City of Hope®

Southeastern Multidisciplinary Approaches to Cancer Symposium

# Robotic Partial Nephrectomy for Large or Complex Renal Masses

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Chair of Urology and Urologic Oncology
City of Hope

# Disclosures

I do not have any relevant financial relationships.

*This presentation and/or comments will provide a balanced, non-promotional, and evidence-based approach to all diagnostic, therapeutic and/or research related content.*

# Cultural Linguistic Competency (CLC) & Implicit Bias (IB)

**STATE LAW:**
The California legislature has passed Assembly Bill (AB) 1195, which states that as of July 1, 2006, all Category 1 CME activities that relate to patient care must include a cultural diversity/linguistics component. It has also passed AB 241, which states that as of January 1, 2022, all continuing education courses for a physician and surgeon **must** contain curriculum that includes specified instruction in the understanding of implicit bias in medical treatment.

*The cultural and linguistic competency (CLC) and implicit bias (IB) definitions reiterate how patients' diverse backgrounds may impact their access to care.*

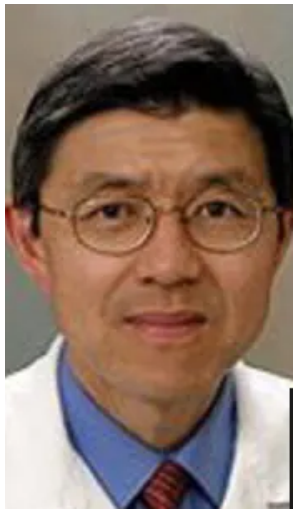
***EXEMPTION:***
Business and Professions Code 2190.1 exempts activities which are dedicated solely to research or other issues that do not contain a direct patient care component.

***This presentation is dedicated solely to research or other issues that do not contain a direct patient care component.***

# COH Robotics Program at Duarte

**One of the Largest Single Institution Robotic surgery volume in the US(22,262) since 2003**

- 4 Xi Main hospital , 1 DV5 , 1 SP and HUGO at Main hospital
- 1 XI At Outpatient Surgery Center
- Large experience in Complex Surgeries-Whipple, Liver, Esophagectomy, Pelvic Exenteration, Radical cystectomy, RPLND, MultiService Case
- Multiple International Collaborations

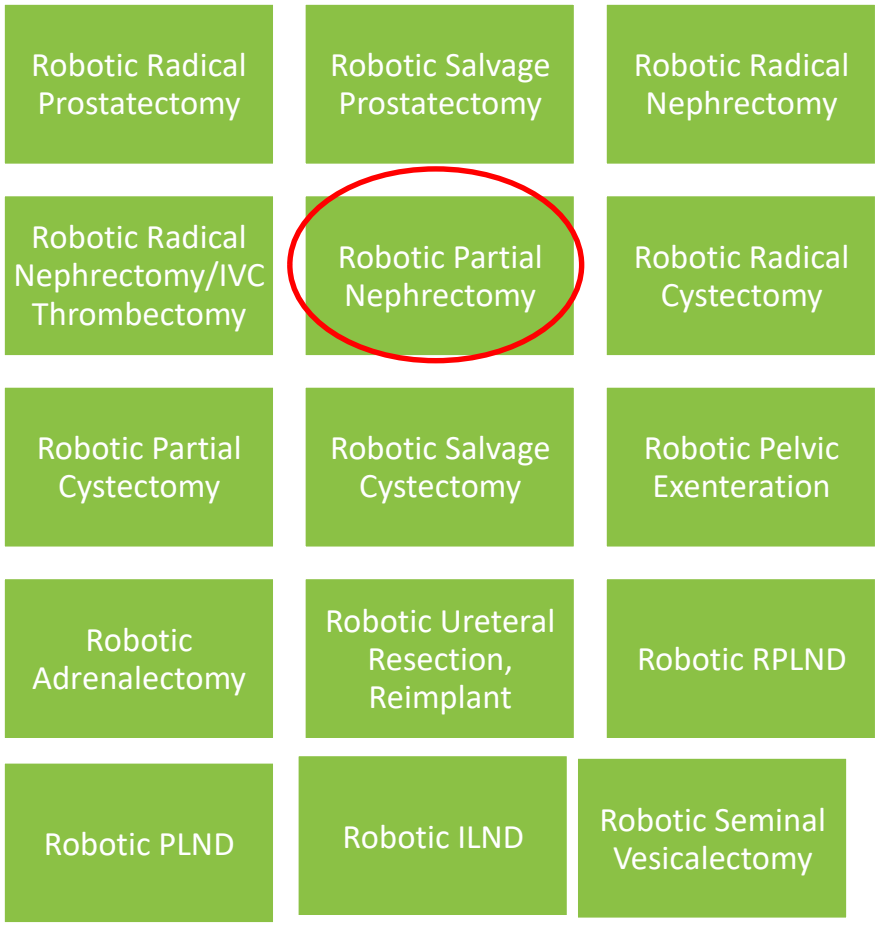


| cY | Robotic Cases |
|---|---|
| 2021 | 1326 |
| 2022 | 1401 |
| 2023 | 1794 |
| 2024 | 2217 |
| 2025 | 2424(est.) 202 in Jan |

82% Increase Growth

Large increase in case by - Thoracic, CRS and Surg Onc Volume over past 5 years

# COH Urologic Oncology Robotic Surgery




**Robotic Sacrocolpopexy**
**Robotic Urinary Diversion**
**Robotic Bladder Augmentation**
**Robotic Diverticulectomy**
**Robotic Simple Prostatectomy**
**Robotic Renal Cyst Decortication**
**Robotic Pyeloplasty**
**Robotic Ileal Ureter**
**Robotic Ureteral Reconstruction**
**Robotic BNC reconstruction**

# NCCN GUIDELINES

National Comprehensive Cancer Network®

**NCCN Guidelines Version 2.2025**
**Kidney Cancer**

NCCN Guidelines Index
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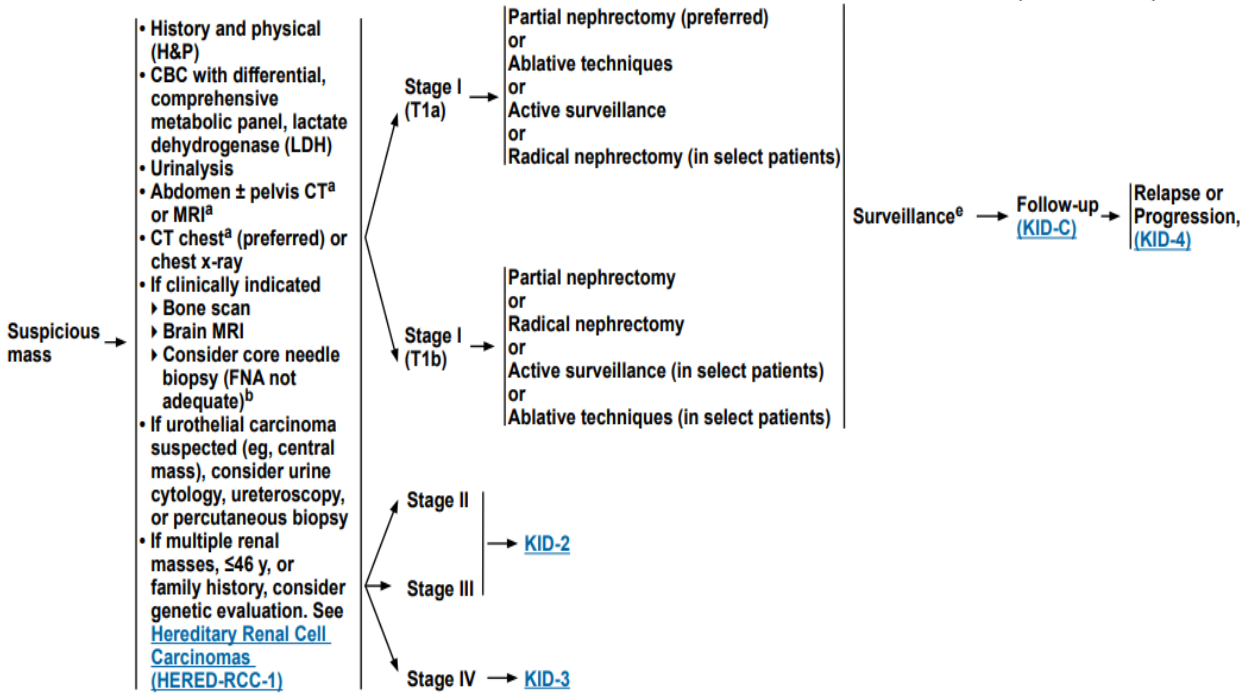


National Comprehensive Cancer Network®

**NCCN Guidelines Version 2.2025**
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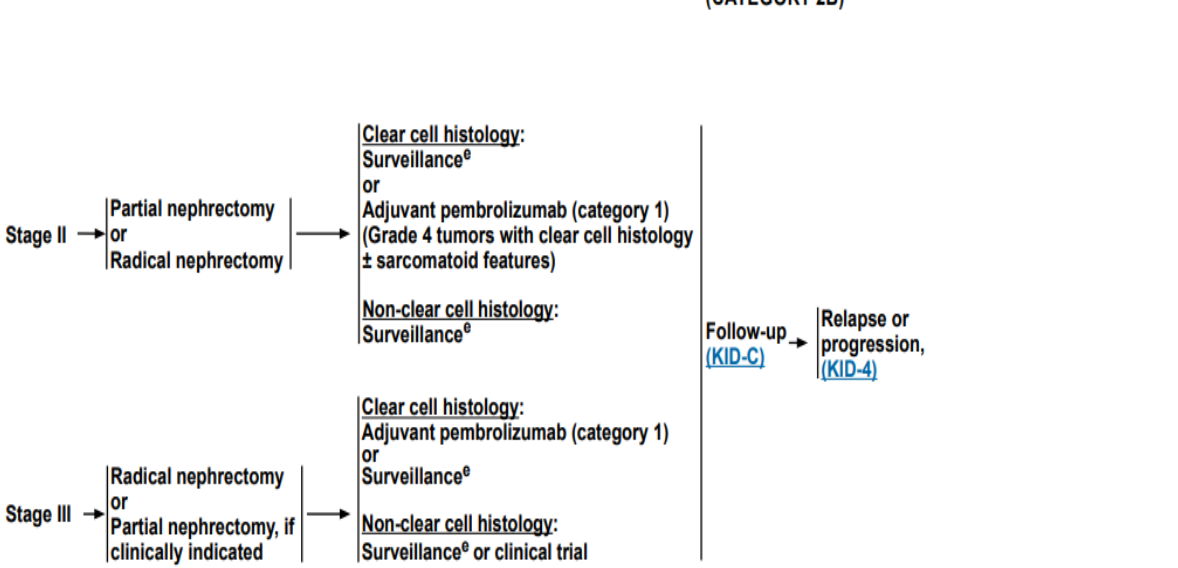

# NCCN General Principles 2005

- **General Principles of Management for Renal cell Cancer**
- *Nephron Sparing (Partial nephrectomy) is recommended  is select patients, such as:*

  - Patients with Unilateral Stage I-III Tumors when technically feasible
  - Patients with-
    - Uninephric State
    - Renal Insufficiency
    - Bilateral renal Masses
    - Familial RCC
  - Patients at Relative Risk for Developing Progressive Chronic Kidney disease due to young age or medical risk factors( ie HTN, DM, Nephrolithiasis)

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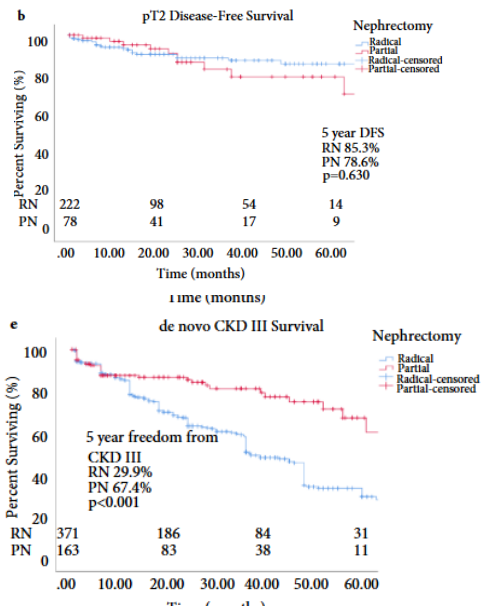
BJU International

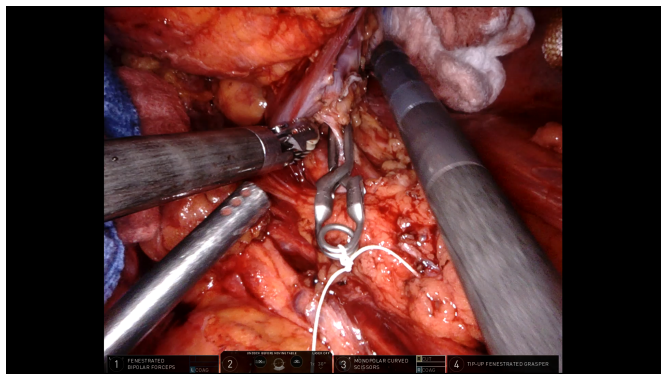
Urological Oncology | Full Access

# Robotic partial nephrectomy vs minimally invasive radical nephrectomy for clinical T2a renal mass: a propensity score-matched comparison from the ROSULA (Robotic Surgery for Large Renal Mass) Collaborative Group

Correction(s) for this article

Aaron W. Bradshaw, Riccardo Autorino, Giuseppe Simone, Bo Yang, Robert G. Uzzo, Francesco Porpiglia, Umberto Capitanio, James Porter, Riccardo Bertolo, Andrea Minervini, Clayton Lau, Kenneth Jacobsohn, Akbar Ashrafi, Daniel Eun, Alexandre Mottrie, Wesley M. White, Luigi Schips, Benjamin J. Challacombe, Ottavio De Cobelli, Carmen M. Mir, Alessandro Veccia, Alessandro Larcher, Alexander Kutikov, Monish Aron, Prokar Dasgupta, Francesco Montorsi, Inderbir S. Gill, Chandru P. Sundaram, Jihad Kaouk, Ithaar H. Derweesh ... See fewer authors



- Most cT2 undergo Radical Nephrectomy
- ROSULA Collaborative Group(Europe/US)

- ❑ Retrospective, Propensity Score matcheComparison RARPN and MIS _RN
- ❑ Primary Outcomes-DFS
- ❑ Secondary Outcome-OS, Complication rate
- ❑ Median FU 36 months

- No Significant Difference in DFS or OS(PN vs RN)
- 5 Years freedom from de novo CKD 3 was 91.6% RAPN vs 68.9% MIS _RN (P<0.001)
- RAPN may be considered for cT2 Renal Masses

BJU Int March 2020

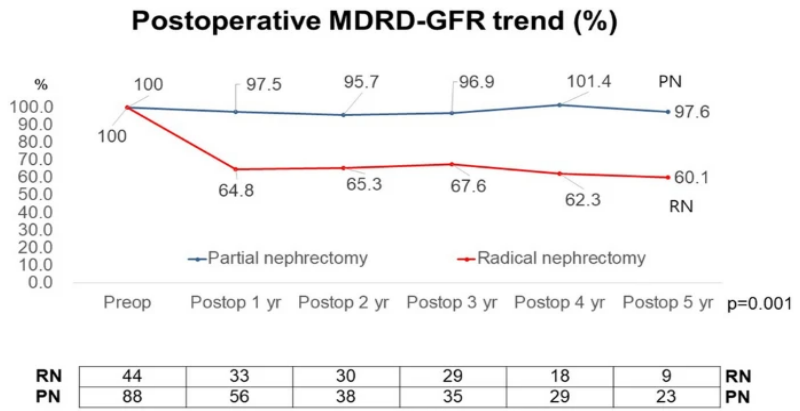
Article | Open access | Published: 03 February 2021

# Recurrence after radical and partial nephrectomy in high complex renal tumor using propensity score matched analysis

scientific reports

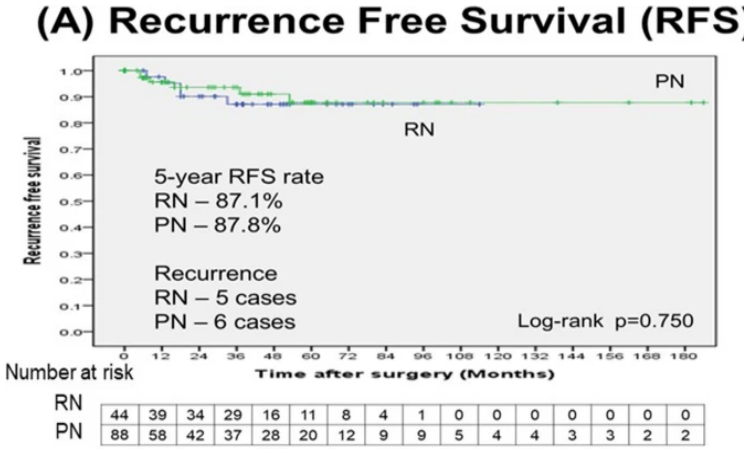
Hwanik Kim, Jung Kwon Kim, Changhee Ye, Joon Hyeok Choi, Hakmin Lee, Jong Jin Oh, Sangchul Lee, Sung Kyu Hong & Seok-Soo Byun

Retrospective Review Seoul National University Bundang Hospital
3013 Patients underwent RN and pN (2003-2019), Median FU both groups 37.5 months
Cohort included RENAL >10

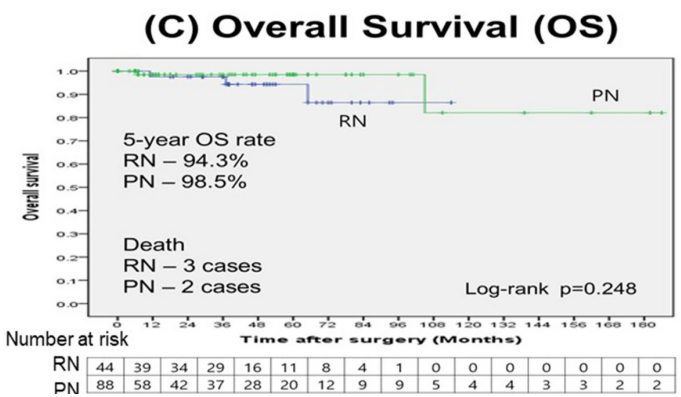



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| RN | 44 | 33 | 30 | 29 | 18 | 9 | RN |
| PN | 88 | 56 | 38 | 35 | 29 | 23 | PN |

Postoperative renal function trends in glomerular filtration rate (GFR) preservation rates after radical nephrectomy and partial nephrectomy between the groups.




| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RN | 44 | 39 | 34 | 29 | 16 | 11 | 8 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| PN | 88 | 58 | 42 | 37 | 28 | 20 | 12 | 9 | 9 | 5 | 4 | 4 | 3 | 3 | 2 | 2 |

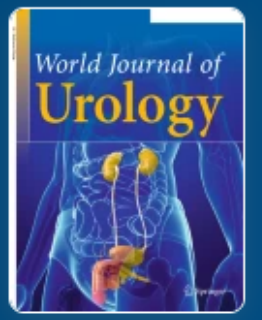



| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RN | 44 | 39 | 34 | 29 | 16 | 11 | 8 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| PN | 88 | 58 | 42 | 37 | 28 | 20 | 12 | 9 | 9 | 5 | 4 | 4 | 3 | 3 | 2 | 2 |

AA

*Scientific Reports* **11**, Article number: 2919 (2021) | Cite this article

# Oncologic outcomes of patients with positive surgical margin after partial nephrectomy: a 25-year single institution experience




World Journal of Urology

Firas G. Petros, Michael J. Metcalfe, Kai-Jie Yu, Sarp K. Keskin, Bryan M. Fellman, Courtney M. Chang, Cindy Gu, Pheroze Tamboli, Surena F. Matin, Jose A. Karam & Christopher G. Wood

- MDA(2297 PN)

- pSM  34(1.8%)

- Local Recurrence -4
- Distant Mets-5

-Distant kidney recurrence-4

PSM-74.5% NED(Median FU 62 months)

Volume 36, pages 1093–1101, (2018) Cite this article

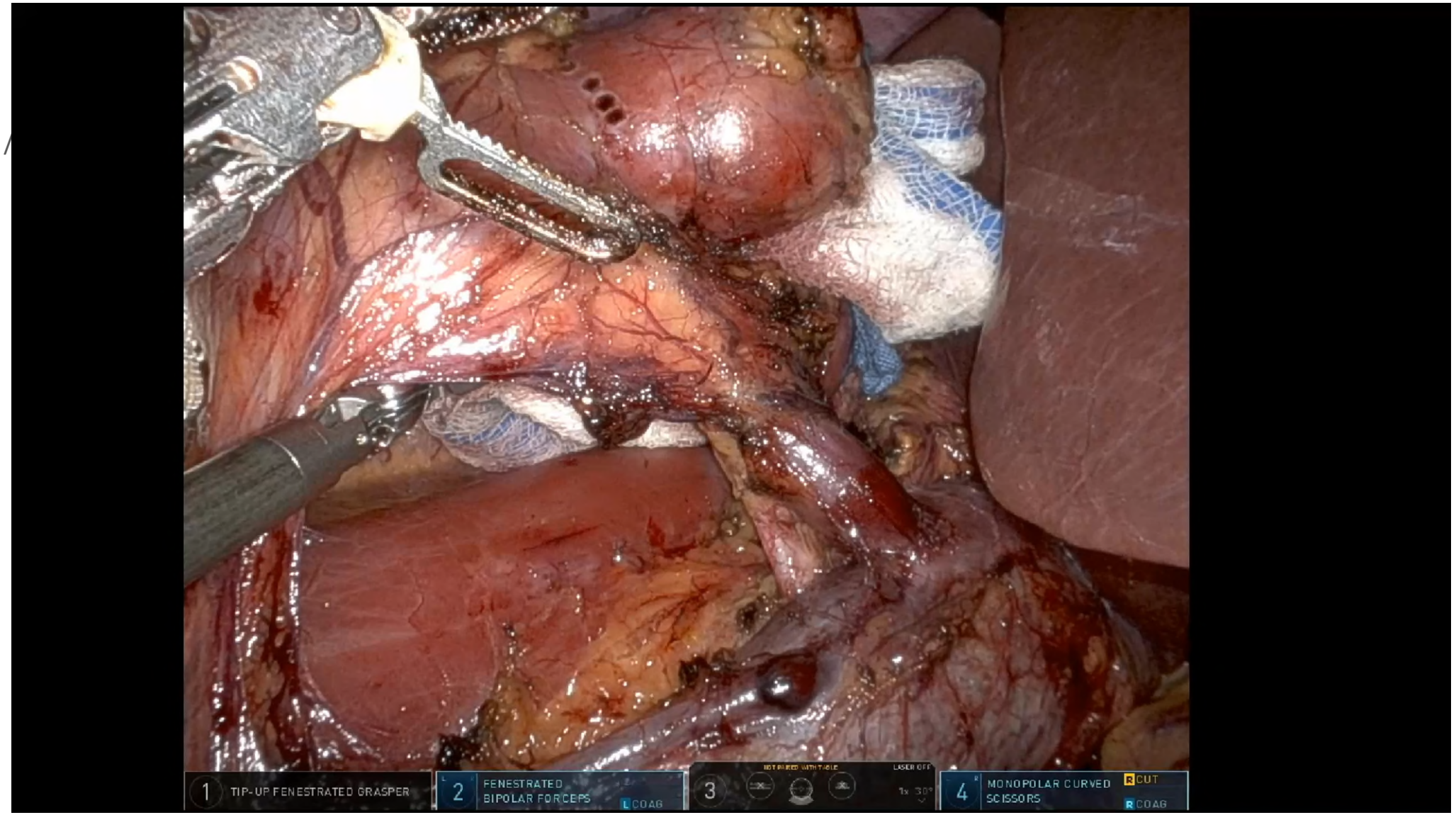
# Partial Nephrectomy in Complex Renal Mass

Keys Steps

- Positioning
- Exposure of Kidney
- Hilar Exposure
- Dissecting the Upper Pole free, especially medial aspect (Free Adrenal from Kidney )
- Adequate Mobility of Kidney
- Ultrasound
- Hilar Control
- Excision
- Reconstruction

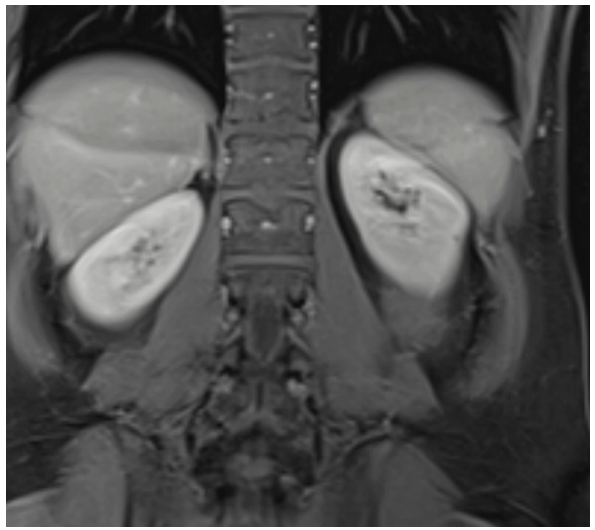
# Hilar Exposure and Upper Pole Dissection

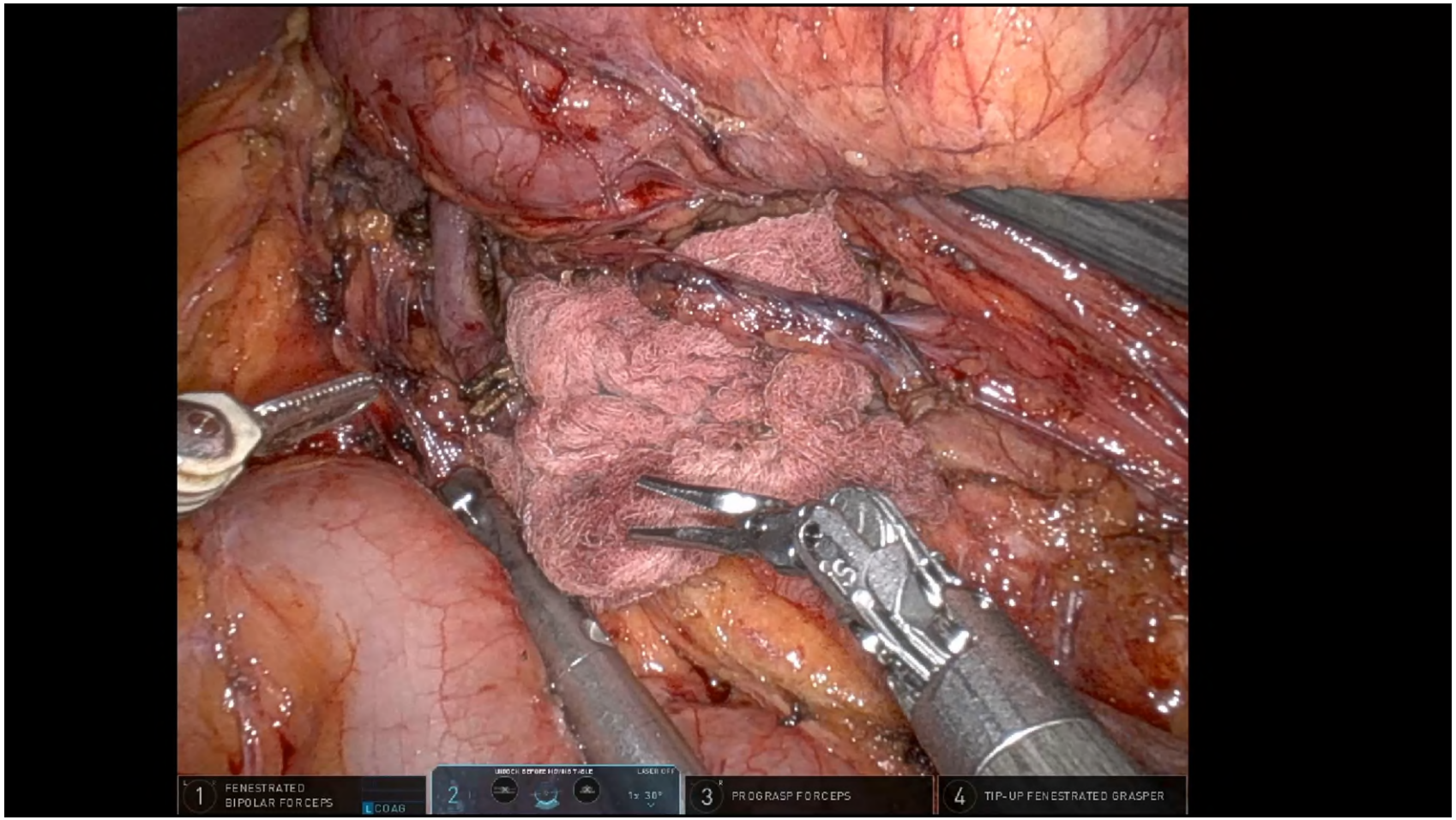
- A



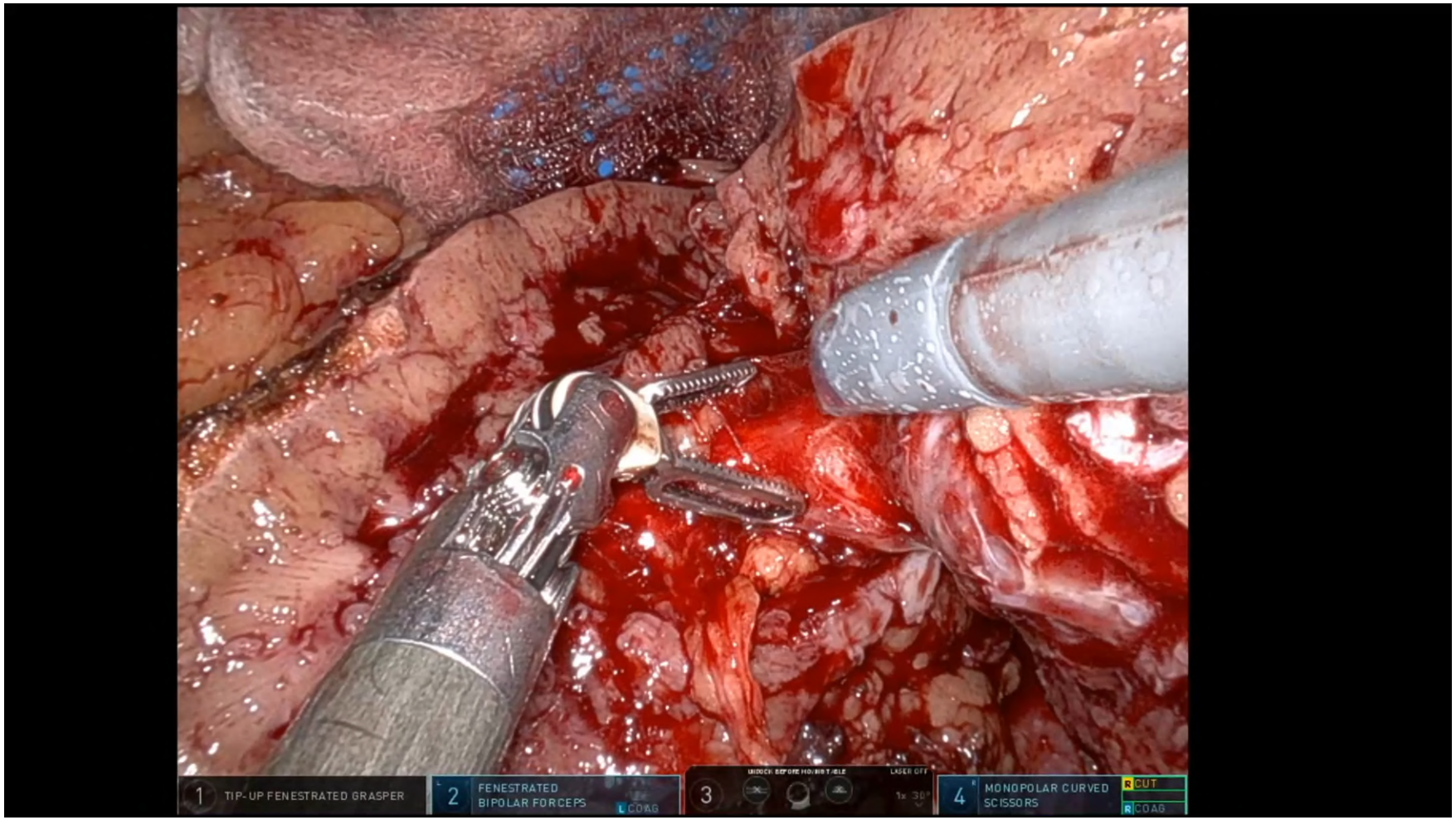
# DROP IN RENAL ULTRASOUND

- 40 year old women
- Palpable mass with intentional weight loss
- 12 cm left solid renal

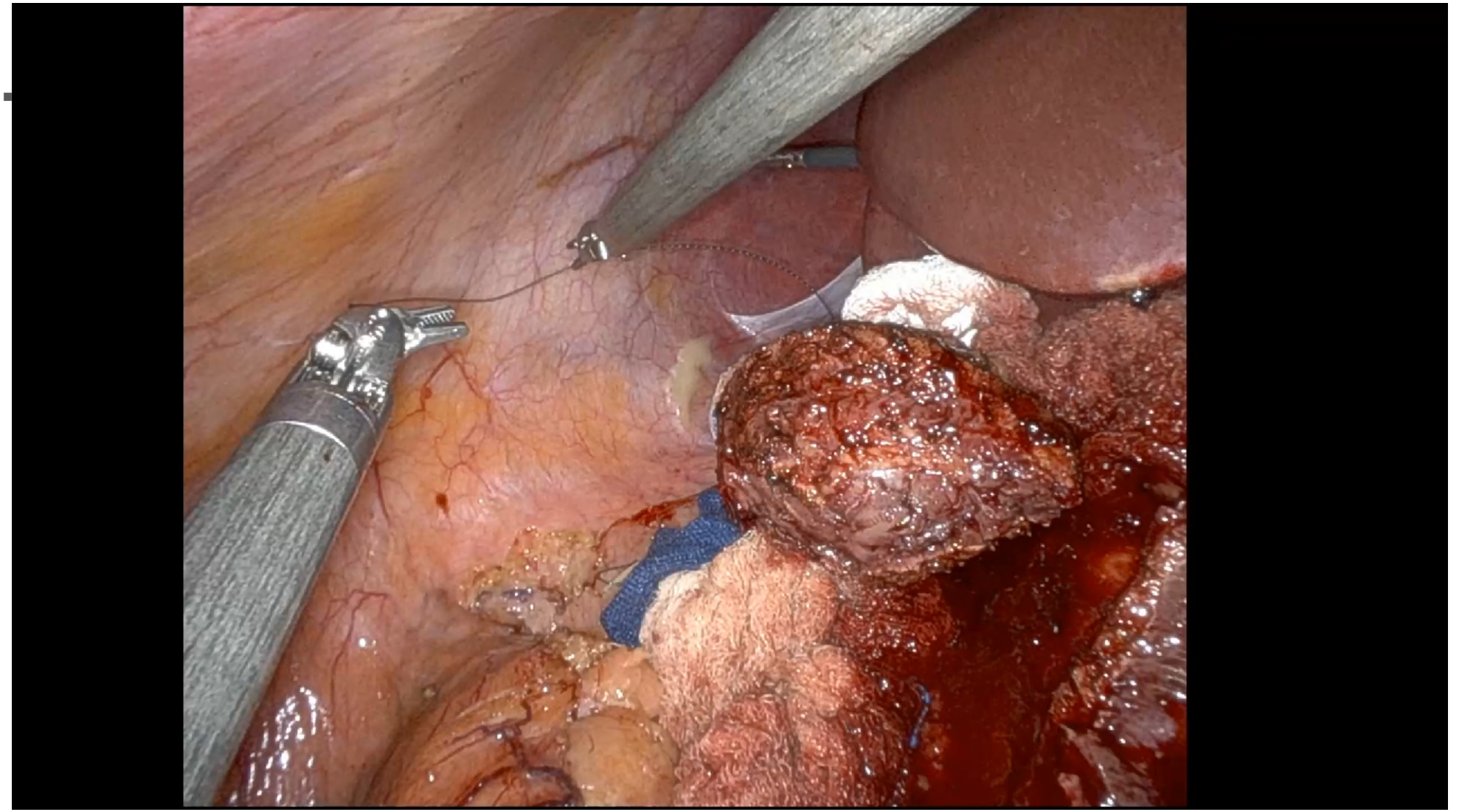




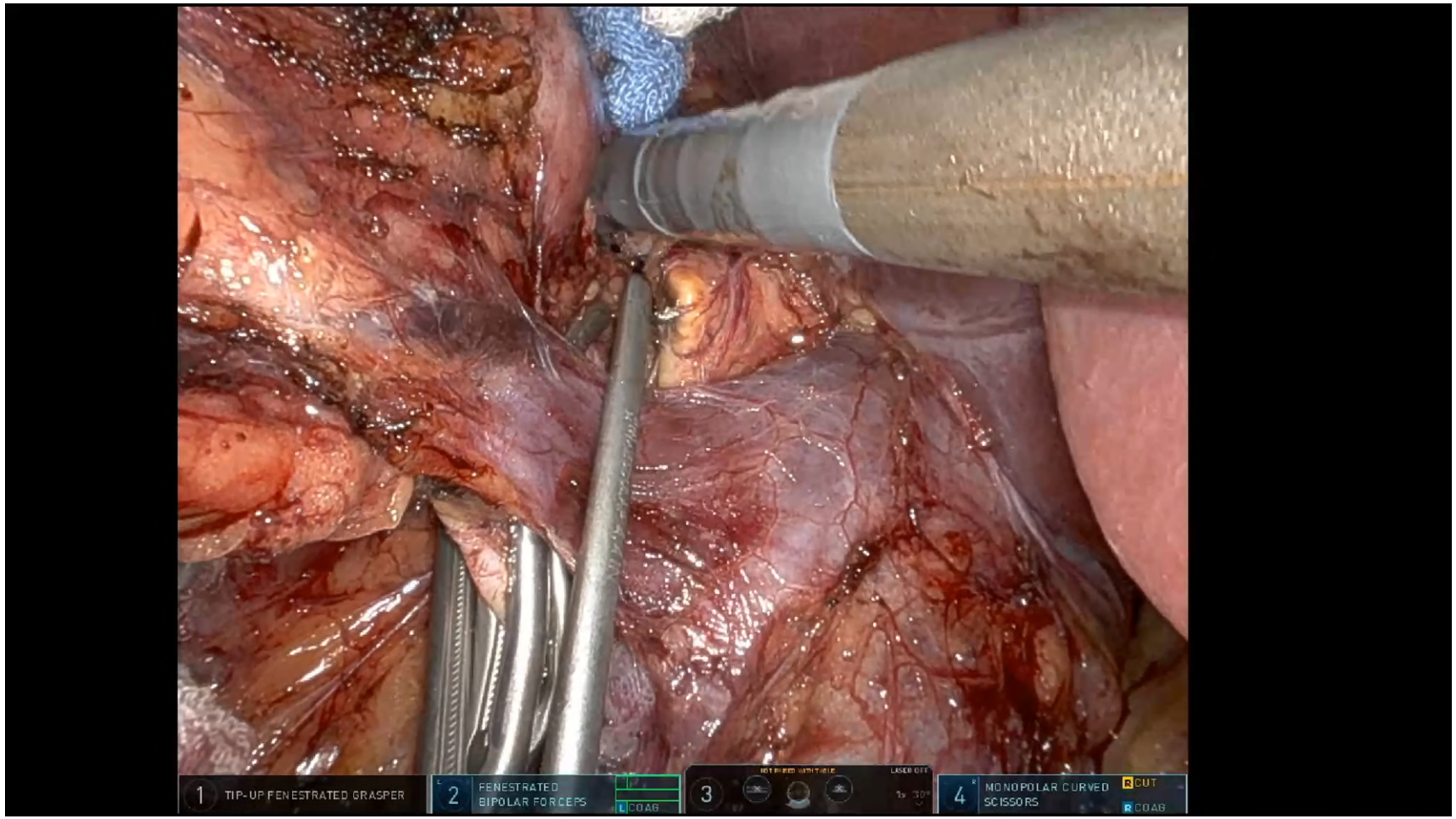
# Large 8cm mass with Vascular Thrombus



# Horseshoe Right Moeity Closure



# Hilar


1 TIP-UP FENESTRATED GRASPER
2 FENESTRATED BIPOLAR FORCEPS
L COAG
3
LASER OFF
4 MONOPOLAR CURVED SCISSORS
R CUT
R COAG

# SUO 2024

**SAME-DAY DISCHARGE AFTER ROBOTIC-ASSISTED PARTIAL NEPHRECTOMY: A MULTI-INSTITUTIONAL ANALYSIS**

**Category**
Kidney Cancer > Other

**Description**
Poster #182


**Presented By:** Suma Gangidi

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## SDD Partial Nephrectomy SUO 2024

Retrospective review of Robotic Partial Nephrectomy (COH -132, Cornell NYP- 51)

RAPN (1/2021-5/24), excluded Multiple lesion surgery and Solitary kidne

Demographically similar in age, race, gender and ASA.

Similar Renal Nephrotomy Score

| RNS | SDD | IP | P=0.093 |
|---|---|---|---|
| Low | 45.5% | 41% | |
| Mod | 40.9% | 54% | |
| High | 13% | 6% | |

- Higher percentage of SDD patients undergoing a transperitoneal approach (79.6% vs. 63.3%, p = 0.046)
- Higher percentage of SDD patients with XI -90.9%
- Mean procedure time was shorter for SDD patients (161.7 vs. 184.3 minutes, p = 0.0287),
- No differences were found between warm ischemia time or estimated blood loss.
- **The 30-day complication rate was lower for SDD patients (9.1% versus 23.0%, p = 0.05). However, these groups did not significantly differ in unscheduled office/ED visits, readmissions, or phone calls**

# Keys in Doing RPN in cT1b, cT2 Renal Mass

- Quality CT with 3D Reconstructions
- Complete Hilar Preparation
- Ultrasound
- Upper pole dissection / Separate Adrenal from Kidney
- Enucleoresection, especially in the dept. of resection
- Careful Reconstruction

# THANK YOU !

Questions?

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