

Chromosome 1 abnormalities in elderly patients with newly diagnosed multiple myeloma treated with novel therapies

Simona Caltagirone,^{1,8} Marina Ruggeri,¹ Simona Aschero,¹ Milena Gilestro,¹ Daniela Oddolo,¹ Francesca Gay,¹ Sara Bringhen,¹ Caterina Musolino,² Luca Baldini,³ Pellegrino Musto,⁴ Maria T. Petrucci,⁵ Gianluca Gaidano,⁶ Roberto Passera,⁷ Benedetto Bruno,¹ Antonio Palumbo,¹ Mario Boccadoro,¹ and Paola Omedè¹

¹Divisione di Ematologia, Università di Torino, Azienda Ospedaliera Città della Salute e della Scienza di Torino; ²Divisione di Ematologia, Dipartimento di Chirurgia Generale e Oncologia, A.O.U. Policlinico G. Martino, Messina; ³Divisione di Ematologia, Fondazione IRCCS Ca Granda, OM Policlinico, Università di Milano; ⁴Direzione Scientifica, IRCCS – CROB, Centro di riferimento oncologico della Basilicata, Rionero in Vulture; ⁵Dipartimento di Biotecnologia cellulare e di Ematologia, Università “La Sapienza” di Roma; ⁶Divisione di Ematologia, Dipartimento di Medicina Traslazionale, Università degli studi del Piemonte Orientale “Amedeo Avogadro”, Novara; ⁷Divisione di medicina nucleare, Università di Torino, Azienda Ospedaliera Città della Salute e della Scienza di Torino; ⁸Scuola di specializzazione in medicina clinica, Università di Torino, Italy.

©2014 Ferrata Storti Foundation. This is an open-access paper. doi:10.3324/haematol.2014.103853

Manuscript received on January 17, 2014. Manuscript accepted on July 7, 2014.

Correspondence: paolaomede@yahoo.com

Supplemental Material

Table X: Baseline characteristics of patients

VARIABLES	Patients included in chr1 analysis		Patients not included in chr1 analysis		p-value
	<i>No</i>	%	<i>No</i>	%	
Status OS					0.521
Alive	169	60.8	149	63.9	
Dead	109	39.2	84	36.1	
Chemotherapy					0.131
VMP	131	47.1	126	54.1	
VMPT-VT	147	52.9	107	45.9	
Age					0.338
>75	212	76.2	186	79.8	
≤75	66	23.8	47	20.2	
Gender					0.657
Male	140	50.4	112	48.1	
Female	138	49.6	121	51.9	
Durie/Salmon Staging System					0.510
Stage I+II	38	31.4	48	35.5	
Stage III	83	68.6	87	64.5	
International Staging System					0.096
Stage I	55	24.1	60	31.2	
Stage II	108	47.4	93	48.4	
Stage III	65	28.5	39	20.4	
del(13)					0.084
Positive	150	54.0	45	43.7	
Negative	128	46.0	58	56.3	
del(17p)					0.078
Positive	49	17.6	10	9.7	
Negative	229	82.4	93	90.3	
t(11;14)					0.624
Positive	42	15.2	13	12.6	
Negative	234	84.8	90	87.4	
t(4;14)					0.999
Positive	31	15.6	28	15.8	
Negative	168	84.4	149	84.2	
t(14;16)					0.793
Positive	7	3.5	8	4.5	
Negative	192	96.5	169	95.5	

Abbreviations: VMP=Bortezomib Melphalan Prednisone, VMPT-VT= VMP and Thalidomide followed by VT maintenance, del=deletion, t=translocation, Chr=chromosome

Table Y: BMPC Immunophenotype by Flow Cytometry					
Antigens Expression	VMP		VMPT-VT		p-value
	<i>Median(%</i>		<i>Median(%</i>		
	<i>)</i>		<i>)</i>		
% of BMPC (CD38++)	7.5%		6.5%		0.943
<i>Expression on BMPC surface</i>					
CD19	3		3		0.532
CD20	4.8		3.3		0.135
CD45	11		11		0.796
CD56	83		86		0.928
CD117	9		8		0.560
<i>Expression of cyIg Light chains in BMPC</i>					
	<i>Pos/Tot</i>	<i>%</i>	<i>Pos/Tot</i>	<i>%</i>	
K	110/165	66.7	114/182	62.6	0.781
λ	55/165	33.3	68/182	37.4	0.663
Abbreviations: BMPC=bone marrow plasma cells, VMP=Bortezomib Melphalan Prednisone, VMPT-VT= Bortezomib Melphalan Prednisone and Thalidomide followed by Bortezomib and Thalidomide maintenance, cy=cytoplasmic , Ig=immunoglobulins.					

Table Z. Cytogenetic and immunophenotypic characteristics in association with Chr1 status			
Characteristics	Normal Chr1	Abnormal Chr1	
	Patients (N)	Patients (N)	p value
<u>Cytogenetic Features</u>			
del(13)	61	89	0.004
norm(13)	75	53	
del(17p)	27	22	0.350
norm(17p)	109	120	
t(11;14) positive	32	10	<0.001
t(11;14) negative	102	132	
t(4;14) and/or t(14;16)	24	34	0.167
t(4;14) and (14;16) negative	81	73	
<u>Immunophenotypic Features</u>			
CD19+	16	9	0.141
CD19-	115	129	
CD20+	22	16	0.221
CD20-	103	118	
CD45+	28	28	0.766
CD45-	103	113	
CD56+	95	99	0.893
CD56-	36	39	
CD117+	25	16	0.157
CD117-	65	71	
Abbreviations: del=deletion, norm=normal, t=translocation, chr=chromosome			

Figure 2

Cytogenetic and Immunophenotypic Features

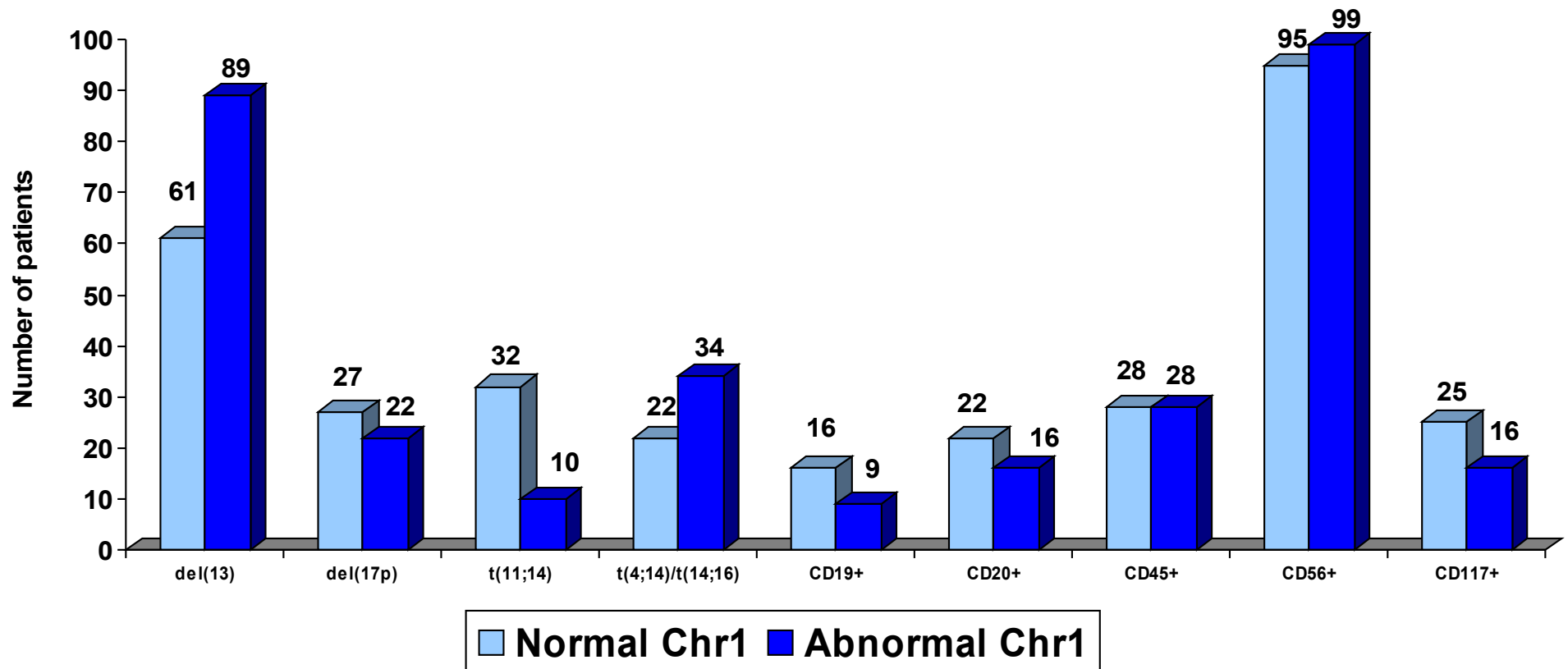


Figure 2 Legend: Frequencies of cytogenetic and immunophenotypic features related to Chr1 status.