



Background

- Historically patients with non-clear cell histology renal cell carcinoma and renal cell carcinoma with sarcomatoid differentiation have inferior outcomes to standard systemic therapy
- Novel immunotherapies are beginning to show promise in treating RCC with sarcomatoid differentiation
- This study evaluates the outcomes of patients with advanced or metastatic renal cell carcinoma with variant histology and sarcomatoid differentiation compared to those with clear cell renal cell carcinoma

Methods

- 251 patients from the UCSD database with histologically confirmed advanced or metastatic RCC receiving systemic therapy
- Grouped by histology into clear cell renal cell carcinoma, papillary RCC, chromophobe RCC, XpTranslocation RCC, unclassified RCC
- Within each group identified if sarcomatoid differentiation was present
- Primary endpoint: overall survival for each group
- Secondary endpoint: time to treatment failure for each group defined as time from treatment initiation to discontinuation for any reason

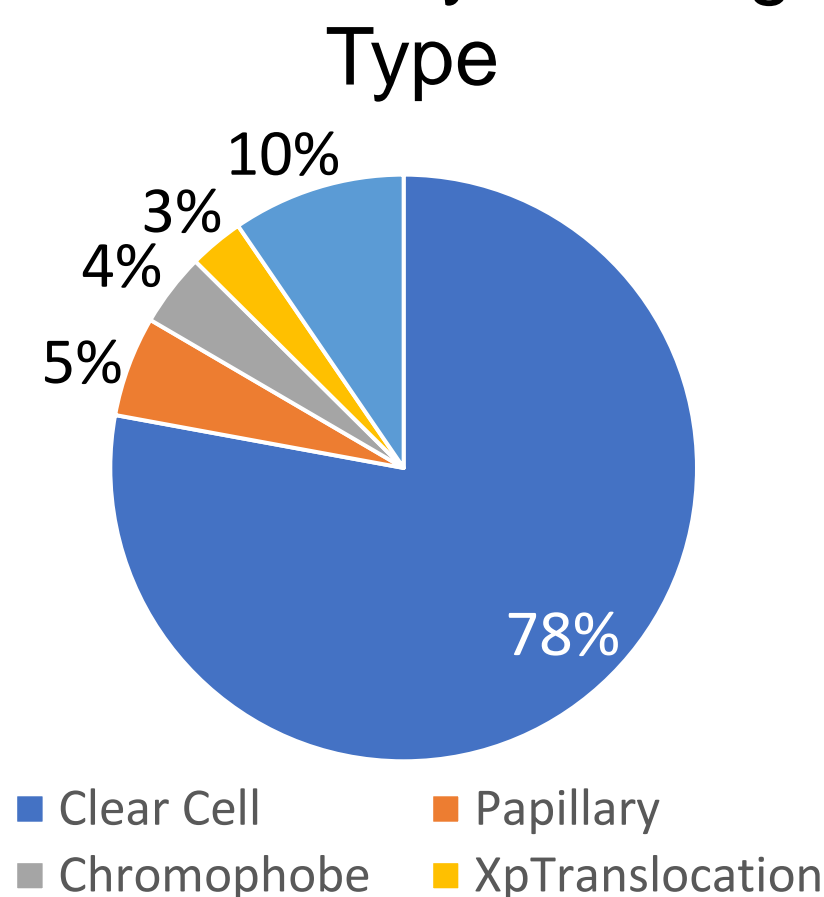
Conclusions

- This study demonstrates inferior outcomes among patients with non-clear cell histology RCC and RCC with sarcomatoid differentiation, consistent with prior literature
- This group remains an unmet need and inclusion in clinical trials to test novel therapeutics should be encouraged

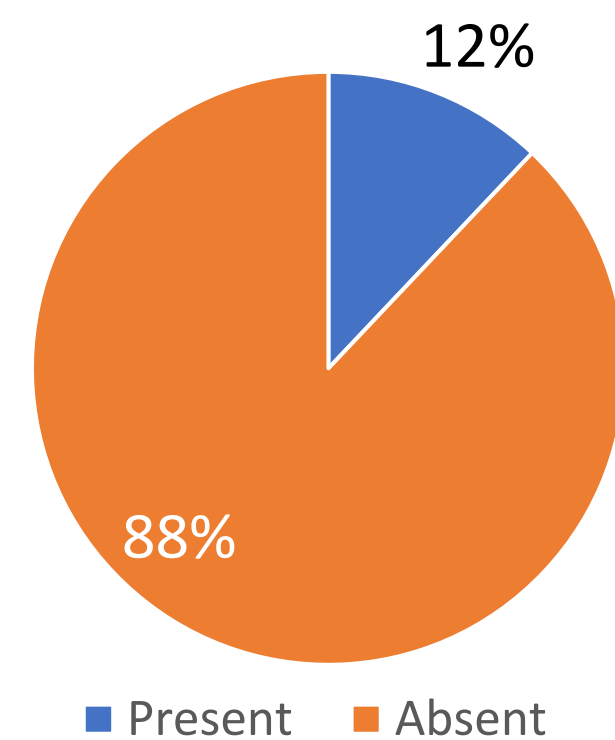
Baseline Characteristics

Variable	Clear Cell N(%) n=193	Non Clear Cell N(%) n=58	Sarcomatoid Differentiation N(%) n=25	Sarcomatoid Differentiation Absent N(%) n=226
Median age, years	61	60	65	60
Male	141 (73.06)	38 (65.52)	17 (68.00)	162 (71.68)
White	104 (53.89)	35 (60.34)	15 (60.00)	124 (54.87)
Hispanic	60 (31.09)	5 (8.62)	7 (28.00)	58 (25.66)
Prior nephrectomy	143 (74.09)	37 (63.79)	20 (80.00)	160 (70.80)
M stage 1	52 (26.94)	17 (29.31)	10 (40.00)	59 (26.11)
M stage unknown	124 (64.25)	32 (55.17)	13 (52.00)	143 (63.27)
≥1 site of metastasis	116 (60.10)	29 (50.00)	17 (68.00)	128 (56.64)
IMDC risk groups				
Intermediate	14 (7.25)	5 (8.62)	1 (4.00)	18 (7.96)
Poor	96 (49.74)	26 (44.83)	12 (48.00)	110 (48.67)
Unknown	83 (43.01)	27 (46.55)	12 (48.00)	98 (43.36)

Breakdown by Histologic Type



Sarcomatoid Differentiation



Type of First Line Systemic Therapy

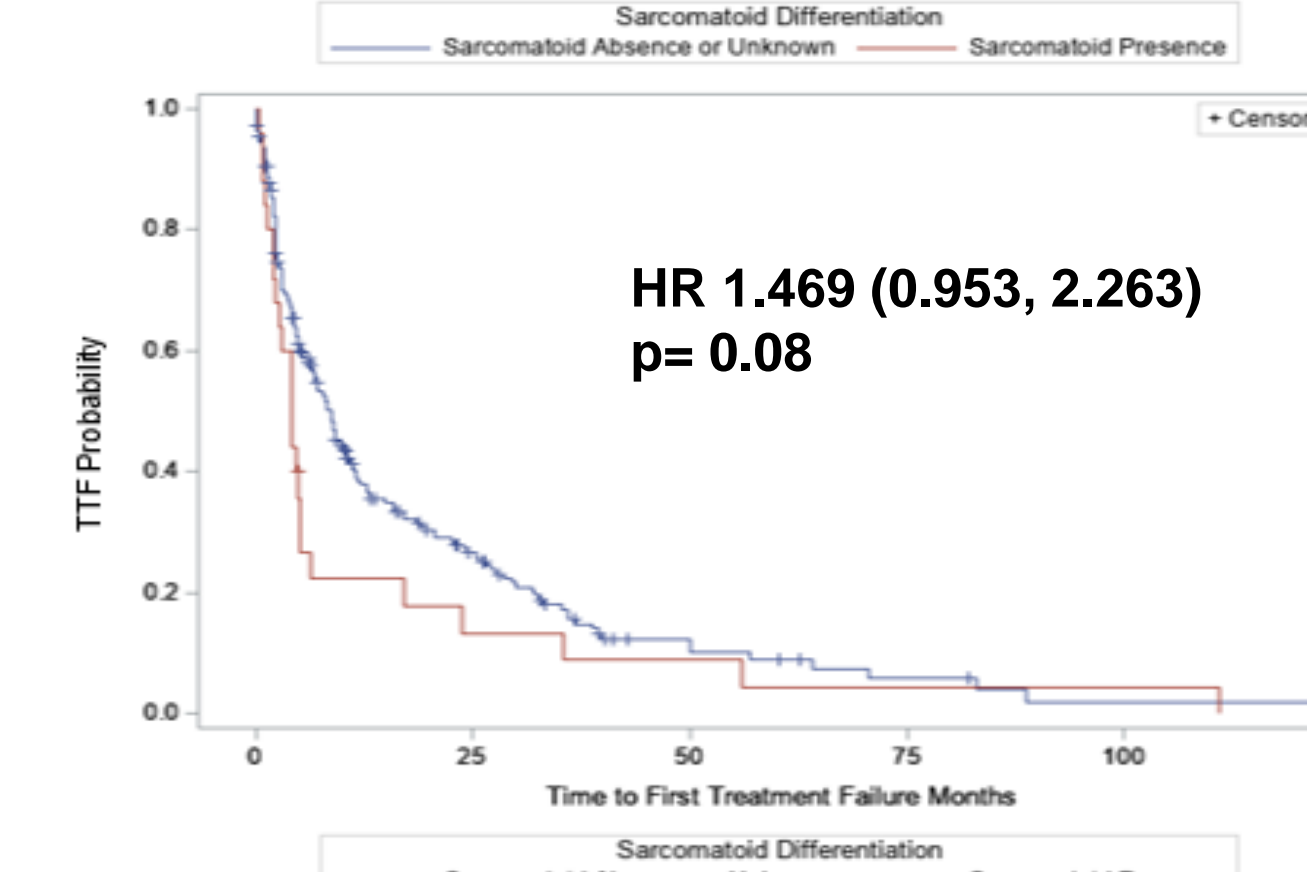
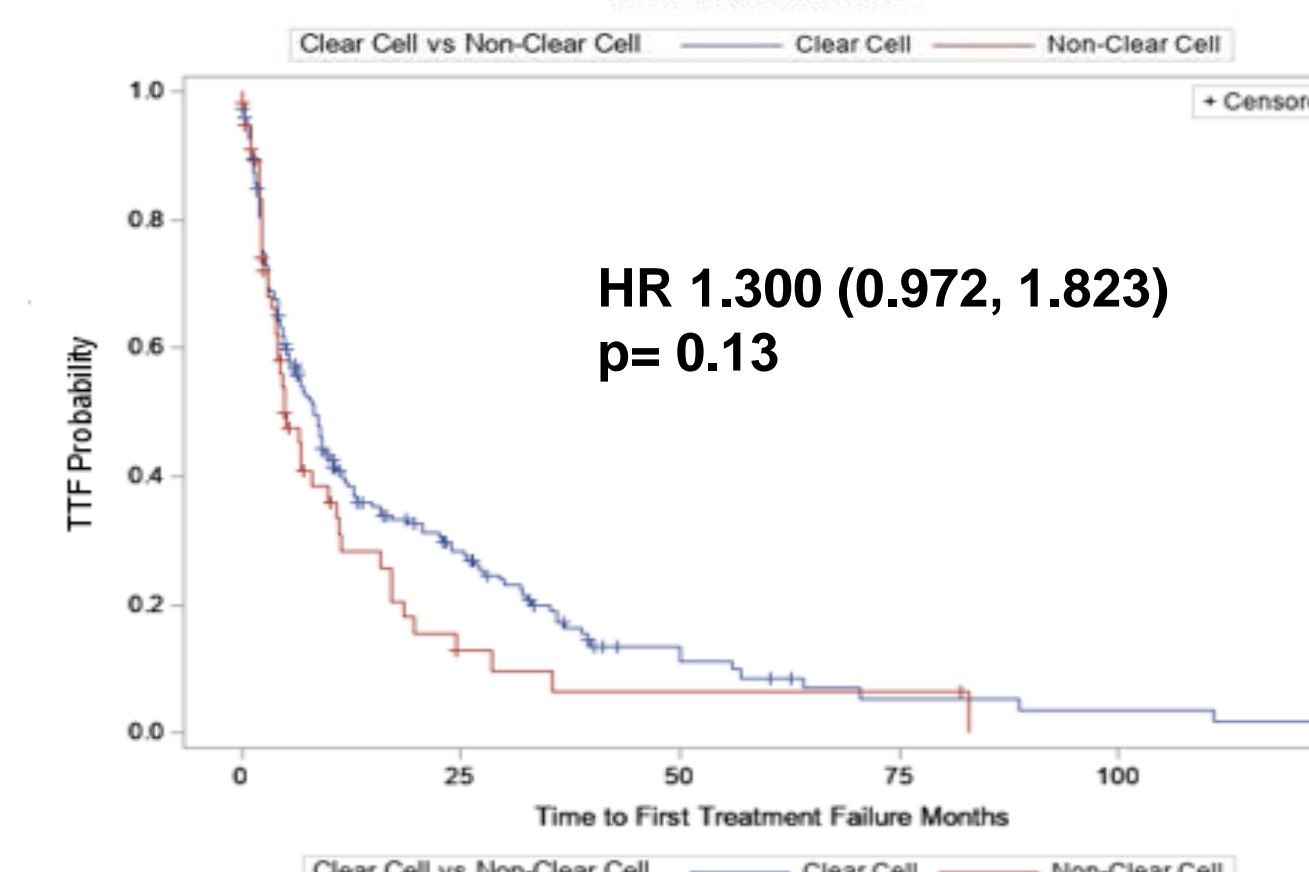
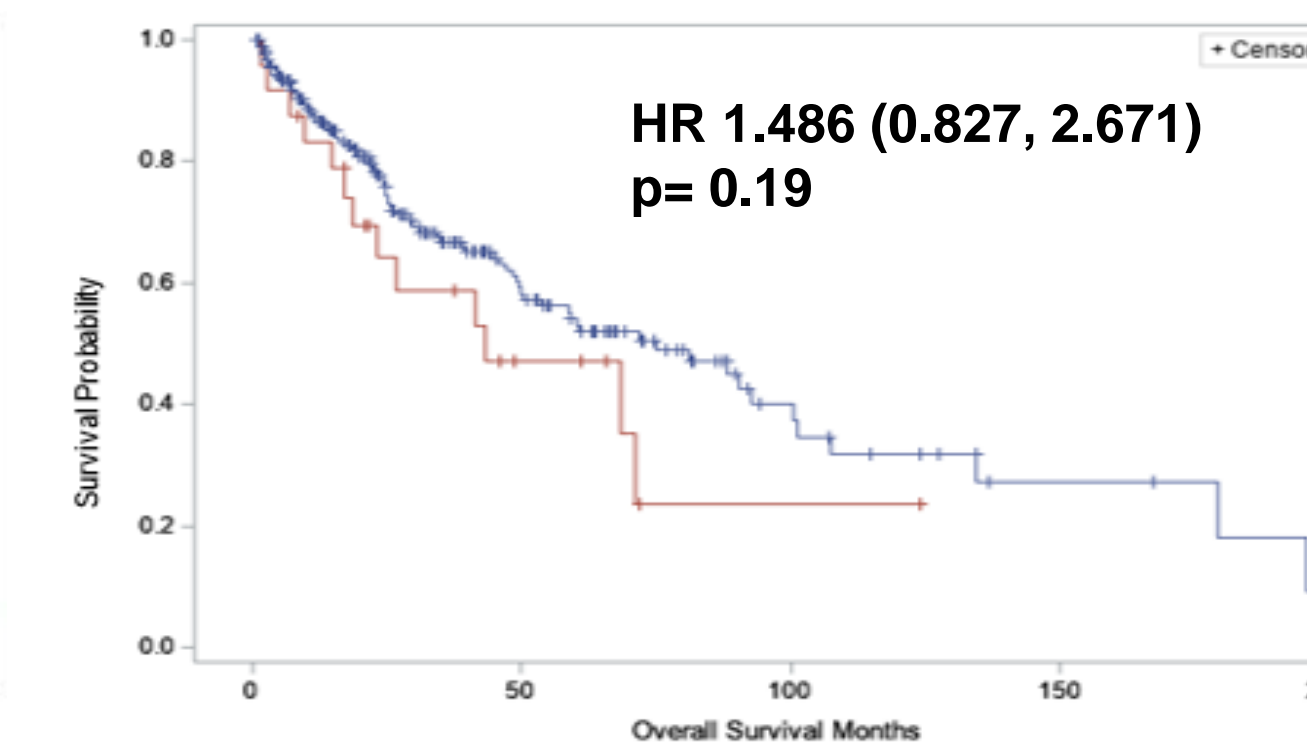
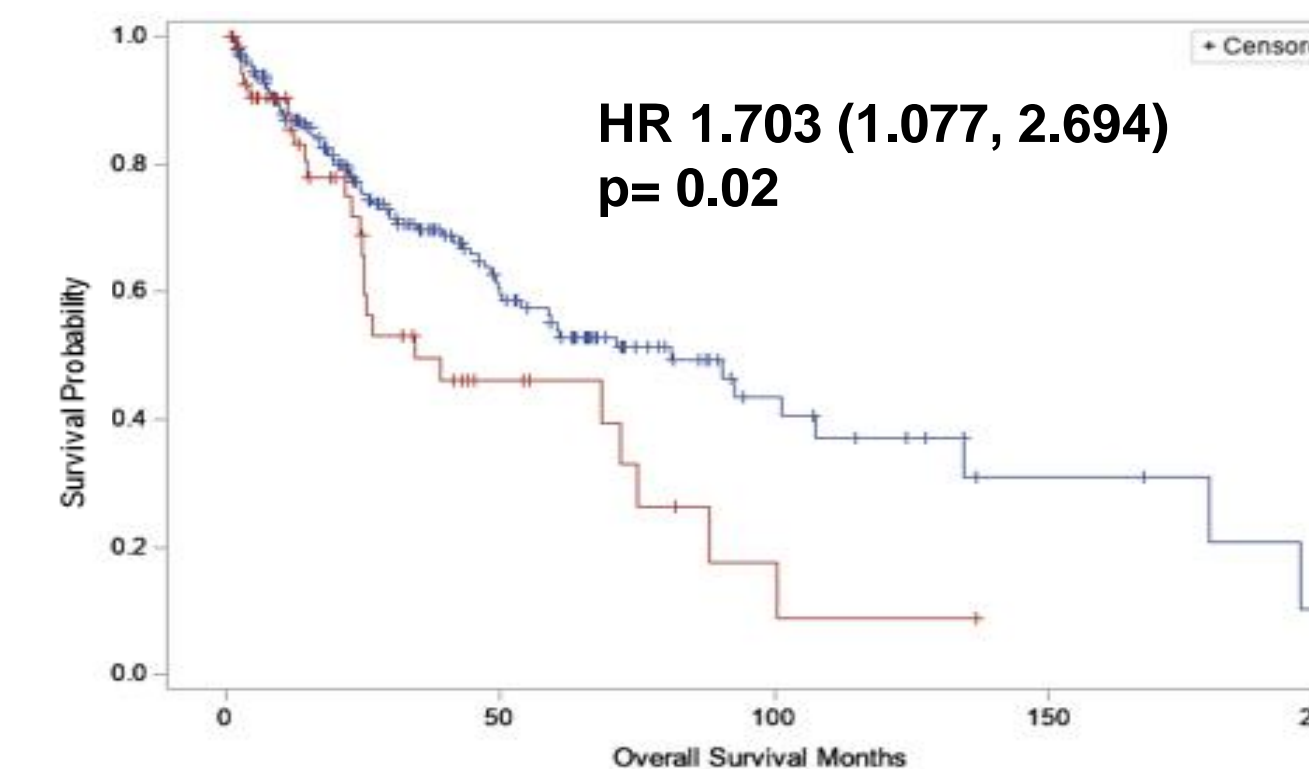
	Clear Cell N(%) n=193	Non Clear Cell N(%) n=58	Sarcomatoid Differentiation N(%) n=25	Sarcomatoid Differentiation Absent N(%) n=226
TKI	135 (69.95)	39 (67.24)	19 (76.00)	155 (68.58)
TKI + TKI	0 (0.00)	1 (1.72)	0 (0.00)	1 (0.44)
IO	15 (7.77)	4 (6.90)	1 (4.00)	18 (7.96)
IO+IO	30 (15.54)	10 (17.24)	3 (12.00)	37 (16.37)
IO+TKI	5 (2.59)	3 (5.17)	2 (8.00)	6 (2.65)
Other	8 (4.15)	1 (1.72)	0 (0.00)	9 (3.98)

Treatment Outcomes

Groups	Time to first treatment failure		Overall survival	
	No. of events n=250*	Median (95% CI), months	No. of events n=242*	Median (95% CI), months
Overall	199	7.1 (5.2, 9.0)	98	70.9 (49.6, 90.6)
Papillary RCC	11	8.0 (3.8, 10.7)	6	75.0 (12.3, 88.3)
Chromophobe RCC	8	2.2 (0.2, 17.0)	5	25.9 (24.4, 72.0)
XpTranslocation RCC	6	6.7 (2.0, 35.3)	4	68.3 (11.3, 100.5)
Unclassified RCC	19	4.7 (3.4, 11.1)	10	34.3 (14.2, INF)
Non clear cell RCC with sarcomatoid differentiation	4	17.0 (1.9, 35.3)	4	20.7 (2.8, 68.3)
Clear cell RCC with sarcomatoid differentiation	20	4.0 (1.2, 5.0)	9	70.9 (18.6, INF)

*1 observation with missing drug stop date or last follow up date was removed from time to first treatment failure analysis

*9 observations with missing metastasis diagnosis date were removed from overall survival analysis



*The reference category for the Cox regressions comparing ccRCC vs nccRCC is ccRCC

+The reference category for the Cox regressions comparing Sarcomatoid presence vs absence is absence