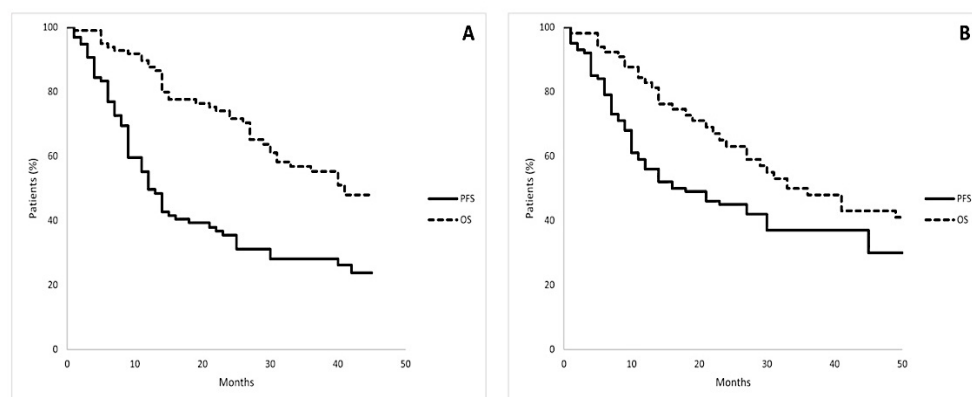
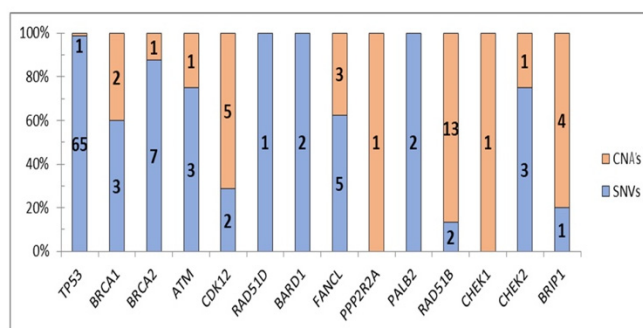


# Supplementary Materials: The Role of Homologous Recombination Repair (HRR) Genes in Uterine Leiomyosarcomas: A Retrospective Analysis

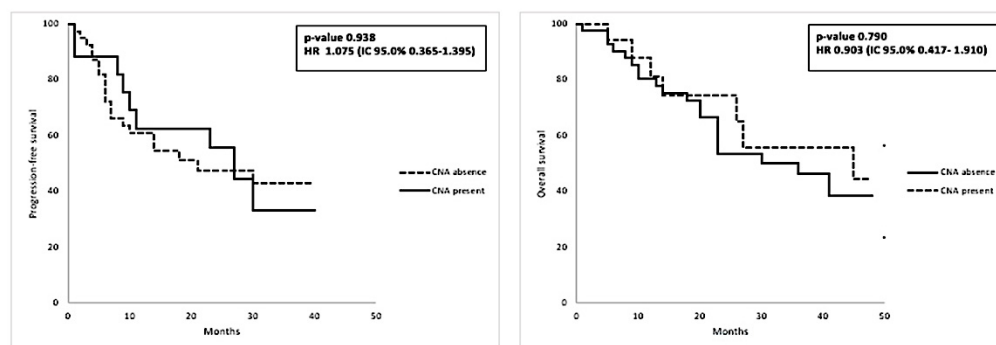
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**Figure S1.** (A) PFS and OS in all patients (N = 105); (B) PFS and OS in patients with biopsy of tumor samples at primary diagnosis (N = 73);.



**Figure S2.** Single Nucleotide Variants (SNVs) and Copy Number Alterations (CNAs) distribution along the analyzed genes.



**Figure S3.** PFS and OS according to patients with CAN presence versus CAN absence.

**Table S1. Molecular alterations of uLMS.** The table shows the molecular alterations accounted in the uLMS, grouped by biopsy site. uLMS: uterine leiomyosarcomas; rs: reference SNP; VAF%: Variant Allele Frequency %; CNA: Copy Number Alteration.

uLMS Group	ID Sample	GENE	cDNA change	Aminoacid change	rs	VAF%	CNA
PRIMARY	uLMS001_P1	TP53	c.524G>A	p.Arg175His	rs28934578	59%	
	uLMS002_P2	TP53	c.843_845del	p.Asp281_Thr284	-	59%	
	uLMS003_P3	TP53	c.994-1G>C	p.?	rs587782272	70%	
	uLMS004_P4	TP53	c.467G>C	p.Arg156Pro	rs371524413	19%	
			c.713G>A	p.Cys238Tyr	rs730882005	60%	
	uLMS005_P5	TP53	c.920-2A>G	p.?	rs397516439	75%	
	uLMS006_P6	TP53	c.843C>G	p.Asp281Glu	rs1057519984	82%	
	uLMS007_P7	TP53	c.786_801delTAATCTACTGG-GACGG	p.Asn263Thr*77	-	48%	
	uLMS008_P8	TP53	c.376-2A>G	p.?	rs786202799	31%	
			c.31G>A	p.Glu11Lys	rs201382018	29%	
	uLMS009_P9	TP53	c.742C>T	p.Arg248Trp	rs121912651	70%	
	uLMS010_P10	TP53	c.731G>A	p.Gly244Asp	rs985033810	42%	
	uLMS011_P11	TP53	c.376T>G	p.Tyr126Asp	rs886039483	56%	
	uLMS012_P12	TP53	c.374C>A	p.Thr125Lys	rs786201057	35%	
	uLMS013_P13	TP53	c.745A>G	p.Arg249Gly	rs587782082	93%	
	uLMS014_P14	TP53	c.569dupC	p.Pro191Serfs*18	-	14%	
	uLMS015_P15	TP53	c.538G>A	p.Glu180Lys	rs879253911	25%	
		TP53	c.714dupT	p.Asn239*	rs1567549651	52%	
	uLMS016_P16	TP53	c.230del	p.Pro77Glnfs*46	-	20%	
			c.428T>C	p.Val143Ala	rs1555526241	21%	
	uLMS017_P17	TP53	c.809T>C	p.Phe270Ser	rs1057519986	48%	
	uLMS018_P18	TP53	c.461G>T	p.Gly154Val	rs762846821	84%	
	uLMS019_P19	TP53	c.478del	p.Met160Trpfs*10	-	37%	
	uLMS020_P20	TP53	c.809T>C	p.Phe270Ser	rs1057519986	27%	RAD51B - Exon 9 to 11 Del
			c.626_627del	p.Arg209Lysfs*6	rs1057517840	20%	
	uLMS021_P21	TP53	c.731G>A	p.Gly244Asp	rs985033810	37%	FANCL - Exon 8 to14 Del
			c.857A>G	p.Glu286Gly	rs1057519985	33%	
	uLMS022_P22	TP53	c.420del	p.Cys141Alafs*29	-	41%	RAD51B - Exon 2 to 7 Ampl
			c.396G>C	p.Lys132Asn	rs866775781	39%	CDK12 - Exon 3 to 8 Ampl
	uLMS023_P23	TP53	c.403_405delinsGG	p.Cys135Glyfs*35	rs1131691036	79%	RAD51B - Exon 11 Ampl
	uLMS024_P24	TP53	c.374C>G	p.Thr125Arg	rs786201057	84%	BRIP1 - Exon 15

							to 20 Ampl
	uLMS025_P25	TP53	c.329G>T	p.Arg110Leu	rs11540654	83%	RAD51B - Exon 10 to 11 Ampl
	uLMS026_P26	TP53	c.1022del	p.Phe341Serfs*4	-	77%	CDK12 - Exon 5 to 8 Ampl
	uLMS027_P27	TP53	c.626_627del	p.Arg209Lysfs*6	rs1057517840	47%	
			c.743G>A	p.Arg248Gln	rs11540652	26%	
	uLMS028_P28	BRCA2	c.4854T>A	p.Asp1618Glu	rs80358708	13%	
		PALB2	c.3451C>T	p.Leu1151Phe	rs786203462	89%	BRCA2 - Exon 2 Del
		TP53	c.646G>C	p.Val216Leu	rs730882025	79%	
	uLMS029_P29	TP53	c.783-4_790del	p.?	-	70%	
		CDK12	c.3814C>G	p.Leu1272Val	-	49%	
	uLMS030_P30	TP53	c.626_627del	p.Arg209Lysfs*6	rs1057517840	78%	
		RAD51D	c.287C>G	p.Ala96Gly	rs1234250425	18%	
	uLMS031_P31	TP53	c.856delGAinsTT	p.Glu286Leu	-	42%	
		TP53	c.818G>A	p.Arg273His	rs28934576	40%	
		BRCA2	c.644_646del	p.Glu215del	rs80359588	85%	
	uLMS032_P32	BRCA1	c.1961dupA	p.Tyr655Valfs*18	rs80357522	73%	
		TP53	c.713G>A	p.Cys238Tyr	rs730882005	69%	
		BRCA2	c.7330G>T	p.Asp2444Tyr	rs398122579	45%	
	uLMS033_P33	TP53	c.457_466delinsGGT	p.Pro153Glyfs*15	-	46%	
		BRCA1	c.981_982del	p.Thr327_Cys328in- sTer	rs80357772	11%	
	uLMS034_P34	BRCA2	c.6591_6592del	p.Glu2198Asnfs*4	rs80359605	58%	
		ATM	c.8773G>A	p.Gly2925Ser	rs876658519	60%	
	uLMS035_P35	RAD51B	c.728A>G	p.Lys243Arg	-	38%	BRCA1 - Exon 10 to 13 Ampl
	uLMS036_P36	CDK12	c.4390C>T	p.Arg1464Trp	-	46%	
	uLMS037_P37	BARD1	c.282_291delinsT	p.Leu95_Ile97del	rs1064795485	39%	
	uLMS038_P38	FANCL	c.1089dupA	p.Cys374Mefs*5	-	8%	
	uLMS039_P39	BRCA2	c.5286T>G	p.Tyr1762Ter	rs80358754	12%	
	uLMS040_P40	CHEK2	c.721+3A>T	p.?	rs587782849	43%	PPP2R2A - Intron 1 to 9 Del
	uLMS041_P41	FANCL	c.238C>G	p.Leu80Val	rs563513081	40%	
METASTATIC DISEASE	uLMS042_R1	TP53	c.560-3T>G	p.?	rs763746485	77%	BRIP1 - Exon 5 to 16 Ampl
	uLMS043_R2	TP53	c.626_627del	p.Arg209Lysfs*6	rs1057517840	60%	
	uLMS044_R3	TP53	c.818G>T	p.Arg273Leu	rs28934576	66%	
	uLMS045_R4	TP53	c.853G>A	p.Glu285Lys	rs112431538	45%	

			c.589G>A	p.Val197Met	rs786204041	43%	
	uLMS046_R5	TP53	c.783-1G>T	p.?	rs1555525367	53%	FANCL - Exon 1 to 7 Del
			c.722C>T	p.Ser241Phe	rs28934573	26%	RAD51B - Exon 8 to 11 Ampl
	uLMS047_R6	TP53	c.522_540dup-CTCATGGTGGGGCAGCGC	p.Arg181Alafs*6	-	58%	
	uLMS048_R7	TP53	c.487T>A	p.Tyr163Asn	rs786203436	62%	
	uLMS049_R8	TP53	c.493C>T	p.Gln165*	rs730882001	21%	
	uLMS050_R9	TP53	c.711G>A	p.Met237Ile	rs587782664	33%	RAD51B - Exon 8 to Intron 10 Del
			c.466C>G	p.Arg156Gly	-	32%	
	uLMS051_R10	TP53	c.376-1G>C	p.?	-	89%	
	uLMS052_R11	BRCA1	c.1703C>G	p.Pro568Arg	rs80356910	43%	CHEK1 - Exons 4 to 11 Del; RAD51B - Exons 2 to 5 Del; CDK12 - Exons 2 to 13 Del
		TP53	c.749C>T	p.Pro250Leu	rs1064794311	10%	
	uLMS053_R12	TP53	c.404G>A	p.Cys135Tyr	rs587781991	17%	
		FANCL	c.979C>G	p.Gln327Glu	rs764186411	37%	
	uLMS054_R13	PALB2	c.1368G>T	p.Glu456Asp	rs1555461319	23%	
	uLMS055_R14	FANCL	c.238C>G	p.Leu80Val	rs563513081	41%	
	uLMS056_R15	BARD1	c.1718T>C	p.Ile573Thr	rs587780022	95%	
	uLMS054_R16	BRCA2	c.2078G>A	p.Cys693Tyr	rs771226774	64%	
		BRIP1	c.139C>G	p.Pro47Ala	rs28903098	51%	
		CHEK2	c.475T>C	p.Tyr159His	rs781254437	64%	
	uLMS055_R17	ATM	c.483G>C	p.Gln161His	rs864622742	5%	
	uLMS056_R18	ATM	c.2638+3A>G	p.?	rs876660552	6%	
	uLMS057_R19	FANCL	c.2T>C	p.Met1?	rs761291501	46%	
		RAD51B	c.728A>G	p.Lys243Arg	rs34594234	46%	
PRIMARY & MATCHED METASTATIC DISEASE	uLMS058_P42	TP53	c.658T>C	p.Thy220His	rs530941076	13%	
	uLMS058_R20	TP53	c.658T>C	p.Thy220His	rs530941076	76%	CDK12 - Exon 1 to 5 Ampl
	uLMS059_P43	-	-	-	-	-	
	uLMS059_R21	TP53	c.377A>G	p.Tyr126Cys	rs1555526335	18%	
	uLMS060_P44	TP53	c.538G>A	p.Glu180Lys	rs879253911	81%	
		CHEK2	c.276dupC	p.Trp93Leufs*15	rs876661156	8%	
	uLMS060_R22	TP53	c.538G>A	p.Glu180Lys	rs879253911	85%	

		TP53	c.981T>G	p.Tyr327*	rs879254077	90%	
		BRCA2	c.2489A>G	p.Asn830Ser	rs786202809	40%	
	uLMS061_P45	TP53	c.818G>A	p.Arg273His	rs28934576	46%	RAD51B - Exon 4 to 7 Ampl; CDK12 - Exon 3 to 8 Ampl
	uLMS061_R23	TP53	c.818G>A	p.Arg273His	rs28934576	84%	
	uLMS062_P46	TP53	c.487T>A	p.(Tyr163Asn)	rs786203436	53%	
	uLMS062_R24	-	-	-	-	-	
	uLMS063_P47	TP53	c.329G>T	p.Arg110Leu	rs11540654	27%	ATM - Exon 23 to 24 Ampl
		TP53	c.830G>A	p.Cys277Tyr	rs763098116	30%	
	uLMS063_R25	-	-	-	-	-	