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Predictive factors for recurrence after complete metastasectomy in patients with metastatic renal cell carcinoma in the targeted therapy era

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Objectives

- Complete metastasectomy is expected to improve the survival of patients with metastatic renal cell carcinoma (mRCC).
- However, many patients develop re-recurrence, despite achieving complete remission with surgery.
- The aim of the present study was to investigate the outcomes after complete metastasectomy in patients with mRCC and analyze the predictive factors for recurrence after complete metastasectomy.

Methods

Patient selection

- Patients who underwent metastasectomy and achieved complete remission after surgery for mRCC at a single institution between 2008 and 2018.
- Patients who underwent nephrectomy or partial nephrectomy for primary lesion and were diagnosed as having RCC.

Exclusion

- Patients without sufficient medical information
- Patients who received adjuvant systemic therapy after metastasectomy

Conclusion

- The present study demonstrated that 76% (39/51) of patients with mRCC who underwent complete metastasectomy developed recurrence, with median RFS of 22 months.
- The predictive factors for recurrence after complete metastasectomy were the number of metastasis sites and sarcomatoid features.
- Complete metastasectomy contributed to favorable oncological outcome and delayed subsequent systemic therapy.

Results

Characteristics of patients

Number of patients, n		51
Age, years, median (IQR)		65 (57-71)
Sex, male, n		39 (76%)
Pathological T stage, n	1	37 (73%)
	2	3 (6%)
	3	11 (22%)
Subtype, n	Clear cell	42 (82%)
	Papillary	8 (17%)
	Others	1 (2%)
Sarcomatoid feature, n		2 (4%)
Metastasis at the time of nephrectomy, n		7 (14%)
Fuhrman grade, n	1	5 (10%)
	2	33 (65%)
	3	13 (25%)
	4	0
MSKCC risk, n	Favorable	22 (43%)
	Intermediate	27 (53%)
	Poor	2 (4%)
Time from initial therapy to metastasectomy		32 (17-55)
< 1 year from initial therapy to metastasectomy, n		8 (16%)
ECOG PS, n	0	48 (94%)
	1	3 (6%)
Hb level < lower limit, n		21 (41%)
Number of metastatic sites, n	1	45 (88%)
	≥ 2	6 (12%)
Metastatic organ, n	Lung	23 (45%)
	Adrenal	7 (14%)
	Lymph-nude	6 (12%)
	Pancreas	4 (8%)
	Local	4 (8%)
	Bone	3 (6%)
	Liver	2 (4%)
	Esophagus	2 (4%)
	Muscle	1 (2%)

Details of patients with recurrence

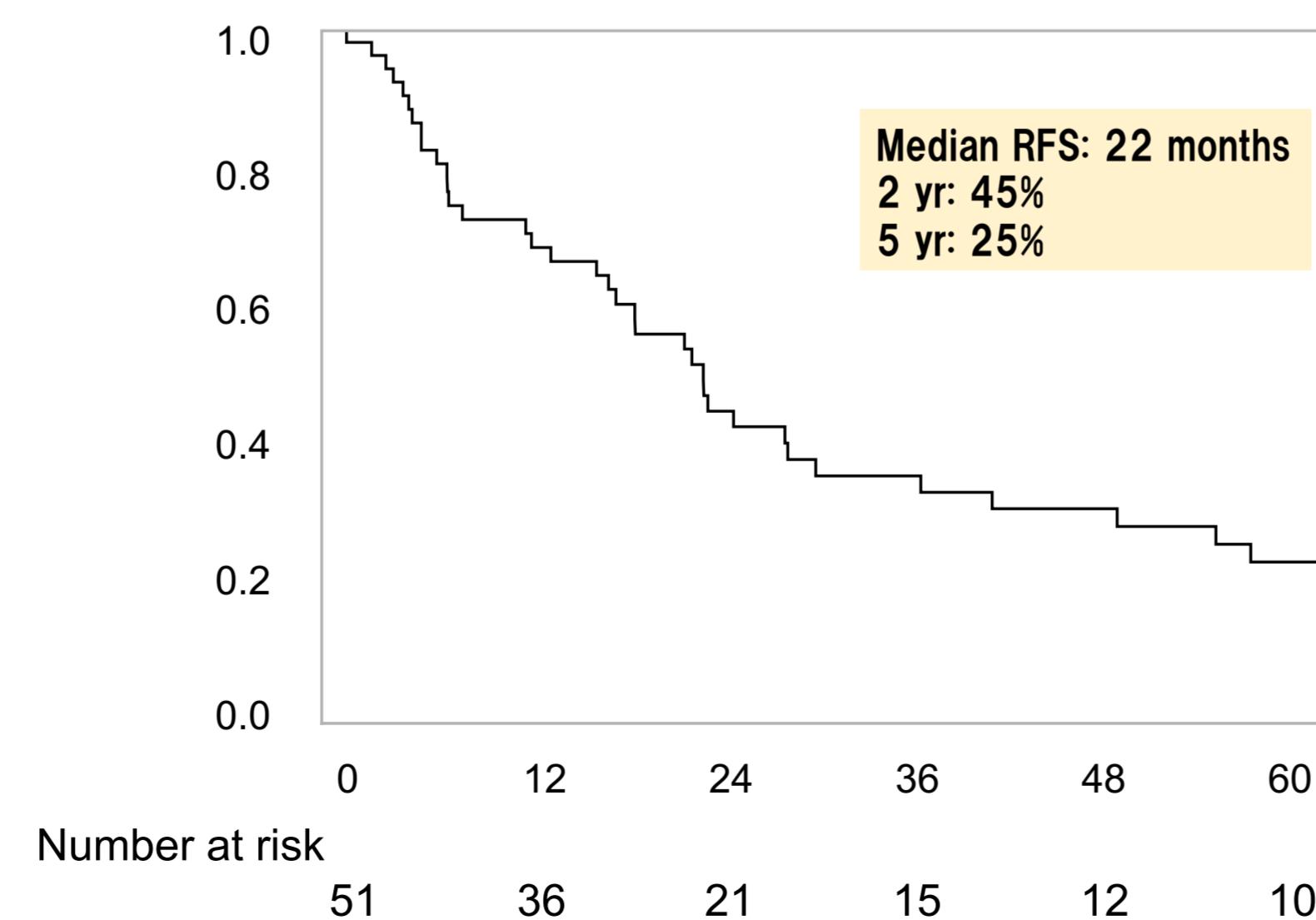
Number: **39 Patients (76%)**

Median recurrence time: 18 months

Treatment after recurrence

- 17 cases (44%): metastasectomy
- 17 cases (44%): systemic therapy
- 5 cases (13%): palliative or observation

Recurrent free survival



Univariate and multivariate analyses of predictors for recurrence after metastasectomy

Variables		Univariate		Multivariate	
		HR (95%CI)	p	HR (95%CI)	p
Age	< 65 years	Reference			
	≥ 65 years	0.81 (0.42-1.57)	0.524		
Sex	female	Reference			
	Male	1.48 (0.68-3.69)	0.3389		
Subtype	Clear cell	Reference			
	Non-clear cell	1.86 (0.74-4.08)	0.1717		
Fuhrman grade	1	Reference			
	2	0.81 (0.21-2.78)	0.7074		
	3	0.83 (0.26-3.11)	0.757		
Sarcomatoid features	No	Reference		Reference	
	Yes	8.89 (1.35-34.7)	0.0275	11.5 (1.71-47.1)	0.0171
MSKCC risk	Favorable	Reference			
	Intermediate	0.90 (0.46-1.78)	0.7605		
	Poor	1.72 (0.27-6.19)	0.5031		
Time from initial therapy to metastasectomy	> 1year	Reference			
	≤ 1year	1.72 (0.69-3.76)	0.2223		
ECOG PS	0				
	1	0.91 (0.14-3.02)	0.8977		
Hb level	≥ Lower limit	Reference			
	< Lower limit	1.64 (0.84-3.15)	0.1423		
Metastatic organ	Lung only	reference			
	Others	1.34 (0.70-2.60)			
Metastatic sites	1	Reference		Reference	
	≥ 2	3.84 (1.08-10.8)	0.0388	4.52 (1.26-13.1)	0.024