

Table D6: Accuracy Data Table for KQs 1 and 2

Author, year	Imaging	N of Biopsies (Needle size)	N of surgeries	Benign	Malignant	Non diagnostic	N with Grade on Biopsy	Number Upgraded on Pathology (from 1-2 to 3-4)	Test Results
Campbell, 1997 ⁴	CTNA	25(22)	25	N benign biopsies: 6 N with Surgical Pathology: 6 N found Malignant: 6	N malignant biopsies: 10 N with Surgical Pathology: 10 N found Malignant: 10	N non diagnostic biopsies: 9 N with Surgical Pathology: 9 N found Malignant: 9	25	1	FP: 0 TP: 10 FN: 15 TN: 0
Chyhai, 2010 ⁷	Ultrasound	25(18 G)	21	N benign biopsies: 7 N with Surgical Pathology: 6 N found Malignant: 5	N malignant biopsies: 15 N with Surgical Pathology: 13 N found Malignant: 13	N non diagnostic biopsies: NR N with Surgical Pathology: NR N found Malignant: NR	NR	NR	NR
Halverson, 2013 ⁹	Other: specify C T or US	133(NR)	133	N benign biopsies: NA N with Surgical Pathology: NA N found Malignant: NA	N malignant biopsies: 133 N with Surgical Pathology: 133 N found Malignant: 133	N non diagnostic biopsies: NR N with Surgical Pathology: NR N found Malignant: NR	118	NR	FP: 0 TP: 133 FN: 0 TN: 0 Sn: 100 Sp: 100
Harisinghani, 2003 ¹⁰	CTNA	28(22-G and 18-G)	16	N benign biopsies: 11 N with Surgical Pathology: 0 N found Malignant: NA	N malignant biopsies: 17 N with Surgical Pathology: 16 N found Malignant: 16	N non diagnostic biopsies: NA N with Surgical Pathology: NA N found Malignant: NA	NR	NR	NR
Leveridge, 2011 ¹⁶	Other: specify U S, CT or MRI	345(17 G)	74	N benign biopsies: 57 N with Surgical Pathology: NR N found Malignant: NR	N malignant biopsies: 221 N with Surgical Pathology: NR N found Malignant: NR	N non diagnostic biopsies: 67 N with Surgical Pathology: 6 N found Malignant: 4	100	NR	NR

Author, year	Imaging	N of Biopsies (Needle size)	N of surgeries	Benign	Malignant	Non diagnostic	N with Grade on Biopsy	Number Upgraded on Pathology (from 1-2 to 3-4)	Test Results
Londono, 2013 ¹⁷	Other: specify C T or ultrasound guided	132(14Fr to 21Fr)	63	N benign biopsies: 38 N with Surgical Pathology: NR N found Malignant: NR	N malignant biopsies: 87 N with Surgical Pathology: NR N found Malignant: NR	N non diagnostic biopsies: 7 N with Surgical Pathology: NR N found Malignant: NR	NR	NR	Sn: 75.4 Sp: 100 PPV: 100 NPV: 11.7 Acc: 76
Londono, 2013 ¹⁷	Other: specify C T or ultrasound guided	60(14Fr to 21Fr)	25	N benign biopsies: 21 N with Surgical Pathology: 8 N found Malignant: 7	N malignant biopsies: 33 N with Surgical Pathology: 16 N found Malignant: 16	N non diagnostic biopsies: 6 N with Surgical Pathology: 1 N found Malignant: 1	NR	NR	Sn: 66.7 Sp: 100 PPV: 100 NPV: 11.1 Acc: 100
Londono, 2013 ¹⁷	Other: specify C T or ultrasound guided	72(14Fr to 21Fr)	38	N benign biopsies: 17 N with Surgical Pathology: 7 N found Malignant: 6	N malignant biopsies: 54 N with Surgical Pathology: 30 N found Malignant: 30	N non diagnostic biopsies: 1 N with Surgical Pathology: 1 N found Malignant: 1	NR	NR	Acc: 88.2
Menogue, 2012 ¹⁸	Other: specify ultrasound or CT guidance	268(18-G)	134 note: 125 with diagnostic biopsy	N benign biopsies: 56 N with Surgical Pathology: 6 N found Malignant: 6	N malignant biopsies: 158 N with Surgical Pathology: 114 N found Malignant: 114	N non diagnostic biopsies: 54 N with Surgical Pathology: 9 N found Malignant: 8	122	17	FP: 6 TP: 114 FN: 6 TN: 0 Sn: 95 Sp: 0 PPV: 95 NPV: 0 Acc: 100
Millet, 2012 ¹⁹	CTNA	187(17G)	61	N benign biopsies: NR N with Surgical Pathology: NR N found Malignant: NR	N malignant biopsies: 145 N with Surgical Pathology: 61	N non diagnostic biopsies: NR N with Surgical Pathology: NR N	61	11	NR

Author, year	Imaging	N of Biopsies (Needle size)	N of surgeries	Benign	Malignant	Non diagnostic	N with Grade on Biopsy	Number Upgraded on Pathology (from 1-2 to 3-4)	Test Results
					N found Malignant: 61	found Malignant: NR			
Neuzillet, 2003 ²²	CTNA	88(18-G)	62	N benign biopsies: 14 N with Surgical Pathology: 1 N found Malignant: 0	N malignant biopsies: 66 N with Surgical Pathology: 56 N found Malignant: 56	N non diagnostic biopsies: 8 N with Surgical Pathology: 5 N found Malignant: 5	52	8	NR
Park, 2013 ²⁵	Ultrasound	59(18 G)	13	N benign biopsies: 11 N with Surgical Pathology: NR N found Malignant: NR	N malignant biopsies: 37 N with Surgical Pathology: 11 N found Malignant: 11	N non diagnostic biopsies: 11 N with Surgical Pathology: 2 N found Malignant: 2	4	2	NR
Salem, 2012 ²⁷	CTNA	145(16-20 G)	94	N benign biopsies: 19 N with Surgical Pathology: 0 N found Malignant: 0	N malignant biopsies: 87 N with Surgical Pathology: 87 N found Malignant: 87	N non diagnostic biopsies: 19 N with Surgical Pathology: 6 N found Malignant: 6	47	NR	NR
Scanga, 2014 ⁴³	Other: specify U S or CT	154(21 or smaller for FNA and 20 or larger for CB)	37	N benign biopsies: 21 N with Surgical Pathology: 6 N found Malignant: 2	N malignant biopsies: 123 N with Surgical Pathology: 29 N found Malignant: 29	N non diagnostic biopsies: 32 N with Surgical Pathology: NR N found Malignant: NR	3	1	NR
Shannon, 2008 ²⁸	Other: specify C T or US	235(18G)	118	N benign biopsies: 46 N with Surgical Pathology: 8 N found Malignant: 0	N malignant biopsies: 138 N with Surgical Pathology: 100 N found Malignant: 100	N non diagnostic biopsies: 40 N with Surgical Pathology: 10 N found Malignant: 8	NR	NR	NR

Author, year	Imaging	N of Biopsies (Needle size)	N of surgeries	Benign	Malignant	Non diagnostic	N with Grade on Biopsy	Number Upgraded on Pathology (from 1-2 to 3-4)	Test Results
Sofikerim, 2009 ²⁹	Other: specify U S, CT or MRI	42(18 G)	42	N benign biopsies: 6 N with Surgical Pathology: 6 N found Malignant: 3	N malignant biopsies: 34 N with Surgical Pathology: 34 N found Malignant: 34	N non diagnostic biopsies: 2 N with Surgical Pathology: 2 N found Malignant: 2	34	18	NR
Vasudevan, 2006 ³¹	Other: specify either ultrasound or ct	100(16-G)	53	N benign biopsies: 23 N with Surgical Pathology: 4 N found Malignant: 0	N malignant biopsies: 47 N with Surgical Pathology: 44 N found Malignant: 44	N non diagnostic biopsies: 30 N with Surgical Pathology: 9 N found Malignant: 8	NR	NR	NR
Volpe, 2008 ³²	Other: specify either ultrasound or ct	100(17-G)	21	N benign biopsies: 18 N with Surgical Pathology: 0 N found Malignant: 0	N malignant biopsies: 66 N with Surgical Pathology: 20 N found Malignant: 20	N non diagnostic biopsies: 16 N with Surgical Pathology: 3 N found Malignant: 1	12	0	NR
Wang, 2009 ³³	Other: specify CT or US	110(17 and 18 G)	37	N benign biopsies: 35 N with Surgical Pathology: 1 N found Malignant: 0	N malignant biopsies: 65 N with Surgical Pathology: 31 N found Malignant: 31	N non diagnostic biopsies: 10 N with Surgical Pathology: 2 N found Malignant: 2	NR	NR	NR

N=Number; NR=Not reported; FP:= False Positive; TP: True Positive; FN:=False Negative; TN=True Negative; Sn=Sensitivity; Sp=Specificity; PPV=Positive Predictive value; NPV=Negative Predictive Value; Acc=Accuracy