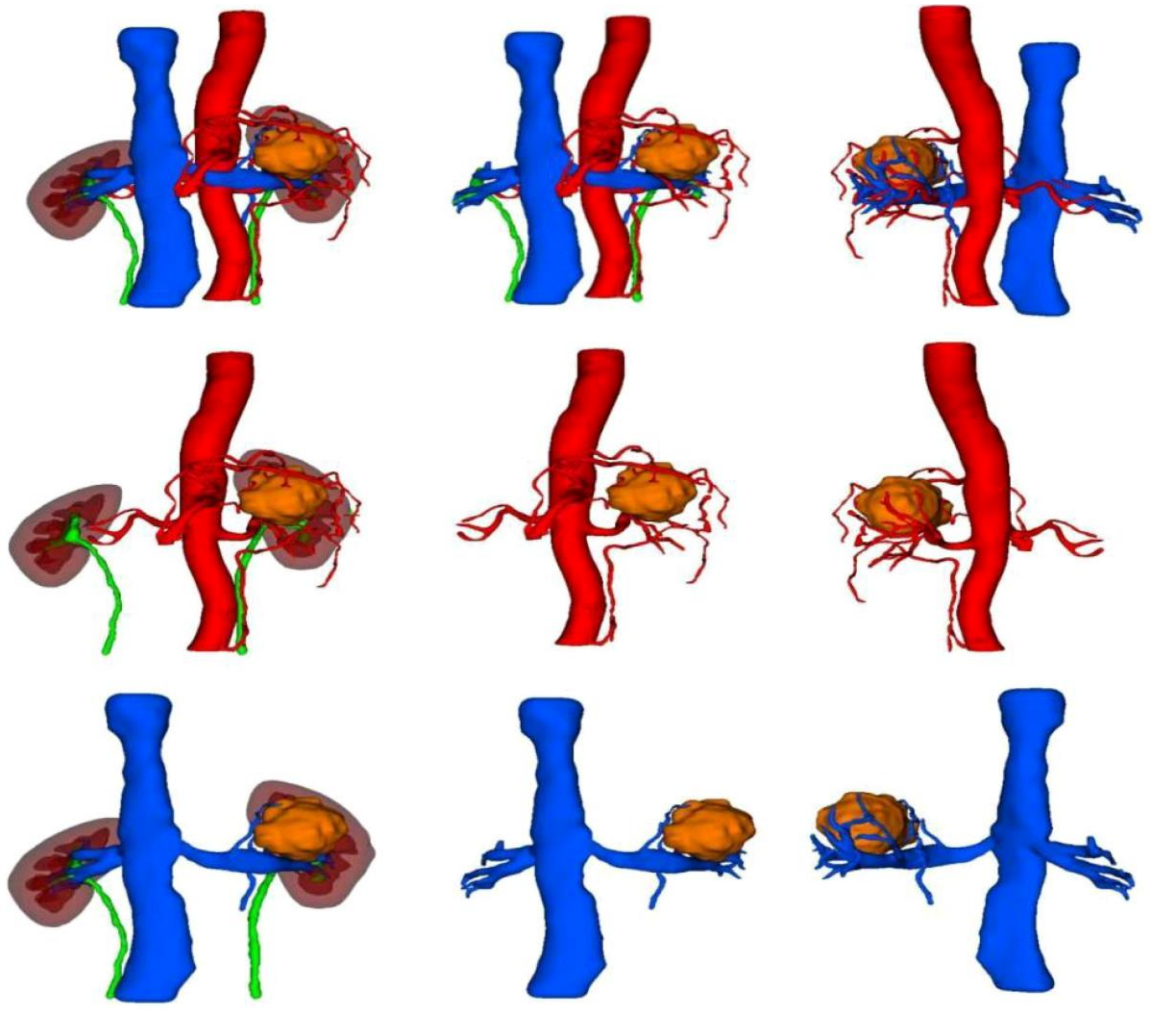
Conclusiones. Volviendo al caso inicial

- NP Tratamiento **gold estándar** pequeña masa renal
- Ablación tasa de recurrencia demasiado alta y riesgo de lesión el sistema colector y el hilio (tumor hiliar)
- Vigilancia no es práctica a medio/largo plazo en un paciente sano de 63 años
- Riñón único congénito, mayor tamaño, FG 75, resistente a la isquemia y pequeña pérdida de tejido
- Objetivos tratamiento en riñón único: maximizar el control oncológico, evitar terapia de reemplazo renal.
- Si es posible, se debe considerar la NP. Si el paciente rechaza cirugía o contraindicación anestésica, la terapia ablativa puede ser una alternativa terapéutica.

Conclusiones. Volviendo al caso inicial

- El **abordaje quirúrgico** depende de la experiencia del **cirujano** y disponibilidad de **robot**
- **ECO intraoperatoria** para evaluar el margen profundo del tumor
- **Clampaje segmentario** para preservar la perfusión o desclampaje temprano
- Modelo **3D planificación preoperatoria**
- **Enucleoresección** para evitar el sistema colector y minimizar la pérdida de tejido preservando al mismo tiempo un margen negativo.
- **Hemostático**
- **Drenaje** (controlar sangrado y posible fuga de orina)

Muchas gracias



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