TP53 DNA binding domain mutational status and rituximab-based treatment are independent prognostic factors for pediatric Burkitt lymphoma patients stratification

Authors

Gaia Martire,[1,2*] Federica Lovisa,[1*] Elisa Carraro,[2] Domenico Rizzato,[1,2] Simone Cesaro,[3] Rosa Maria Mura,[4] Annalisa Tondo,[5] Cinzia Bertolin,[1,6] Francesca Boaretto,[1,6] Leonardo Salviati,[1,6] Alessandra Biffi,[1,2] Marta Pillon[2] and Lara Mussolin[1,2]

[1]Istituto di Ricerca Pediatrica Città della Speranza, Padova; [2]Paediatric Hematology, Oncology and Stem Cell Transplant Division, Maternal and Child Health Department, Padova University and University Hospital, Padova; [3]Pediatric Hematology Oncology, Department of Mother and Child, Azienda Ospedaliera Universitaria Integrata, Verona; [4]Paediatric Hematology and Oncology Unit, Ospedale Pediatrico Microcitemico, Cagliari; [5]Department of Hematology-Oncology, Anna Meyer Children's Hospital Istituto di Ricovero e Cura a Carattere Scientifico (IRCCS), Firenze and [6]Clinical Genetics Unit, Department of Women's and Children's Health, University of Padova, Padova, Italy

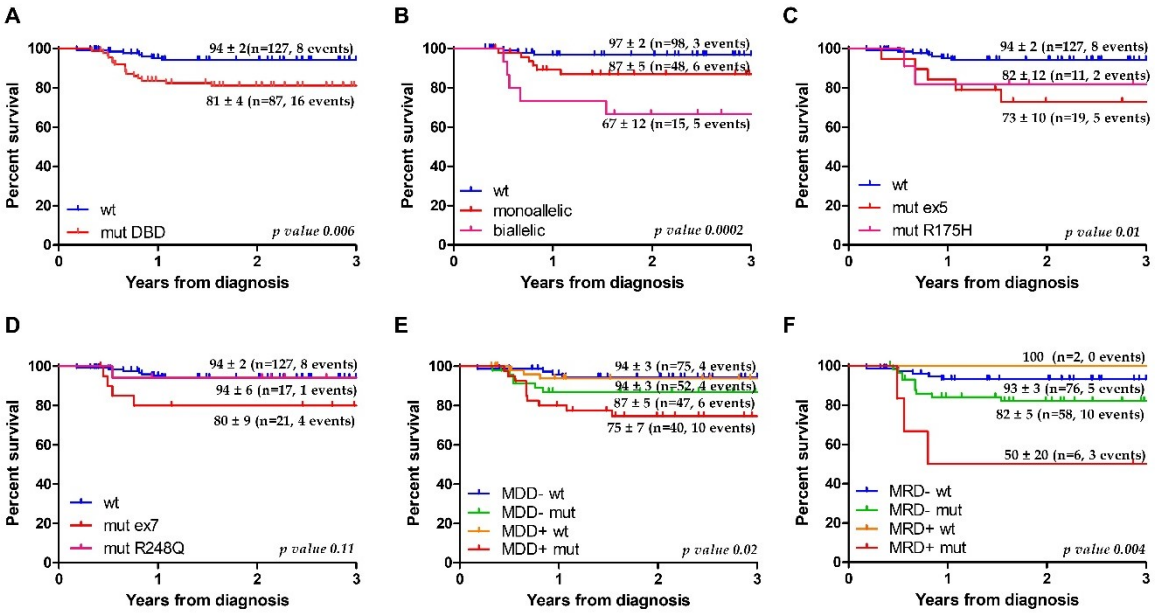
**GM and FL contributed equally as first authors.*

Correspondence:
L. MUSSOLIN - lara.mussolin@unipd.it

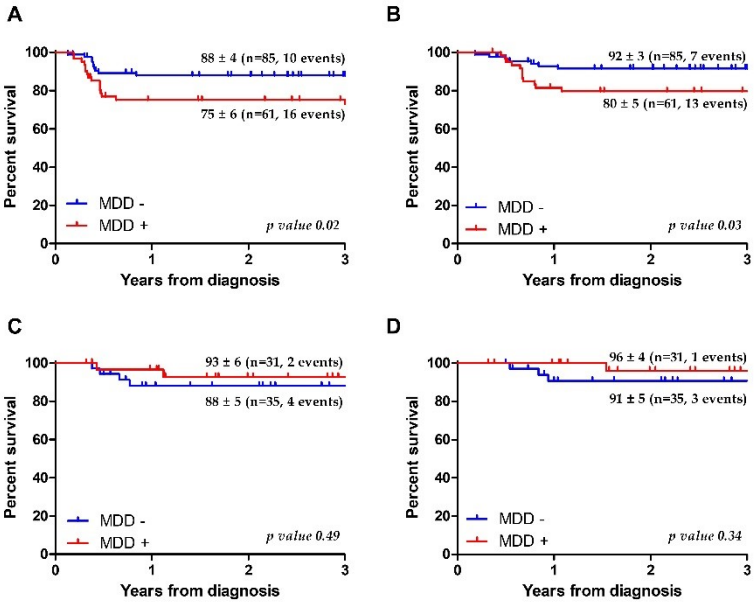
https://doi.org/10.3324/haematol.2023.284868

Supplementary material

Supplementary Figure 1. Overall survival probability according to TP53 mutational status, alone and in combination with MDD/MRD. 3-year OS% according to *TP53* DNA binding domain (DBD) mutational status (A), the presence of biallelic/monoallelic mutations on DBD (B) or the presence of specific hot-spot mutations in exons 5 and 7 (C-D). Panels E and F show the combined significance of *TP53* mutations and MDD or MRD, respectively.



Supplementary Figure 2. **Prognostic significance of MDD in BL patients treated with/without rituximab addition to standard chemotherapy.** 3-year PFS% (A) and OS% (B) in BL patients treated with standard chemotherapy without rituximab addition; 3-year PFS% (C) and OS% (D) in BL patients who received rituximab in addition to chemotherapy.



Supplementary Table 1.

Patient	exon 5		exon 6		exon 7		exon 8	
	DNA	protein	DNA	protein	DNA	protein	DNA	protein
BL290					c.695T>C - c.742C>T	p.I232T - p.R248W		
BL292							c.818G>A	p.R273H
BL296	c.524G>A	p.R175H						
BL297*	c.444T>G	p.D148E						
BL300					c.743G>A	p.R248Q		
BL301			c.631A>G	p.T211A				
BL303					c.742C>T	p.R248W		
BL305					c.742C>T	p.R248W		
BL306							c.820G>T	p.V274F
BL307					c.712T>A	p.C238*		
BL309							c.844C>T	p.R282W
BL310	c.524G>A	p.R175H					c.841G>C	p.D281H
BL311*	c.524G>A	p.R175H						
BL312					c.743G>A	p.R248Q		
BL314	c.524G>A	p.R175H					c.832C>T	p.P278S
BL315							c.818G>A	p.R273H
BL319			c.673T>G	splicing donor				
BL321*	c.437G>A	p.W146*						
BL323	c.524G>A	p.R175H						
BL324					c.706T>C	p.Y236H		
BL325	c.524G>A	p.R175H						
BL326							c.817C>T	p.R273C
BL327					c.743G>A	p.R248Q		
BL329					c.743G>A	p.R248Q		
BL333			c.653T>C - c.658T>C	p.V218A - p.Y220H	c.743G>A	p.R248Q		
BL337*	c.524G>A	p.R175H						
BL343	c.422G>A	p.C141Y			c.757-765del	p.T253-I255del		
BL344					c.706T>A	p.Y236N		
BL347*					c.743G>A	p.R248Q		
BL348*	c.524G>A	p.R175H						
BL354					c.710T>A	p.M237K		
BL355							c.818G>A	p.R273H
BL356					c.742C>T	p.R248W	c.821T>C	p.V274A
BL358			c.638G>T	p.R213L				
BL359					c.743G>A	p.R248Q		
BL360							c.856G>A	p.E286K
BL362							c.817C>T	p.R273C
BL364	c.404G>T - c.536A>G	p.C135F - p.H179R						
BL365	c.403T>C	p.C135R			c.734G>A	p.G245D		
BL368					c.743G>A	p.R248Q		
BL370*					c.743G>A	p.R248Q		

BL371							c.856G>A	p.E286K
BL376*	c.427G>A	p.V143M						
BL378					c.742C>T	p.R248W		
BL381	c.524G>A	p.R175H					c.916C>T	p.R306*
BL383	c.404G>T	p.C135F						
BL385*	c.380C>T	p.S127F						
BL388					c.743G>A	p.R248Q		
BL390			c. 652GTGCC>CT	p.V218_P219L				
BL391*	c.451C>T	p.P151S						
BL393	c.527G>T	p.C176F						
BL394*							c.844C>T	p.R282W
BL396	c.487T>C	p.Y163H			c.715A>G	p.N239D		
BL402					c.742C>T	p.R248W		
BL407			c.598-622del	p.N200Tfs*38				
BL413					c.743G>A	p.R248Q		
BL415*					c.743G>A	p.R248Q		
BL418*	c.517G>A	p.V173M						
BL420							c.821T>C	p.V274A
BL422					c.700T>C	p.Y234H		
BL426	c.397A>C	p.M133L					c.916C>T	p.R306*
BL428*					c.743G>A	p.R248Q		
BL430*					c.770T>C	p.L257P		
BL432	c.524G>A	p.R175H					c.818G>A	p.R273H
BL434							c.797G>T	p.G266V
BL439							c.818G>A	p.R273H
BL442							c.824G>A	p.C275Y
BL443							c.817C>T	p.R273C
BL447	c.455C>T	p.P152L					c.841G>A	p.D281N
BL448					c.742C>T	p.R248W		
BL452					c.743G>A	p.R248Q		
BL454	c.541C>T	p.R181C						
BL457					c.710T>A	p.M237K		
BL463			C.637C>T	p.R213*				
BL464	c.481G>T	p.A161S						
BL472	c.529C>T	p.P177S			c.743G>A	p.R248Q		
BL475					c.700T>G	p.Y234D		
BL477*	c.524G>A	p.R175H						
BL478	c.398T>A	p.M133K						
BL482							c.844C>T	p.R282W
BL485					c.740A>T	p.N247I		
BL486	c.527G>T	p.C176F						
BL488*					c.743G>A	p.R248Q		
BL493					c.743G>A	p.R248Q		
BL500					c.742C>T	p.R248W		

BL502							c.815T>A	p.V272E
BL504					c.733G>A	p.G245S		

*** homozygous mutation**