



Reply to Letter to the Editor

Dear Editor,

We appreciate the letter written by Dr. Taghavi in response to our article regarding lymph node (LN) yield for staging in favorable histology Wilms tumor (WT) [1]. This letter raises some very thoughtful and insightful points on the assessment of LNs for staging of WT.

Historically, surgical protocols for WT did not specify how many LNs were required, in which anatomic locations LNs were to be sampled, or to what extent they were to be removed (random sampling vs. clearance vs. formal dissection). They simply required that LNs needed to be sampled. While it is true that surgeons cannot assess LN yield in real time and that yield depends on a variety of factors, including pathologist assessment, at the present time we are left to encourage proper LN staging by instructing surgeons to aim for threshold numbers of LNs from key anatomic areas. For the reasons Dr. Taghavi outlines, we hope that our paper will bring attention for the need to focus on sufficiently sampling LNs from the LN basins where the kidneys drain.

With respect to lymphatic drainage of the kidney, this has been studied and outlined in the adult urologic oncology literature with renal cell carcinoma [2]. Left sided tumors generally drain into the paraaortic LNs below the renal vein and right sided tumors drain into precaval, interaortocaval and paraaortic areas below the renal vein. There are no objective data, or reason to believe, that lymphatic drainage is different in a child or in a different disease process like WT. Segmental renal lymphatic drainage has not specifically been studied, but many tumors likely cross multiple segments; thus, it is unclear how useful this may be. It is the opinion of the authors that the location of surgical LN sampling is likely of greater importance than the raw number of LNs sampled. However, before one can further analyze this issue, it is critical to uniformly obtain the same nodes. The data from our publication provide rationale to standardize the surgical approach, which includes sampling a minimum number of LNs from specified anatomic locations. Using this more uniform LN data will then inform further improvements and initiatives in this area.

The use of sentinel LN (SLN) mapping/biopsy/resection in pediatric renal malignancy is an interesting suggestion, but to our knowledge, there has been no work in this area and to perform this intraoperatively may be challenging. Similarly, the use of indocyanine green has been suggested which may be more feasible in real-time but also has not been studied to date. Further, the role of SLN in adults with breast cancer, head and neck carcinoma, and melanoma is not a reasonable comparison as the LN locations are more superficial and, in the past, has necessitated completion lymphadenectomy if nodes were found to be positive—although this has recently been questioned. The role of involved LN in WT is more analogous to pediatric sarcomas in that the disease is upstaged and thus treated with more intense therapy as opposed to further LN removal. Additionally, from a technical standpoint, as Dr. Taghavi mentions, SLN mapping in WT would involve injection of the tumor, which would be considered tumor rupture, a factor that has been linked to tumor spill, treatment intensification, and worse

outcomes. The added morbidity and late effects from this treatment intensification cannot be underestimated.

As for complications after LN sampling, chyle leak is commonly mentioned in WT literature as a possibility after an extensive LN resection; however, it is actually quite rare (incidence 0.2%–4%, similar to pancreatic injury in a WT nephrectomy), and it can even occur in cases where LN sampling is not done [3,4]. Additionally, from the adult urologic oncology literature, with very extended, templated, postchemotherapy LN dissection for advanced testicular cancer, chylous ascites is a rare occurrence (5%–7%) [5], with few patients needing anything more than percutaneous drainage and a fat-limited diet while it resolves. With meticulous surgical technique including control of lymphatic channels with clips or suture ligation, this risk can be minimized.

We appreciate this letter from Dr. Taghavi and hope that standardization of surgical LN management in WT will allow us to more rigorously study this issue in the future.

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