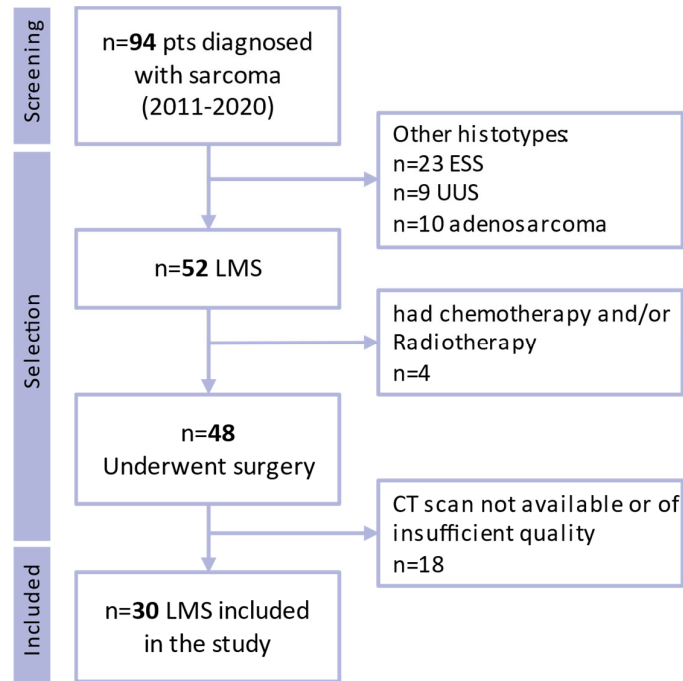


## Supplementary tables & figures



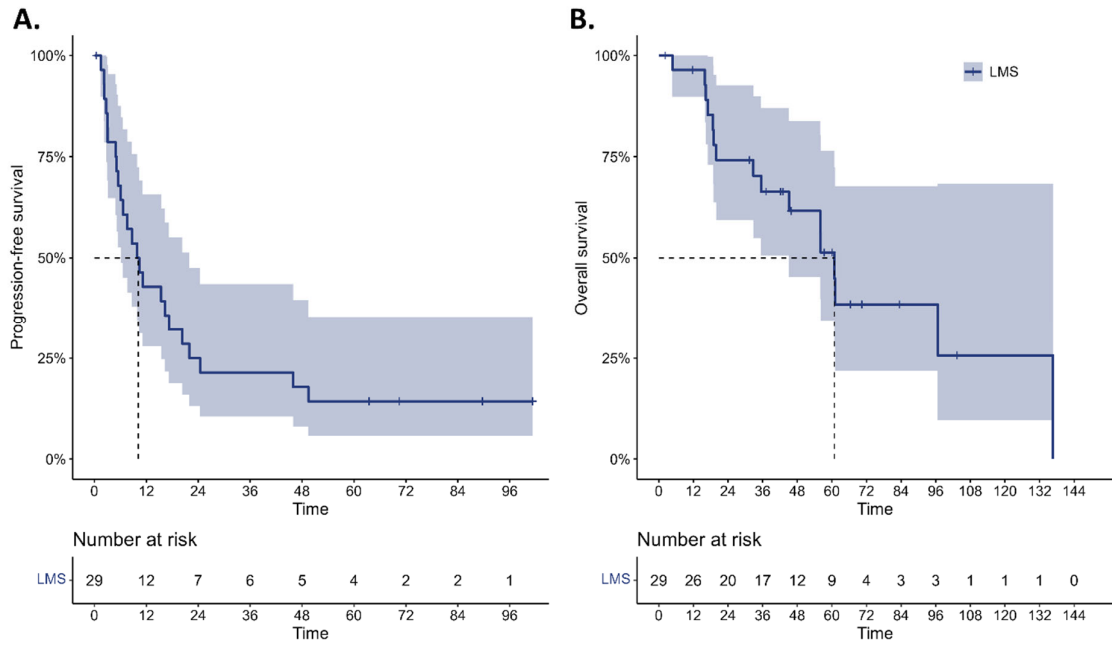
**Supplementary Figure S1.** Selection of patients with LMS included in this study. LMS: leiomyosarcoma; ESS: endometrial stromal sarcoma; UUS: undifferentiated uterine sarcoma; CT: computed tomography, n: number; pts: patients.

**Supplementary Table S1.** Demographic characteristics and clinical parameters of the patients diagnosed with uterine leiomyosarcomas and myomas. N: number; LMS: leiomyosarcoma; UM: myoma; BMI: Body Mass Index; SD: standard deviation.

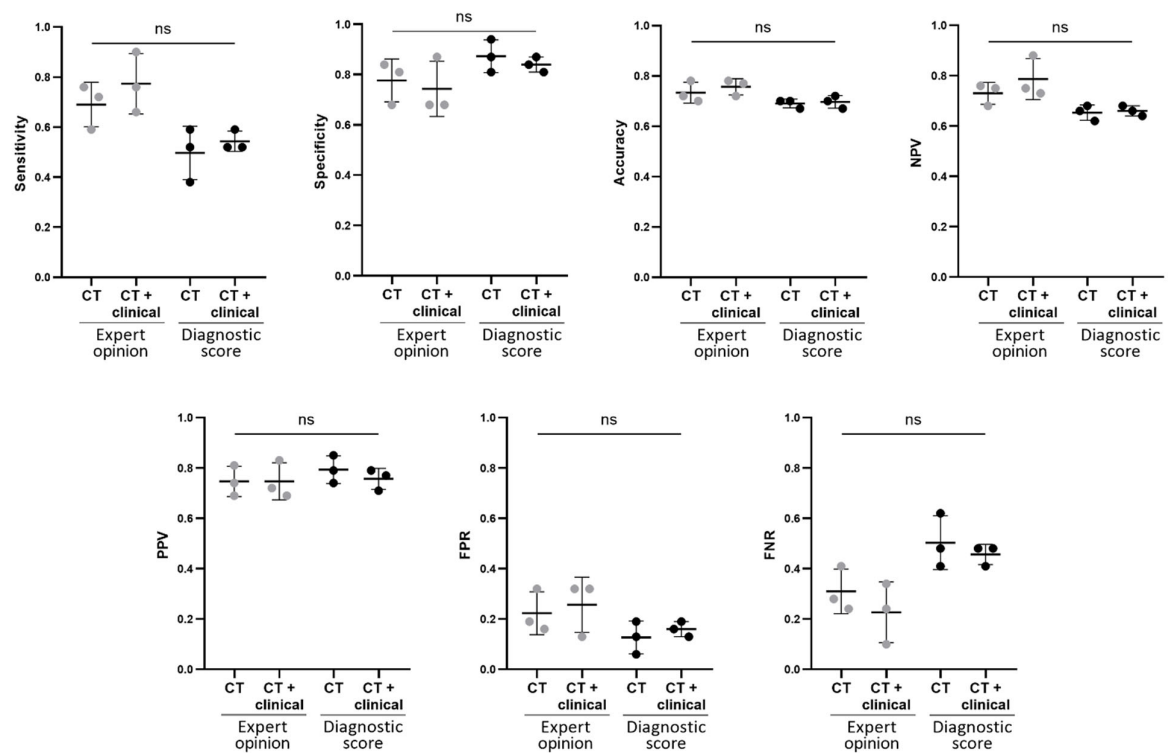
Variable	Patient group		p-value
	LMS N=30	UM N=35	
Age (years) Mean±SD	59.6±10.1	48.5±11.2	<0.001
BMI (kg/m <sup>2</sup> ) Mean±SD	26.6±5.7	23.8±4.3	0.03
Menopause status at diagnosis N(%)	27(23.8%)	15(42.9%)	<0.001
Hormonal therapy N(%)	6(20%)	11(31.4%)	0.45

**Supplementary Table S2.** Clinical and oncological parameters of the patients diagnosed with uterine leiomyosarcoma. \*Patients with two recurrent sites were as follows: one patient with lung and peritoneum; one patient with aortic lymph nodes and lung; one patient with thoracic and abdominal recurrence. LMS: leiomyosarcoma.

Variable		LMS N=30	UM N=35	
Pathological subtypes N(%)	Conventional spindle cell	25(83.3%)	Typical	38(74.5%)
	Epithelioid	3(10%)	Degenerated	10(19.6%)
	Myxoid	2(6.7%)	Cellulated	3(5.9%)
Stage (FIGO 2014) N(%)	I	23(76.7%)		
	II	3(10%)		
	III	1(3.3%)		
	IV	3(10%)		
Adjuvant treatment N(%)		22(66.7%)		
Recurrence status N(%)	No	6(20%)		
	Yes	21(70%)		
	Persistent disease	3(10%)		
Recurrence site N(%)	Vaginal	1(5%)		
	Pelvic	3(15%)		
	Pulmonary	9(45%)		
	Liver	1(5%)		
	Bone	1(5%)		
	Abdomen	1(5%)		
	Two sites*	3(15%)		
	Recurrence treatment N(%)	Surgery	1(4.8%)	
Chemotherapy		9(42.9%)		
Surgery + Chemotherapy		3(14.3%)		
Chemotherapy + Radiotherapy		3(14.3%)		
Surgery + Chemotherapy + Radiotherapy		1(4.8%)		
Palliative treatment		3(14.3%)		
None		1(4.8%)		



**Supplementary Figure S2.** Kaplan-Meier curves with 95% CI of patients diagnosed with leiomyosarcoma showing A. Progression-free survival; B. Overall survival. CI: confidence interval.



**Supplementary Figure S3.** ROC parameters of differential diagnosis capacity of expert radiologists. Comparison between ROC parameters obtained by radiologists when evaluating the CT scans alone vs with the clinical file of the patients and the results obtained with the scoring system. CT: computer tomography; MD: medical doctor (evaluator-radiologist); ns: p-value not significant; NPV: negative predictive value; PPV: positive predictive value; FPR: false positive rate; FNR: false negative rate.

*Supplementary Table S3. Performance of classifier models according to the Feature selection model and radiomic feature class-group.*

Feature selection model	Input Variables	+ GLM						+ RF						+ SVM					
		Training			Test			Training			Test			Training			Test		
		AUC (95%CI)	Se	Sp	AUC (95%CI)	Se	Sp	AUC (95%CI)	Se	Sp	AUC (95%CI)	Se	Sp	AUC (95%CI)	Se	Sp	AUC (95%CI)	Se	Sp
LASSO	All In	0.94 (0.88-0.99)	0.86	0.92	0.82 (0.65-0.99)	0.78	0.87	1.00 (1.00-1.00)	1.00	1.00	0.97 (0.90-1.00)	1.00	0.93	0.93 (0.87-1.00)	0.95	0.92	0.69 (0.50-0.87)	0.44	0.93
Boruta	Only First order	NA	NA	NA	NA	NA	NA	1.00 (1.00-1.00)	1.00	1.00	0.88 (0.73-1.00)	0.89	0.97	0.81 (0.70-0.92)	0.67	0.94	0.69 (0.51-0.87)	0.44	0.93
Boruta	Only Texture	0.91 (0.82-0.99)	0.81	0.94	0.78 (0.62-0.94)	0.89	0.67	1.00 (1.00-1.00)	1.00	1.00	0.97 (0.90-1.00)	1.00	0.93	1.00 (1.00-1.00)	1.00	1.00	0.74 (0.56-0.93)	0.56	0.93
Boruta	All In	0.91 (0.82-0.99)	0.81	0.94	0.78 (0.62-0.94)	0.89	0.67	1.00 (1.00-1.00)	1.00	1.00	0.97 (0.90-1.00)	1.00	0.93	1.00 (1.00-1.00)	1.00	1.00	0.80 (0.62-0.98)	0.67	0.93
RFE	Only First order	NA	NA	NA	NA	NA	NA	1.00 (1.00-1.00)	1.00	1.00	0.88 (0.74-1.00)	0.89	0.87	0.81 (0.70-0.92)	0.67	0.94	0.69 (0.51-0.87)	0.44	0.93
RFE	Only Texture	0.92 (0.84-1.00)	0.86	0.89	0.81 (0.65-0.97)	0.89	0.73	1.00 (1.00-1.00)	1.00	1.00	0.94 (0.84-1.00)	0.89	1.00	1.00 (1.00-1.00)	1.00	1.00	0.71 (0.52-0.90)	0.56	0.87
RFE	All In	0.92 (0.84-1.00)	0.86	0.89	0.81 (0.65-0.97)	0.89	0.73	1.00 (1.00-1.00)	1.00	1.00	0.97 (0.90-1.00)	1.00	0.93	1.00 (1.00-1.00)	1.00	1.00	0.74 (0.58-0.91)	0.89	0.60