Table S1 Univariable logistic regression analysis of predictors of lymph node metastasis

	OR	95%CI	P-value
Gender (Female vs Male)	1.65	0.87-3.16	0.13
Age	0.96	0.94-0.99	<0.001
ECOG PS (1 vs 0)	2.12	1.09-4.11	0.03
Complaint			
Medical examination	-	-	Ref.
Lumbago	3.01	1.3-6.98	0.01
Hematuria	1.7	0.69-4.17	0.25
Others	4.41	1.69-11.5	<0.001
Symptoms			
None	-	-	Ref.
Local symptoms	2.55	1.24-5.22	0.01
Systemic symptoms	4.59	1.76-11.94	<0.001
History of tumor (Yes vs No)	2.59	0.51-13.24	0.25
History of smoking and drinking (Yes vs No)	0.78	0.38-1.61	0.5
History of abdominal surgery (Yes vs No)	1.06	0.43-2.6	0.9
aCCI (Age-adjusted Charlson comorbidity index)			
0	-	-	Ref.
1	0	0-Inf	0.99
2	0	0-Inf	0.99
3	0	0-1.18577408426107e^{304}	0.99
4	0.04	0-1.95148571749518e^{180}	0.99
5	0.21	0-2.03676787983067e^{81}	0.99
6	0.43	0-2.25477210041344e^{24}	0.98
aCCI grade			
Low (0-1)	-	-	Ref.
Middle (2-3)	0.75	0.35-1.63	0.47
High (⩾4)	1.33	0.7-2.54	0.39
Tumor side (Right vs Left)	0.57	0.3-1.09	0.09
Tumor size	1	0.99-1.01	0.71
Tumor size grade			
⩽7	-	-	Ref.
>7 and ⩽10	1.33	0.77-2.3	0.3
> 10	1.42	0.75-2.68	0.28
Exophytic or endophytic property			
50% or more exophytic	-	-	Ref.
Less than 50% exophytic	0.93	0.41-2.12	0.87
Entirely endophytic	3.03	0.82-11.26	0.1
Renal collecting system under pressure (Yes vs No)	2.96	0.84-10.4	0.09

Renal hilum invasion (Yes vs No)	1.91	0.94-3.91	0.07
Tumor morphology (Irregular vs Round)	4.64	2.1-10.24	<0.001
Pseudocapsule (Yes vs No)	0.14	0.07-0.3	<0.001
Tumor necrosis (Yes vs No)	2.8	1.02-7.65	0.04
Venous tumor thrombus			
No	-	-	Ref.
Renal vein	1.68	0.71-3.97	0.24
Vena cava	0	0-Inf	0.99
Lymph node status by pre-operative imaging			
Negative	-	-	Ref.
Enlarged and increased	3.31	1.22-9.01	0.02
Metastasis	70.83	22.22-225.8	<0.001
Lymph node size	1.23	1.16-1.31	<0.001
Lymph node size category by pre-operative imaging			
⩽10	-	-	Ref.
10-20	42.56	13.69-132.27	<0.001
> 20	0.99	0.43-2.3	0.98
Lymph node fusion (Yes vs No)	67	8.65-518.88	<0.001
Distant metastasis (cM1 vs cM0)	3.59	1.53-8.39	<0.001
Neutrophil	1.06	0.88-1.26	0.56
Neutrophil category (Abnormal vs Normal)	1.11	0.43-2.86	0.83
Lymphocyte	0.81	0.43-1.54	0.52
Lymphocyte category (Abnormal vs Normal)	0.89	0.37-2.15	0.8
NLR	1.03	0.88-1.2	0.72
Hemoglobin	0.99	0.98-1	0.21
Anemia (Yes vs No)	1.35	0.72-2.53	0.36
Platelet	1	1-1	0.23
Abnormal platelet (Abnormal vs Normal)	0.8	0.35-1.84	0.6
Fibrinogen	1.08	0.93-1.25	0.3
Abnormal fibrinogen (Abnormal vs Normal)	1.7	0.88-3.28	0.12
D-dimer	1.17	0.96-1.43	0.12
D-dimer (High vs Normal)	2.49	1.28-4.84	0.01
Clotting time (Prolonged vs Normal)	1.29	0.66-2.52	0.46
Albumin	0.95	0.89-1.02	0.14
Albumin (Low vs Normal)	1.28	0.61-2.67	0.51
Globulin	1.02	0.98-1.06	0.35
Globulin (High vs Normal)	1.75	0.91-3.39	0.09

AGR	0.53	0.22-1.28	0.16
AGR (<1.5 vs Normal)	1.6	0.73-3.51	0.24
ALP	1	0.99-1.01	0.71
ALP (High vs Normal)	0.36	0.08-1.66	0.19
LDH	1	1-1	0.46
LDH (High vs Normal)	3.19	1.48-6.87	<0.001
Calcium	3.11	0.6-16	0.17
Calcium (High vs Normal)	1.6	0.65-3.91	0.3
Creatinine	1	0.99-1.01	0.86
Creatine (High vs Normal)	1.09	0.46-2.55	0.85
eGFR	1.01	1-1.02	0.23
Urine HBC	1	1-1	0.2
Urine occult blood (Yes vs No)	3.09	1.61-5.93	<0.001
Urine WBC	1	1-1	0.21
Urinary tract infection (Yes vs No)	2.37	1.23-4.57	0.01
Urine protein	3.53	1.74-7.18	<0.001
Clinical T category			
cT1	-	-	Ref.
cT2	7.21	3.21-16.21	<0.001
cT3	1.56	0.69-3.52	0.28
cT4	0.38	0.17-0.85	0.02
cT1-2 vs cT3-4	4.13	2.5-6.82	<0.001

*Starting from “tumor size” to “venous tumor thrombus”, all the factors were collected from pre-operative imaging.