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EVALUATION OF THE UTILITY OF LYMPH-VASCULAR INVASION AS AN INDEPENDENT PROGNOSTIC PREDICTOR OF OVERALL SURVIVAL FOR PATIENTS WITH RENAL CELL CARCINOMA THAT UNDERGO NEPHRECTOMY

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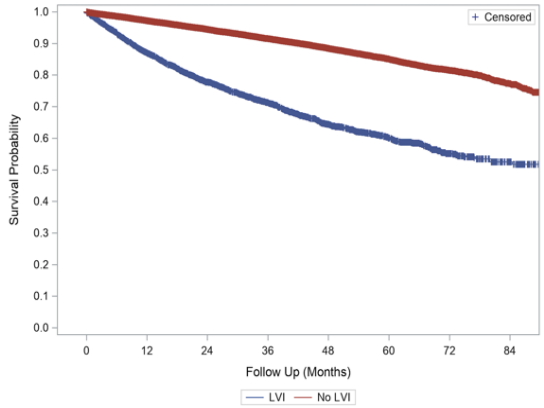
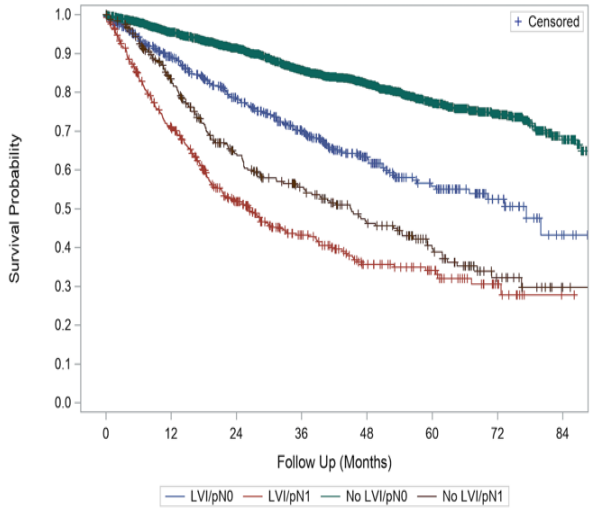
Lymph-vascular invasion(LVI) is recognized as an adverse pathological feature in patients with renal cell carcinoma RCC) patients. Its impact on overall survival (OS) is not clear, and scarcely addressed in literature. Our aim was to assess the prognostic ability of LVI as a predictor of OS in RCC patients using a large, North American cohort.

We included 45,036 cM0 RCC patients from 2010-2015 who underwent partial or radial nephrectomy within the NCDB. Kaplan-Meier curves and log-rank test compared survival curves. Cox regression analysis tested the relationship between LVI and OS.

Median age was 60. Most patients had pT1 stage(70.0%), and 7.7% had LVI(LVI_1). Nodal status was pN0(14.0%), pN1(3.7%), and pNx(82.3%). Median follow-up was 38 months. At 5-years, OS was 59.8% in LVI_1 patients vs 85.1% in LVI_0 patients($p<.0001$). When stratifying by stage, these rates were 55.8% vs. 77.2% in pN0 patients($p<0.0001$), and 34.1% vs 39.7% in pN1 patients($p<0.0001$). LVI was associated with increased mortality risk([HR]:1.53, (95%CI:1.36-1.71,$p<.001$).

Our findings highlight the detrimental impact of LVI on OS, a novel validation of the prognostic ability of LVI in RCC patients in a nationwide cohort. We observed a synergistic impact for LVI in the presence of pN1. These patients fare worse than those who have pN1 disease without LVI. Our findings highlight an important utility that LVI can provide in deciding a patient's prognosis after nephrectomy, and further exploration should examine exactly what its role may become.




Censored
Survival Probability
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0
12
24
36
48
60
72
84
Follow Up (Months)
LVI/pN0
LVI/pN1
No LVI/pN0
No LVI/pN1