

Table D5: Outcomes Table for KQs 1 and 2

Author, year	Arm(name)	N for analysis	Profile definition(units)	Predict malignancy condition (% Malignancy)	Predict benign condition (% Benign)	Select the Analysis-Model	Unadjusted result		Fully adjusted result
Akdogan, 2012 ¹	Overall(Overall)	450	Age(NR)	NR(NR)	N(NR)	Logistic regression	P: 0.217		OR: 0.97 95%CI: 0.58-1.62 P: 0.917
Akdogan, 2012 ¹	Overall(Overall)	450	Women vs Men(NR)	NR(NR)	Y(28.2)	Logistic regression	P: <.001		OR: 3.26 95%CI: 1.93-5.51 P: <0.001
Akdogan, 2012 ¹	Overall(Overall)	450	Cystic vs Solid tumor(NR)	NR(NR)	Y(30.2)	Logistic regression	P: 0.022		OR: 2.41 95%CI: 1.23-4.7 P: 0.01
Akdogan, 2012 ¹	Overall(Overall)	450	Tumor size(NR)	NR(NR)	Y(NR)	Logistic regression	P: <.001		OR: 1.96 95%CI: 1.03-3.7 P: 0.39
Antonelli, 2014 ²	Overall(Overall II)	506	Sex Main Effect(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 2.59 95%CI: 1.66-4.03 P: <0.001		OR: 2.67 95%CI: 1.7-4.21 P: <0.001
Antonelli, 2014 ²	Overall(Overall II)	506	Age Main Effect(years)	Yes(NR)	NR(NR)	Logistic regression	OR: 0.96 95%CI: 0.77-1.2 P: 0.71		OR: 0.9 95%CI: 0.66-1.24 P: 0.52
Antonelli, 2014 ²	Overall(Overall II)	506	Sex-Age Interaction(NA)	Yes(NR)	NR(NR)	Logistic regression	NR		OR: 1.1 95%CI: 0.69-1.75 P: 0.693
Antonelli, 2014 ²	Overall(Overall II)	506	E Score 1 vs 3(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 0.46 95%CI: 0.15-1.35		OR: 0.5 95%CI: 0.15-1.61
Antonelli, 2014 ²	Overall(Overall II)	506	E Score 2 vs 3(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 0.67 95%CI: 0.22-2.04		OR: 0.71 95%CI: 0.22-2.3
Antonelli, 2014 ²	Overall(Overall II)	506	N Score 2 vs 1(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 1.81 95%CI: -5.94		OR: 1.89 95%CI: 0.63-5.68

Author, year	Arm(name)	N for analysis	Profile definition(units)	Predict malignancy condition (% Malignancy)	Predict benign condition (% Benign)	Select the Analysis-Model	Unadjusted result		Fully adjusted result
Antonelli, 2014 ²	Overall(Overa II)	506	N Score 3 vs 1(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 1.95 95%CI: 0.93-4.07	95%CI:	OR: 2.52 95%CI: 0.94-6.77
Antonelli, 2014 ²	Overall(Overa II)	506	L Score 1 vs 2(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 0.53 95%CI: 0.32-0.87	95%CI:	OR: 0.56 95%CI: 0.33-0.93
Antonelli, 2014 ²	Overall(Overa II)	506	L Score 3 vs 2(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 0.61 95%CI: 0.30-1.25	95%CI:	OR: 0.58 95%CI: 0.28-1.23
Antonelli, 2014 ²	Overall(Overa II)	506	H Score Present vs Absent(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 0.49 95%CI: 0.14-1.66 P: 0.271	95%CI: P:	OR: 0.15 95%CI: 0.03-0.74 P: 0.024
Antonelli, 2014 ²	Overall(Overa II)	506	Nephrometry Score AUC(AUC)	Yes(AUC 0.57 (0.51-0.63), p=0.031)	NR(NR)	Logistic regression	OR: 0.49 95%CI: 0.14-1.66 P: 0.271	95%CI: P:	OR: 0.15 95%CI: 0.03-0.74 P: 0.024
Antonelli, 2014 ²	Overall(Overa II)	506	Grade Prediction/Concordance(Concordance)	Yes(NR)	NR(NR)	Logistic regression	OR: 0.49 95%CI: 0.14-1.66 P: 0.271	95%CI: P:	OR: 0.15 95%CI: 0.03-0.74 P: 0.024
Antonelli, 2014 ²	Overall(Overa II)	506	Sex Main Effect(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 2.59 95%CI: 1.66-4.03 P: <0.001	95%CI: P:	OR: 2.67 95%CI: 1.7-4.21 P: <0.001
Antonelli, 2014 ²	Overall(Overa II)	506	Age Main Effect(years)	Yes(NR)	NR(NR)	Logistic regression	OR: 0.96 95%CI: 0.77-1.2 P: 0.71	95%CI: P:	OR: 0.9 95%CI: 0.66-1.24 P: 0.52
Antonelli, 2014 ²	Overall(Overa II)	506	Sex-Age Interaction(NA)	Yes(NR)	NR(NR)	Logistic regression	NR		OR: 1.1 95%CI: 0.69-1.75 P: 0.693
Antonelli, 2014 ²	Overall(Overa II)	506	E Score 1 vs 3(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 0.46 95%CI: 0.15-1.35	95%CI:	OR: 0.5 95%CI: 0.15-1.61
Antonelli, 2014 ²	Overall(Overa II)	506	E Score 2 vs 3(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 0.67 95%CI: 0.22-2.04	95%CI:	OR: 0.71 95%CI: 0.22-2.3

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Antonelli, 2014 ²	Overall(Overa ll)	506	N Score 2 vs 1(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 1.81 95%CI: -5.94	OR: 1.89 95%CI: 0.63-5.68
Antonelli, 2014 ²	Overall(Overa ll)	506	N Score 3 vs 1(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 1.95 95%CI: 0.93-4.07	OR: 2.52 95%CI: 0.94-6.77
Antonelli, 2014 ²	Overall(Overa ll)	506	L Score 1 vs 2(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 0.53 95%CI: 0.32-0.87	OR: 0.56 95%CI: 0.33-0.93
Antonelli, 2014 ²	Overall(Overa ll)	506	L Score 3 vs 2(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 0.61 95%CI: 0.30-1.25	OR: 0.58 95%CI: 0.28-1.23
Antonelli, 2014 ²	Overall(Overa ll)	506	H Score Present vs Absent(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 0.49 95%CI: 0.14-1.66	OR: 0.15 95%CI: 0.03-0.74
Bazzi, 2014 ³	Overall(Overa ll)	1726	Age at surgery(years)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 0.99 95%CI: 0.98-1 P: 0.14
Bazzi, 2014 ³	Overall(Overa ll)	1726	Race-African american vs Caucasian(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.02 95%CI: .55-1.87 P: 0.96
Bazzi, 2014 ³	Overall(Overa ll)	1726	Race-Other vs Caucasian(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 0.95 95%CI: .54-1.68 P: 0.86
Bazzi, 2014 ³	Overall(Overa ll)	1726	Tumor Size(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.4 95%CI: 1.20-1.62 P: <0.01
Bazzi, 2014 ³	Overall(Overa ll)	1726	Creatinine(mg/dl)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.07 95%CI: .73-1.55 P: 0.74
Bazzi, 2014 ³	Overall(Overa ll)	1726	Gender-Female vs male(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 0.44 95%CI: .34-0.58 P: <0.01

Author, year	Arm(name)	N for analysis	Profile definition(units)	Predict malignancy condition (% Malignancy)	Predict benign condition (% Benign)	Select the Analysis-Model	Unadjusted result	Fully adjusted result
Bazzi, 2014 ³	Overall(Overall)	1726	ASA class-III-IV vs I-II(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.37 95%CI: 1.04-1.8 P: 0.02
Bazzi, 2014 ³	Overall(Female Only)	681	Age at surgery(years)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.01 95%CI: 0.99-1.02 P: 0.35
Bazzi, 2014 ³	Overall(Female Only)	681	Race-African american vs Caucasian(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.17 95%CI: 0.54-2.55 P: 0.69
Bazzi, 2014 ³	Overall(Female Only)	681	Race-Other vs Caucasian(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 0.92 95%CI: 0.43-1.99 P: 0.84
Bazzi, 2014 ³	Overall(Female Only)	681	ASA class-III-IV vs I-II(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.57 95%CI: 1.07-2.32 P: 0.02
Bazzi, 2014 ³	Overall(Female Only)	681	Tumor Size(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.46 95%CI: 1.19-1.79 P: <0.01
Bazzi, 2014 ³	Overall(Female Only)	681	Creatinine(mg/dl)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.15 95%CI: 0.67-2 P: 0.31
Bazzi, 2014 ³	Overall(Male Only)	1045	Age at surgery(years)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 0.97 95%CI: 0.95-0.99 P: <0.01
Bazzi, 2014 ³	Overall(Male Only)	1045	Race-African american vs Caucasian(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 0.79 95%CI: 0.30-2.1 P: 0.64
Bazzi, 2014 ³	Overall(Male Only)	1045	Race-Other vs Caucasian(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.09 95%CI: 0.45-2.62 P: 0.85

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Bazzi, 2014 ³	Overall(Male Only)	1045	ASA class-III-IV vs I-II(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.16 95%CI: 0.78-1.71 P: 0.46
Bazzi, 2014 ³	Overall(Male Only)	1045	Tumor Size(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.33 95%CI: 1.06-1.67 P: 0.01
Bazzi, 2014 ³	Overall(Male Only)	1045	Creatinine(mg/dl)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.01 95%CI: 0.6-1.72 P: 0.96
Bazzi, 2014 ³	Overall(Overall)	1726	Age at surgery(years)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 0.99 95%CI: 0.98-1 P: 0.14
Bazzi, 2014 ³	Overall(Overall)	1726	Race-African american vs Caucasian(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.02 95%CI: .55-1.87 P: 0.96
Bazzi, 2014 ³	Overall(Overall)	1726	Race-Other vs Caucasian(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 0.95 95%CI: .54-1.68 P: 0.86
Bazzi, 2014 ³	Overall(Overall)	1726	Creatinine(mg/dl)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.07 95%CI: .73-1.55 P: 0.74
Bazzi, 2014 ³	Overall(Overall)	1726	Gender-Female vs male(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 0.44 95%CI: .34-0.58 P: <0.01
Bazzi, 2014 ³	Overall(Overall)	1726	ASA class-III-IV vs I-II(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.37 95%CI: 1.04-1.8 P: 0.02
Bazzi, 2014 ³	Overall(Female Only)	1726	Age at surgery(years)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.01 95%CI: 0.99-1.02 P: 0.35

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Bazzi, 2014 ³	Overall(Female Only)	1726	Race-African american vs Caucasian(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.17 95%CI: 0.54-2.55 P: 0.69
Bazzi, 2014 ³	Overall(Female Only)	1726	Race-Other vs Caucasian(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 0.92 95%CI: 0.43-1.99 P: 0.84
Bazzi, 2014 ³	Overall(Female Only)	1726	ASA class-III-IV vs I-II(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.57 95%CI: 1.07-2.32 P: 0.02
Bazzi, 2014 ³	Overall(Female Only)	1726	Creatinine(mg/dl)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.15 95%CI: 0.67-2 P: 0.31
Bazzi, 2014 ³	Overall(Male Only)	1726	Age at surgery(years)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 0.97 95%CI: 0.95-0.99 P: <0.01
Bazzi, 2014 ³	Overall(Male Only)	1726	Race-African american vs Caucasian(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 0.79 95%CI: 0.30-2.1 P: 0.64
Bazzi, 2014 ³	Overall(Male Only)	1726	Race-Other vs Caucasian(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.09 95%CI: 0.45-2.62 P: 0.85
Bazzi, 2014 ³	Overall(Male Only)	1726	ASA class-III-IV vs I-II(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.16 95%CI: 0.78-1.71 P: 0.46
Bazzi, 2014 ³	Overall(Male Only)	1726	Creatinine(mg/dl)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.01 95%CI: 0.6-1.72 P: 0.96
Choi, 2012 ⁵	Overall(Overall)	84	Sex(NA)	Y(NR)	Y(NR)	Logistic regression	NR	P: 0.017
Choi, 2012 ⁵	Overall(Overall)	84	Enhancement pattern(NA)	Y(NR)	Y(NR)	Logistic regression	NR	P: 0.055

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Choi, 2012 ⁵	Overall(Overall)	84	HU CMP(NA)	Y(NR)	Y(NR)	Logistic regression	NR	P: 0.021
Choi, 2012 ⁵	Overall(Overall)	84	HU NP(NA)	Y(NR)	Y(NR)	Logistic regression	NR	P: 0.519
Chung, 2014 ⁶	Overall(Overall)	111	MRI: tumor to kidney signal intensity ratio >1.09NR	Y(98)	(1.9)	NR	NR	NR
Fujita, 2013 ⁸	Overall(Overall)		AgeNR	NR	NR	NR	NR	OR: 0.943 RD: 95%CI: 0.891-0.998 P: 0.0356
Fujita, 2013 ⁸	Overall(Overall)		GenderNR	NR	NR	NR	NR	OR: 0.188 RD: 95%CI: 0.045-0.793 P: 0.0183
Fujita, 2013 ⁸	Overall(Overall)		Tumor sizeNR	NR	NR	NR	NR	OR: 0.529 RD: 95%CI: 0.196-1.428 P: 0.2042
Fujita, 2013 ⁸	Overall(Overall)		Tumor sitesNR	NR	NR		NR	OR: 3.027 RD: 95%CI: 0.668-13.711 P: 0.1321
Fujita, 2013 ⁸	Overall(Overall)	NR	PresentationNR	NR	NR	NR	NR	OR: 0.314 RD: 95%CI: 0.027-3.661 P: 0.3133
Fujita, 2013 ⁸	Overall(Overall)	NR	Exophytic on imagingNR	NR	NR	NR	NR	OR: 0.033 RD: 95%CI: 0.049-0.944 P: 0.216

Author, year	Arm(name)	N for analysis	Profile definition(units)	Predict malignancy condition (% Malignancy)	Predict benign condition (% Benign)	Select the Analysis-Model	Unadjusted result	Fully adjusted result
Jeon, 2010 ¹¹	Overall(Overall)	376	Sex(Male vs Female)(NR)	NR	NR	Logistic regression	OR: 4.57 95%CI: 2.72-7.67 P: <.001	OR: 4.91 95%CI: 2.76-8.75 P: <.001
Jeon, 2010 ¹¹	Overall(Overall)	376	Age(NR)	NR	NR	Logistic regression	OR: 0.96 95%CI: 0.95-0.98 P: 0.001	OR: 0.97 95%CI: 0.95-0.99 P: 0.009
Jeon, 2010 ¹¹	Overall(Overall)	376	BMI:23-25 vs. <23(NR)	NR	NR	Logistic regression	OR: 0.72 95%CI: 0.38-1.35 P: 0.309	OR: 1.19 95%CI: 0.59-2.41 P: 0.611
Jeon, 2010 ¹¹	Overall(Overall)	376	BMI:>25 vs. <23(NR)	NR	NR	Logistic regression	OR: 0.46 95%CI: 0.25-0.85 P: 0.014	OR: 0.8 95%CI: 0.4-1.59 P: 0.538
Jeon, 2010 ¹¹	Overall(Overall)	376	Tumor size(NR)	NR	NR	Logistic regression	OR: 0.82 95%CI: 0.61-1.10 P: 0.193	OR: 0.84 95%CI: .59-1.17 P: 0.311
Kava, 2012 ¹²	Overall(Overall)	316	female gender(NR)	NR	NR	Logistic regression	NR	OR: 3.97 95%CI: 2.92-4.53 P: <.001
Kava, 2012 ¹²	Overall(Overall)	316	peripheral tumor location(NR)	NR	NR	Logistic regression	NR	OR: 2.27 95%CI: 1.73-3.21 P: 0.014
Kava, 2012 ¹²	Overall(Overall)	316	BMI(NR)	NR	NR	Logistic regression	NR	OR: 1.5 95%CI: 1.12-1.94 P: 0.015
Keehn, 2014 ¹³	Overall(Overall)	125	Ct or MRI for visceral fat (NA)	(NR)	NR	NR	NR	OR: 1.01 95%CI: 1-1.17 P: 0.017
Keehn, 2014 ¹³	Overall(Overall)	125	Ct or MRI for subcutaneous fat(NA)	(NR)	NR	NR	NR	OR: 1 95%CI: 0.99-1.01 P: 0.59

Author, year	Arm(name)	N for analysis	Profile definition(units)	Predict malignancy condition (% Malignancy)	Predict benign condition (% Benign)	Select the Analysis-Model	Unadjusted result	Fully adjusted result
Keehn, 2014 ¹³	Overall(Overall)	125	Race-African American(NA)	(NR)	NR	NR	NR	OR: 2.49 95%CI: 0.65-9.58 P: 0.183
Keehn, 2014 ¹³	Overall(Overall)	125	Age(NA)	(NR)	NR	NR	NR	OR: 1.03 95%CI: 0.95-1.12 P: 0.461
Keehn, 2014 ¹³	Overall(Overall)	125	Sex(NA)	(NR)	NR	NR	NR	OR: 2.22 95%CI: 0.44-11.15 P: 0.332
Keehn, 2014 ¹³	Overall(Overall)	125	BMI(NA)	(NR)	NR	NR	NR	OR: 1.02 95%CI: 0.82-1.28 P: 0.851
Koo, 2013 ¹⁴	Arm 1(cT1)	1129	Renal nephrometry scores includes diameter of tumor, nearness of tumor to collecting system or sinus, location relative to the polar lines and presence of an abutting renal artery or veinNR	Y(0.722 (95% CI: 0.669-0.774))	Y(0.574 (95% CI: 0.537-0.6121))	NR	NR	NR
Koo, 2013 ¹⁴	Arm 2(cT1a)	754	Renal nephrometry scores includes diameter of tumor, nearness of tumor to collecting system or sinus, location relative to the polar lines and presence of an abutting renal artery or veinNR	Y(0.727 (95% CI: 0.674-0.779))	Y(0.495 (95% CI: 0.448-0.542))	NR	NR	NR

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Lane, 2007 ¹⁵	Overall(Overa II)	851	Age(years)	Yes(NR)	Yes(NR)	Logistic regression	NR	P: <0.0001
Lane, 2007 ¹⁵	Overall(Overa II)	851	Sex(NA)	Yes(NR)	Yes(NR)	Logistic regression	NR	P: <0.0001
Lane, 2007 ¹⁵	Overall(Overa II)	851	age/sex interaction(NA)	Yes(NR)	Yes(NR)	Logistic regression	NR	P: <0.0001
Lane, 2007 ¹⁵	Overall(Overa II)	851	CT estimated size(NA)	Yes(NR)	Yes(NR)	Logistic regression	NR	P: 0.0002
Lane, 2007 ¹⁵	Overall(Overa II)	851	smoking history(NA)	Yes(NR)	Yes(NR)	Logistic regression	NR	P: 0.0277
Lane, 2007 ¹⁵	Overall(Overa II)	851	clinical presentation(NA)	Yes(NR)	Yes(NR)	Logistic regression	NR	P: 0.9891
Leonard, 2013 ⁴²	Overall(Overa I)		Scottish Index of Multiple Deprivations include scores on incomr, employment, health, education, skills, training, geographic access and housingNR	NR	NR	NR	NR	NR
Leveridge, 2011 ¹⁶	Overall(Overa I)		Tumor sizeNR	NR	NR	NR	NR	OR: 3.11 RD: 95%CI: 1.54-6.28 P: 0.002
Leveridge, 2011 ¹⁶	Overall(Overa I)		Tumor typeNR	NR	NR	NR	NR	OR: 13.9 RD: 95%CI: 3.78-50.7 P: <0.0001
Leveridge, 2011 ¹⁶	Overall(Overa I)		image guidance (US vs CT or US plus CTNR	NR	NR	NR	NR	OR: 1.48 RD: 95%CI: 0.54-4.09 P: 0.45
Leveridge, 2011 ¹⁶	Overall(Overa I)		Tumor locationNR	NR	NR	NR	NR	OR: 0.78 RD: 95%CI:

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								0.24-2.47 P: 0.91
Leveridge, 2011 ¹⁶	Overall(Overall)		Upper vs lower poleNR	NR	NR	NR	NR	OR: 0.91 RD: 95%CI: 0.25-3.32
Leveridge, 2011 ¹⁶	Overall(Overall)		Between benign, malignant and nondiagnostic histologyNR	NR	NR	NR	NR	NR
Leveridge, 2011 ¹⁶	Overall(Overall)		between RCC subtypesNR	NR	NR	NR	NR	NR
Mullins, 2012 ²⁰	Overall(cT1)	873	Male GenderNR	NR	NR	NR	NR	OR: 4.28 RD: 95%CI: 2.41-7.23 P: p<0.001
Mullins, 2012 ²⁰	Overall(cT1)	873	Intermediate RENAL scoreNR	NR	NR	NR	NR	OR: 2.79 RD: 95%CI: 1.48-5.27 P: 0.026
Mullins, 2012 ²⁰	Overall(cT1)	873	High RENAL scoreNR	NR	NR	NR	NR	OR: 11.62 RD: 95%CI: 1.80-74.92 P: 0.01
Mullins, 2012 ²⁰	Overall(cT1a)	694	Intermediate RENAL scoreNR	NR	NR	NR	NR	OR: 2.59 RD: 95%CI: 1.26-5.29 P: 0.009
Mullins, 2012 ²⁰	Overall(cT1a)	694	Male GenderNR	NR	NR	NR	NR	OR: 3.61 RD: 95%CI: 1.99-6.54 P: p<0.001
Murphy, 2009 ²¹	Overall(Overall)	775	Age(NR)	NR	NR	Logistic regression	OR: 1 95%CI: 0.98-1.02 P: 0.999	OR: 0.99 95%CI:

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								0.98-1.01 P: 0.464
Murphy, 2009 ²¹	Overall(Overall)	775	Sex(NR)	NR	NR	Logistic regression	OR: 0.45 95%CI: 0.3-0.68 P: <0.001	OR: 0.42 95%CI: 0.27-0.65 P: <0.001
Murphy, 2009 ²¹	Overall(Overall)	775	Race(NR)	NR	NR	Logistic regression	OR: 1.19 95%CI: 0.74-1.98 P: 0.497	OR: 1.44 95%CI: 0.87-2.47 P: 0.165
Murphy, 2009 ²¹	Overall(Overall)	775	Obesity(NR)	NR	NR	Logistic regression	OR: 3 95%CI: 1.36-7.21 P: 0.001	OR: 2.35 95%CI: 1.01-5.83 P: 0.054
Nishikawa, 2014 ²³	Overall(Overall II)	144	Age(<60 vs.>60)(years)	Yes(NR)	Yes(NR)	Logistic regression	NR	HR: 2.86 P: 0.054
Nishikawa, 2014 ²³	Overall(Overall II)	144	Gender(male vs. female)(NA)	Yes(NR)	Yes(NR)	Logistic regression	NR	HR: 2.62 P: 0.079
Nishikawa, 2014 ²³	Overall(Overall II)	144	BMI (<25 vs. >=25)(kg/m ²)	Yes(NR)	Yes(NR)	Logistic regression	NR	HR: 2.78 P: 0.1
Nishikawa, 2014 ²³	Overall(Overall II)	144	Enhanced CT findings (group 1 vs. group 2)(NA)	Yes(NR)	Yes(NR)	Logistic regression	NR	HR: 4.19 P: <0.001
Nishikawa, 2014 ²³	Arm 1(Group 1(with an imaging pattern typical for CCRCC))	102	Age(<60 vs.>60)(years)	Yes(NR)	Yes(NR)	Logistic regression	NR	HR: 3.45 P: 0.094
Nishikawa, 2014 ²³	Arm 1(Group 1(with an imaging pattern typical for CCRCC))	102	Gender(male vs. female)(NA)	Yes(NR)	Yes(NR)	Logistic regression	NR	HR: 1.25 P: 0.51
Nishikawa, 2014 ²³	Arm 2(Group 2(with an imaging pattern atypical for CCRCC))	42	Age(<60 vs.>60)(years)	Yes(NR)	Yes(NR)	Logistic regression	NR	HR: 9.88 P: 0.013

Author, year	Arm(name)	N for analysis	Profile definition(units)	Predict malignancy condition (% Malignancy)	Predict benign condition (% Benign)	Select the Analysis-Model	Unadjusted result	Fully adjusted result
Nishikawa, 2014 ²³	Arm 2(Group 2(with an imaging pattern atypical for CCRCC))	42	BMI (<25 vs. >/=25)(kg/m2)	Yes(NR)	Yes(NR)	Logistic regression	NR	HR: 14.71 P: 0.021
Park, 2011 ²⁴	Overall(Overall)	1598	Age(NR)	Y(NR)	Y(NR)	Logistic regression	NR	OR: 0.994 95%CI: 0.98-1.01 P: 0.476
Park, 2011 ²⁴	Overall(Overall)	1598	female gender(NR)	Y(NR)	Y(NR)	Logistic regression	NR	OR: 3.899 95%CI: 2.62-5.81 P: <0.001
Park, 2011 ²⁴	Overall(Overall)	1598	tumor size(NR)	Y(NR)	Y(NR)	Logistic regression	NR	OR: 0.882 95%CI: 0.81-0.96 P: 0.002
Park, 2013 ²⁵	Overall(Overall)	59	AgeNR	NR	NR	NR	NR	OR: 1.04 RD: 95%CI: 0.98-1.11 P: 0.22
Park, 2013 ²⁵	Overall(Overall)	59	BMINR	NR	NR	NR	NR	OR: 1.05 RD: 95%CI: 0.85-1.30 P: 0.637
Park, 2013 ²⁵	Overall(Overall)	59	Size of massNR	NR	NR	NR	NR	OR: 3.32 RD: 95%CI: 1.02-10.8 P: 0.46
Park, 2013 ²⁵	Overall(Overall)	59	Upper pole massNR	NR	NR	NR	NR	OR: 4.25 RD: 95%CI: 1.07-16.8 P: 0.039
Park, 2013 ²⁵	Overall(Overall)	59	Cystic massNR	NR	NR	NR	NR	OR: 13.1 RD:

Author, year	Arm(name)	N for analysis	Profile definition(units)	Predict malignancy condition (% Malignancy)	Predict benign condition (% Benign)	Select the Analysis-Model	Unadjusted result	Fully adjusted result
								95%CI: 2.02-85.7 P: 0.007
Park, 2013 ²⁵	Overall(Overall)	59	Number of coresNR	NR	NR	NR	NR	OR: 2.52 RD: 95%CI: 1.17-5.43 P: 0.018
Park, 2013 ²⁵	Overall(Overall)	59	Biopsy distanceNR	NR	NR	NR	NR	OR: 1.01 RD: 95%CI: 0.59-1.74 P: 0.972
Park, 2013 ²⁵	Overall(Overall)		Between biopsy and surgical resultsNR	NR	NR	NR	NR	NR
Park, 2013 ²⁵	Overall(Overall)		RCC subtypeNR	NR	NR	NR	NR	NR
Rosenkratz, 2014 ²⁶	Overall(Overall)		AgeNR	N(NR)	NR	NR	NR0.061	NR
Rosenkratz, 2014 ²⁶	Overall(Overall)		Cystic or necroticNR	N(27.9)	(8.3)	NR	NR0.053	NR
Soga, 2012 ³⁰	Overall(Overall)	411	Age(<60 years vs. >=60 years)(NR)	NR	NR	Logistic regression	OR: 3.14 95%CI: 1.1-8.98	OR: 2.96 95%CI: 1-8.77 P: 0.051
Soga, 2012 ³⁰	Overall(Overall)	411	Sex(female vs. male)(NR)	NR	NR	Logistic regression	OR: 3.32 95%CI: 1.28-8.61	OR: 3.68 95%CI: 1.35-10.05 P: 0.011
Soga, 2012 ³⁰	Overall(Overall)	411	Tumor size(<2cm vs. >=2cm)(NR)	NR	NR	Logistic regression	OR: 6.15 95%CI: 2.33-16.16	OR: 4.84 95%CI: 1.59-14.73 P: 0.005
Xiong, 2010 ³⁴	Overall(Overall)	303	Gender(NR)	NR	NR	Logistic regression	NR	OR: 3.833 95%CI: 1.740-8.446 P: 0.001
Xiong, 2010 ³⁴	Overall(Overall)	303	Tumor size(NR)	NR	NR	Logistic regression	NR	OR: 2.563 95%CI:

Author, year	Arm(name)	N for analysis	Profile definition(units)	Predict malignancy condition (% Malignancy)	Predict benign condition (% Benign)	Select the Analysis-Model	Unadjusted result	Fully adjusted result
								1.180-5.565 P: 0.017
Shin, 2013 ³⁵	Overall(Overa ll)	NR	Age(NA)	Yes(NR)	NR	Logistic regression	NR	OR: 1.024 95%CI: 1.007-1.041 P: 0.006
Shin, 2013 ³⁵	Overall(Overa ll)	NR	Male sex(NA)	Yes(NR)	NR	Logistic regression	NR	OR: 5.806 95%CI: 3.769-9.064 P: <0.001
Shin, 2013 ³⁵	Overall(Overa ll)	NR	Tumor size(NA)	Yes(NR)	NR	Logistic regression	NR	OR: 1.382 95%CI: 1.144-1.670 P: 0.001
Shin, 2013 ³⁵	Overall(Overa ll)	NR	Longitudinal location(NA)	Yes(NR)	NR	Logistic regression	NR	OR: 0.962 95%CI: 0.626-1.480 P: 0.861
Shin, 2013 ³⁵	Overall(Overa ll)	NR	Exophytic rate <50% relative to Exophytic rate >/=50%(NA)	Yes(NR)	NR	Logistic regression	NR	OR: 1.522 95%CI: 0.925-2.504 P: 0.099
Shin, 2013 ³⁵	Overall(Overa ll)	NR	Endophytic rate relative to Exophytic rate >/=50%(NA)	Yes(NR)	NR	Logistic regression	NR	OR: 1.489 95%CI: 0.816-2.716 P: 0.195
Shin, 2013 ³⁵	Overall(Overa ll)	NR	Renal rim(NA)	Yes(NR)	NR	Logistic regression	NR	OR: 0.921 95%CI: 0.591-1.434 P: 0.715
Shin, 2013 ³⁵	Overall(Overa ll)	NR	Renal sinus or urinary collecting system(NA)	Yes(NR)	NR	Logistic regression	NR	OR: 1.819 95%CI: 0.964-3.434 P: 0.065
Shin, 2013 ³⁵	Overall(T1a)	NR	Age(NA)	Yes(NR)	NR	Logistic regression	NR	OR: 1.032 95%CI: 1.011-1.053 P: 0.003
Shin, 2013 ³⁵	Overall(T1a)	NR	Male sex(NA)	Yes(NR)	NR	Logistic regression	NR	OR: 7.446 95%CI:

Author, year	Arm(name)	N for analysis	Profile definition(units)	Predict malignancy condition (% Malignancy)	Predict benign condition (% Benign)	Select the Analysis-Model	Unadjusted result	Fully adjusted result
								4.440-12.487 P: <0.001
Shin, 2013 ³⁵	Overall(T1a)	NR	Tumor size(NA)	Yes(NR)	NR	Logistic regression	NR	OR: 2.285 95%CI: 1.666-3.135 P: <0.001
Shin, 2013 ³⁵	Overall(T1a)	NR	Longitudinal location(NA)	Yes(NR)	NR	Logistic regression	NR	OR: 0.965 95%CI: 0.589-1.583 P: 0.889
Shin, 2013 ³⁵	Overall(T1a)	NR	Exophytic rate <50% relative to Exophytic rate >/=50%(NA)	Yes(NR)	NR	Logistic regression	NR	OR: 1.846 95%CI: 1.070-3.432 P: 0.029
Shin, 2013 ³⁵	Overall(T1a)	NR	Endophytic rate relative to Exophytic rate >/=50%(NA)	Yes(NR)	NR	Logistic regression	NR	OR: 2.028 95%CI: 1.033-3.979 P: 0.04
Shin, 2013 ³⁵	Overall(T1a)	NR	Renal rim(NA)	Yes(NR)	NR	Logistic regression	NR	OR: 0.824 95%CI: 0.492-1.379 P: 0.461
Shin, 2013 ³⁵	Overall(T1a)	NR	Renal sinus or urinary collecting system(NA)	Yes(NR)	NR	Logistic regression	NR	OR: 1.547 95%CI: 0.655-3.655 P: 0.32
Ball, 2015 ³⁶	Overall(Overall)	1009	Tumor size(continuous)(cm)	Yes(NR)	NR	Logistic regression	NR	OR: 1.43 95%CI: 1.19-1.72 P: <0.0001
Ball, 2015 ³⁶	Overall(Overall)	1009	Tumor size(categorical) >/=3c with reference to <3cm(cm)	Yes(NR)	NR	Logistic regression	NR	OR: 1.56 95%CI: 1.11-2.2 P: 0.003
Ball, 2015 ³⁶	Overall(Overall)	1009	Sex(male relative to female)(NA)	Yes(NR)	NR	Logistic regression	NR	OR: 1.94 95%CI: 1.45-2.61 P: <0.0001

Author, year	Arm(name)	N for analysis	Profile definition(units)	Predict malignancy condition (% Malignancy)	Predict benign condition (% Benign)	Select the Analysis-Model	Unadjusted result	Fully adjusted result
Ball, 2015 ³⁶	Overall(Overall)	1009	Age(continuous)(years)	Yes(NR)	NR	Logistic regression	NR	OR: 0.99 95%CI: 0.98-1.01 P: 0.16

N=Number; OR=Odds Ratio; NR=Not reported; RD=Risk Difference; P=p value