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INTRODUCTION & OBJECTIVES: To present a robotic nephron-sparing approach for intrarenal sinus tumors, through the avascular Brodel's line, replicating the open conventional approach.

MATERIAL & METHODS: In a female patient, we performed a robotic anatomic nephron-sparing surgery for complete intrarenal tumor in the renal sinus through the avascular line.

RESULTS: The full procedure was performed with the robot-assisted approach. The operative time was 270 minutes, warm ischemia time was 25 minutes, estimated blood loss was 200 ml and hospital stay was 4 days. The pathology reported a renal clear cell carcinoma, Furhman grade 2 with negative resection margins of 0.7 mm. There were no intraoperative or postoperative complications during 6 months of follow-up.

CONCLUSIONS: The anatomic incision for nephron- sparing surgery for complete intrarenal tumor in the renal sinus may be reproduced in a robotic fashion. This allows all the benefits of minimally invasive surgery with equal precision in selected patients. Prospective studies are required including a greater number of patients with long-term follow-up to assess the outcomes of this procedure, including its impact on glomerular function.