Open Radical Nephrectomy for Suspected Renal Malignancy—Tips and Tricks

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OBJECTIVE
To present the surgical approach to a cystic renal mass suspicious for malignancy in a 22-month-old female.

MATERIALS
The patient was a healthy female was found to have an abdominal mass by her parents. Her mother underwent a nephrectomy as a child for unknown pathology. Physical examination was otherwise unremarkable and laboratory workup was normal. Imaging workup revealed a large cystic renal mass suspicious for malignancy. Surgical resection was planned.

RESULTS
A nonsyndromic 22-month-old female underwent open radical nephrectomy on the left with regional lymph node dissection. A transverse abdominal incision was used, followed by medial reflection of the colon and complete renal mobilization. The distal ureter and renal vasculature were identified and controlled and the kidney removed. A retractor was then assembled and regional lymph node dissection performed. Final pathology was cystic nephroma with 10 benign lymph nodes. The patient recovered well and was discharged home 3 days after surgery.

CONCLUSION
Open radical nephrectomy is an important part of protocol management for patients with renal masses suspicious for malignancy. UROLOGY 133: 241–242, 2019. © 2019 Elsevier Inc.

Conflict of Interest: None.
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4:13 The renal artery is located deep to the vein. It is controlled on the aorta side only using 2-0 silk. This stops blood in-flow to the kidney and allows further dissection and management of the vein, making subsequent management of the artery easier, once exposure is improved.

4:39 The renal vein is then controlled using 2-0 silk. To improve control of the stay side, a 5-0 prolene is used as a suture ligature. The suture ligature will be demonstrated with the artery in a moment.

5:06 The stay side of the artery is further controlled with a 5-0 prolene stick-tie. The stitch is passed through the vessel, 1 knot is thrown, and then it is passed back underneath the vessel, and remaining knots are thrown. This helps to ensure a ligation that should not slip.

5:55 A bookwalter is then assembled to allow completion of lymph node sampling. A key difference between adult and pediatric nephrectomy is that lymph node sampling is a standard part of the pediatric renal mass surgical guideline.

6:12 Our lymph node sampling involves removal of all nodal tissue from where the ureter crosses the iliac artery to the renal artery. The split-and-roll technique is used marching up the aorta. All tissue is controlled on the stay side using 4-0 silk ties to prevent lymphatic leakage. We feel this is a very important nuance.

6:22 Final pathology revealed cystic nephroma with 10 negative lymph nodes. She did not require further treatment, but will be tested for Dicer1 mutations, given this pathology.

The video related to this article can be found online at: https://doi.org/10.1016/j.urology.2019.08.002.