

Supplementary Table 3. Details of biopsy pathology results across included studies

Author, year	N	Non-diagnostic n (%)	Malignant n (%)	Benign n (%)	Clear cell RCC n (%)	Papillary RCC n (%)	Chromophobe RCC, n (%)	RCC (no category assigned) n (%)	Other Malignant n (%)	Oncocytoma n (%)	AML n (%)	No Neoplasm n (%)	Other Benign n (%)
Campbell, 1997 ¹²	25	9(36)	10(40)	6(24)	NR	NR	NR	NR	NR	NR	NR	NR	NR
Chyhai, 2010 ¹³	25	2(8)	16(64)	7(28)	14(56)	1(4)	NR	NR	1(4)	6(24)	NR	NR	1(NR)
Halverson, 2013 ¹⁴	151	14(9)	130(86)	7(5)	97(64)	25(17)	3(2)	3(2)	2(1)	3(2)	NR	NR	4(3)
Harisinghani, 2003 ¹⁵	28	0	17(61)	11(39)	NR	NR	NR	16(57)	1(4)	1(4)	NR	9(32)	1(4)
Leveridge, 2011 ¹⁶	345	67(19)	221(64)	57(17)	122(35)	48(14)	13(4)	25(7)	13(4)	32(9)	11(3)	NR	14(4)
Londono, 2013 ¹⁷	132	7(5)	87(66)	38(29)	NR	NR	NR	NR	NR	NR	NR	NR	NR
Menogue, 2012 ¹⁸	250	52(21)	148(59)	50(20)	100(40)	33(13)	11(4)	NR	4(2)	33(13)	9(4)	6(2)	2(1)
Millet, 2012 ^{19*}	187	NR	145(78)	NR	NR	NR	NR	132(71)	13(7)	NR	NR	NR	NR
Neuzillet, 2003 ²⁰	88	8(9)	66(75)	14(16)	49(56)	10(11)	6(7)	NR	1(1)	10(11)	3(3)	NR	1(1)
Park, 2013 ²¹	59	11(19)	37(63)	11(19)	NR	NR	NR	29(49)	8(14)	2(3)	6(10)	3(5)	NR
Prince, 2015 ³⁰	565	83(15)	393(70)	89(16)	260(46)	48(9)	5	33(6)	47(8)	77(14)	11(2)	NR	1(0.2)
Reichelt, 2007 ²⁶	30	5(17)	17(57)	8(27)	NR	NR	NR	16(53)	1(3)	6(20)	NR	NR	2(7)
Richard, 2015 ^{22**}	529	53(10)	353(67)	123(23)	214(41)	95(18)	26(5)	17(3)	13(3)	80(15)	36(7)	NR	15(3)
Salem, 2012 ²²	145	19(13)	107(74)	19(13)	57(39)	22(15)	8(6)	2(1)	18(12)	15(10)	NR	4(3)	NR
Schmidbauer, 2008 ²³	78	2(3)	60(77)	16(21)	48(80)	3(4)	3(4)	4(5)	2(3)	13(17)	2(3)	1(1)	NR
Shannon, 2008 ^{23***}	224	50(22)	132(59)	42(19)	85(38)	25(11)	11(5)	3(1)	8(4)	25(11)	13(6)	3(1)	1(0.4)
Sofikerim, 2009 ²⁴	42	3(7)	33(79)	6(14)	32(76)	1(2)	0	NR	NR	4(10)	1(2)	NR	1(2)
Vasudevan, 2006 ^{20***}	92	29(32)	43(47)	20(22)	28(30)	4(4)	5(5)	NR	6(7)	11(12)	9(10)	NR	NR
Volpe, 2008 ²⁶	100	16(16)	66(66)	18(18)	37(37)	16(16)	3(3)	4(4)	6(6)	7(7)	5(5)	4(4)	2(2)
Wang, 2009 ²⁷	110	10(9)	65(59)	35(32)	NR	NR	NR	56(51)	11(10)	13(12)	3(3)	16(15)	1(1)
Summary ^{***}	3113	411(14.1*)	2103 (68)	557(19*)	1115(36)	327(11)	89(3)	340(11)	149(5)	327(11)	100(3)	46(2)	46(2)

n= sample size; NR=Not Reported; RCC=Renal Cell Carcinoma; AML=Angiomyolipoma

*42 (22.5%) biopsies were benign or non-diagnostic but the proportion of each was not reported; therefore, Millet, 2012 is excluded from calculation of proportion of non-diagnostic and benign biopsies

**Biopsy Pathology Results includes 20 repeat biopsies which were diagnostic

***Summarized for unique patients/biopsies; Shannon 2008 is an update of Vasudevan 2006; histology percentages add to 100% after inclusion of 42 unclassified benign and non-diagnostic biopsies (Millet, 2012) and absence of histologies from 125 (Londono, 2013) and 16 (Campbell, 1997) biopsies