

Supplemental Table 1. Two variable models for predicting pT3a with foundation of ITSB.

Variables (1+2)**	C-index (95% CI)	OR for ITSB (variable 1) (95% CI)	OR for variable 2 (95% CI)
ITSB + Perinephric stranding	0.81 (0.78-0.84)	14.25 (10.17-20.92)	4.99 (2.19-13.26)
ITSB + Enhancing nodule	0.8 (0.77-0.83)	15.06 (11-21.23)	4.72 (1.28-7093.96)
ITSB + Perinephric irregularity	0.82 (0.79-0.85)	12.26 (8.89-17.38)	3.65 (2.12-6.47)
ITSB + Collateral vessel	0.81 (0.78-0.84)	12.56 (8.83-17.64)	4.84 (2.61-10.18)
ITSB + Collecting system invasion	0.8 (0.77-0.83)	13.47 (9.36-19.56)	2.07 (1.22-3.55)
ITSB + Renal branch vein involvement	0.81 (0.78-0.84)	12.65 (9.31-18)	6.6 (3.21-18.13)
ITSB + Necrosis	0.81 (0.78-0.84)	12.99 (9.42-18.4)	1.92 (1.23-2.94)
ITSB + Infiltrative features	0.81 (0.77-0.83)	13.67 (9.59-18.8)	4.63 (2.24-12.24)
ITSB + Tumor size in cm (≤ 7 or >7)	0.82 (0.79-0.85)	10.57 (7.74-15.47)	3.22 (2.18-4.97)
ITSB + Tumor size in cm (≤ 4, 4 to ≤ 7, 7 to ≤ 10, or >10)	0.83 (0.8-0.86)		

Abbreviations: CI = confidence interval; ITSB = irregular tumor sinus border; OR = odds ratio

**95% CI for C-index and OR are based on 1000 bootstrap resampling.

Supplemental Table 2. Multivariable models (3 variable) for predicting pT3a with foundation of ITSB and tumor size.

Variables (1+2+3)	C-index (95% CI)	OR for ITSB (95% CI)	OR for Tumor size 4 to ≤7 cm* (95% CI)	OR for Tumor size 7 to ≤10 cm** (95% CI)	OR for Tumor size >10 cm*** (95% CI)	OR for variable 3 (95% CI)
ITSB + tumor size + perinephric stranding	0.83 (0.8-0.86)	9.59 (6.55-14.8)	1.31 (0.84-2.02)	2.88 (1.71-5.23)	4.97 (2.34-12.18)	2.92 (1.17-8.12)
ITSB + tumor size + enhancing nodule	0.83 (0.8-0.86)	9.48 (6.55-14.5)	1.35 (0.88-2.1)	3.25 (1.83-5.65)	5.87 (2.87-13.3)	2.58 (0.76-4.28)
ITSB + tumor size + perinephric irregularity	0.84 (0.81-0.86)	8.99 (6.23-13.87)	1.31 (0.86-1.96)	2.52 (1.33-4.79)	4.56 (2.12-10.06)	2.38 (1.25-4.37)
ITSB + tumor size + collateral vessels	0.83 (0.8-0.86)	8.93 (6.01-13.46)	1.34 (0.87-2.05)	2.7 (1.5-4.76)	4.66 (1.96-11.1)	2.96 (1.48-6.51)
ITSB + tumor size + collecting system invasion	0.83 (0.8-0.86)	8.76 (5.65-13.42)	1.37 (0.88-2.04)	3.21 (1.83-5.88)	5.88 (2.79-13.3)	1.64 (0.93-2.96)
ITSB + tumor size + branch vein involvement	0.83 (0.8-0.86)	8.45 (5.79-12.75)	1.27 (0.82-1.91)	2.76 (1.5-4.73)	5.63 (2.67-12.79)	5.29 (2.58-15.21)
ITSB + tumor size + necrosis	0.83 (0.8-0.86)	9.63 (6.67-14.35)	1.36 (0.87-2.09)	3.27 (1.7-6.06)	6.48 (2.87-14.71)	1 (0.58-1.59)
ITSB + tumor size + infiltrative features	0.83 (0.8-0.86)	8.85 (5.86-13.05)	1.34 (0.88-2.05)	3.04 (1.69-5.67)	5.34 (2.45-11.96)	3.54 (1.62-9.71)
ITSB + tumor size	0.83 (0.8-0.86)					

95% CI for C-index and OR are based on 1000 bootstrap resampling.

Abbreviations: CI = confidence interval; ITSB = Irregular tumor sinus border; OR = odds ratio

*OR is comparison of tumor size 4 to ≤7cm versus <4cm.

**OR is comparison of tumor size 7 to ≤10cm versus <4cm.

***OR is comparison of tumor size >10cm versus <4cm.