

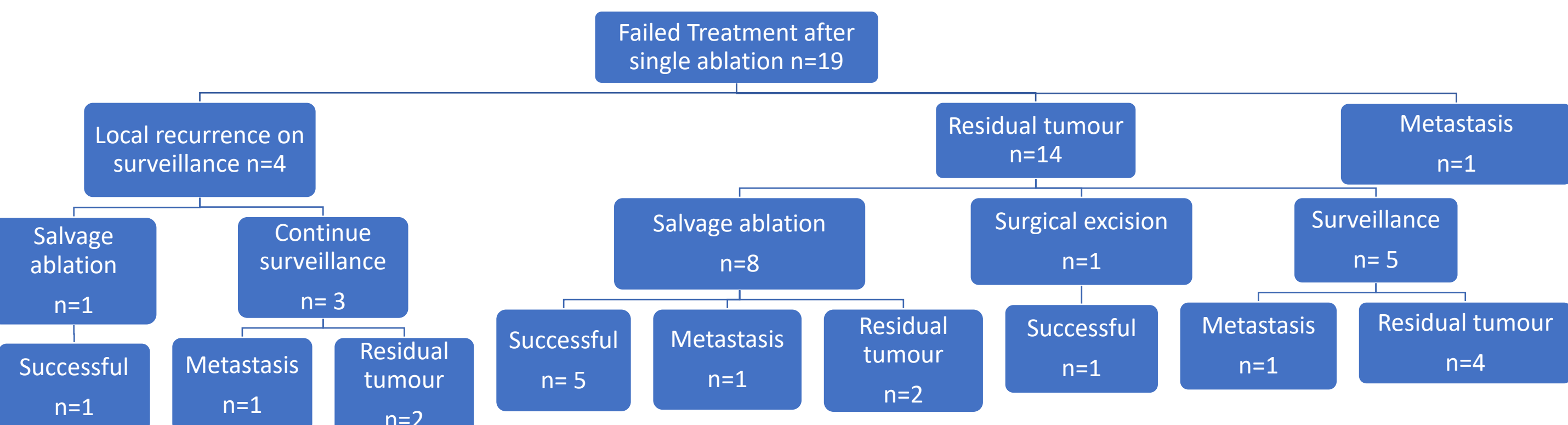
INTRODUCTION

Partial nephrectomy is the treatment of choice for T1 renal cell carcinoma. Tumour ablation remains an alternative to surgery in patients with substantial co-morbidities and solitary kidney. We report the oncologic outcomes of renal tumours treated with thermal ablation technique in a single institution.

MATERIALS AND METHODS

We retrospectively examined the records of 52 patients with renal tumours who underwent ablation therapy from January 2011 to December 2020. All ablation were done percutaneously with sedation. Techniques of ablation include radiofrequency ablation, cryoablation and microwave ablation. All patients have at least one contrast enhanced cross-sectional imaging prior and after ablation therapy. First follow up imaging is performed within 1 to 3 months from time of ablation. Repeat ablation is performed when there is residual tumour on follow up imaging and is not considered a new procedure.

BASELINE PATIENT CHARACTERISTICS			Histology (%)	Malignant	32 (61.5)
Age (years)	68 (Range 45-87)		Outcome after single ablation (%)	Benign	16 (30.8)
Chronic kidney disease (%)	Yes	20 (38.5)		Not taken	4 (7.7)
	No	32 (61.5)		Success	32 (61.5)
End stage renal failure (%)	Yes	5 (9.6)	Residual disease	14 (26.9)	
	No	47 (90.4)	Local recurrence	4 (7.7)	
ASA Physical Status(%)	I and II	15 (28.8)	Metastatic	1 (1.9)	
	III and IV	37 (71.2)	Default follow up	1 (1.9)	
Gender (%)	Male	42 (80.8)	Mean time to recurrence ± SD (mths)	30 ± 7	
	Female	10 (19.2)	Complications Clavien-Dindo (%)	No complications	43 (82.7)
Laterality (%)	Left	25 (48.1)		Grade I	7 (13.5)
	Right	27 (51.9)		Grade II	1 (1.9)
Mean tumor size (mm)	24.7 (Range 10-54)			Grade III	1 (1.9)
Mean ± SD follow up(months)	33.8 ± 28.8			Grade IV and V	0
Methods (%)	Radiofrequency ablation	32 (61.5)	Overall final outcome at last follow up imaging (%)	Success	39 (76.5)
	Microwave ablation	14 (26.9)		Failure	12 (23.5)
	Cryoablation	6 (6)	Final outcome at last follow up imaging (for tumors < 32mm) (%)	Success	35 (87.5)
				Failure	5 (12.5)



CONCLUSION

Thermal ablation is safe and feasible for T1 renal tumours with acceptable outcomes and minimal morbidity.