Analysis of phenotype and outcome in essential thrombocythemia with *CALR* or *JAK2* mutations

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Supplementary Table 1. Types of *CALR* indels identified in 58 *CALR* positive ET patients

Type	Number of patients	mutation	*CALR* nucleotide/amino acid sequence of exon 9
Type 1	n=35	c.1092_1143del	caggacgagga▼gcagaggacaaggaggatgatgaggacaaagatgaggatgaggaggatgaggaggacaaggaggaagatgagg Q D E E Q R T R R M M R T K M R M R R M R R T R R K M R aggaagatgtccccggccaggccaaggacgagctgtagagaggcctgcctccagggctggactgaggcctga R K M S P A R P R T S C R E A C L Q G W T E A –
Type 2	n=18	c.1154_1155insTTGTC	caggacgaggagcagaggcttaaggaggaggaagaagacaagaaacgcaaagaggaggaggaggcagaggacaa▼ttgtc▼ggaggatgatgagg Q D E E Q R L K E E E E D K K R K E E E E A E D N C R R M R acaaagatgaggatgaggaggatgaggaggacaaggaggaagatgaggaggaagatgtccccggccaggccaaggacgagctgtagagaggcc T K M R M R R M R R T R R K M R R K M S P A R P R T S C R E A tgcctccagggctggactgaggcctga C L Q G W T E A –
Type 5	n=1	c.1091_1142del	caggacgagg▼ggcagaggacaaggaggatgatgaggacaaagatgaggatgaggaggatgaggaggacaaggaggaagatgaggagg Q D E G Q R T R R M M R T K M R M R R M R R T R R K M R R Aagatgtccccggccaggccaaggacgagctgtagagaggcctgcctccagggctggactgaggcctga K M S P A R P R T S C R E A C L Q G W T E A –
Type 8	n=1	c.1104_1137del	caggacgaggagcagaggcttaa▼gaggaggcagaggacaaggaggatgatgaggacaaagatgaggatgaggaggatgaggaggaca Q D E E Q R L K R R Q R T R R M M R T K M R M R R M R R T aggaggaagatgaggaggaagatgtccccggccaggccaaggacgagctgtagagaggcctgcctccagggctggactgaggcctga R R K M R R K M S P A R P R T S C R E A C L Q G W T E A –
Type 41	n=1	c.1107_1137del	caggacgaggagcagaggcttaagga▼gaggaggcagaggacaaggaggatgatgaggacaaagatgaggatgaggaggatgaggaggaca Q D E E Q R L K E R R Q R T R R M M R T K M R M R R M R R T aggaggaagatgaggaggaagatgtccccggccaggccaaggacgagctgtagagaggcctgcctccagggctggactgaggcctga R R K M R R K M S P A R P R T S C R E A C L Q G W T E A –
Type 42	n=1	c.1215del	caggacgaggagcagaggcttaaggaggaggaagaagacaagaaacgcaaagaggaggaggaggcagaggacaaggaggatgatgaggacaaa Q D E E Q R L K E E E E D K K R K E E E E A E D K E D D E D K gatgaggatgaggaggatgaggaggacaaggaggaagatg▼ggaggaagatgtccccggccaggccaaggacgagctgtagagaggcctg D E D E E D E E D K E E D G R K M S P A R P R T S C R E A C ctccagggctggactgaggcctga L Q G W T E A –
Type 43	n=1	c.1111_1142del insT	caggacgaggagcagaggcttaaggaggag▼t▼ggcagaggacaaggaggatgatgaggacaaagatgaggatgaggaggatgaggagg Q D E E Q R L K E E W Q R T R R M M R T K M R M R R M R R acaaggaggaagatgaggaggaagatgtccccggccaggccaaggacgagctgtagagaggcctgcctccagggctggactgaggcctga T R R K M R R K M S P A R P R T S C R E A C L Q G W T E A –

The blue color and the orange color indicate the WT sequence and the overlapping new C-terminal sequence of the different Types of indels respectively. ▼designates the site of the deletion or insertion. – represents a stop codon.

Supplementary Table 2. Hematological and clinical features of *JAK2* V617F positive, *CALR* Type 1 and Type 2 patients

	JAK2 positive n=56	Type 1 n=35	Type 2 n=18	*CALR* Type 1 vs Type 2 p-value	Type1 vs *JAK2* p-value	Type2 vs *JAK2* p-value
Age at diagnosis (mean ± SD, range)	65 ± 14.2	49.5 ± 19.4 (22-84)	54.6 ± 13.5 (28-76)	0.23	**<0.001**	**0.014**
gender (male)	22/56 (39.2%)	22/35 (63%)	8/18 (44%)	0.2	**0.03**	0.69
Platelets (10^9/L, mean ± SD)	863.4 ± 288.4	979.6 ± 266	1037 ± 549	0.63	**0.03**	0.22
Leukocytes (10^9/L, mean ± SD)	4.9 ± 0.6	8.97 ± 2.5	8.6 ± 2.9	0.43	**0.003**	**0.01**
Erythrocytes (10^{12}/L, mean ± SD)	11.6 ± 5.9	4.4 ± 0.8	4.4 ± 1.1	0.5	**0.002**	**0.001**
Hemoglobin (g/dL, mean ± SD)	14.4 ± 1.6	13.4 ± 2	13.1 ± 1.3	0.52	**0.03**	**0.007**
Hematocrit (percentage, mean ± SD)	43.9 ± 4.7	40.9 ± 6.9	39 ± 3.9	0.24	**0.02**	**0.001**
Cytoreductive treatment	49/56 (88%)	31/34 (91%)	17/18 (94%)	1	0.73	0.67
Splenomegaly	3/46 (7%)	1/30 (3%)	2/15 (13%)	0.25	1	0.58
Cardiovascular complications at diagnosis	8/55 (15%)	7/34 (21%)	3/17 (18%)	1	0.45	0.71
Arterial thrombosis	9/54 (17%)	8/33 (24%)	2/17 (12%)	0.46	0.38	1
Venous event	7/54 (13%)	1/28 (4%)	1/17 (6%)	1	0.25	0.67
Death	11/48 (23%)	4/31 (13%)	3/16 (19%)	0.59	0.26	0.72
Progression to MF	2/50 (4%)	6/33 (18%)	2/12 (17%)	0.68	**0.01**	0.16
Progression to AML	3/50 (6%)	3/29 (10%)	1/15 (7%)	1	0.66	1

Numbers in bold are p-values <0.05

Supplementary Table 3. Hematological and clinical features of *CALR* positive, *JAK2* V617F high load and *JAK2* V617F low load

	CALR positive n=58	*JAK2* high load n=46	*JAK2* low load n=10	*CALR* positive vs *JAK2* low load p-value	JAK 2 high load vs *JAK2* low load p-value load
Age at diagnosis (mean ± SD, range)	51.6 ± 17	65 ± 15 (36-94)	64 ± 9 (50-78)	**0.04**	0.63
gender (male)	33/58 (56.8%)	19/46 (41%)	3/10 (30%)	0.17	0.33
Platelets (10^9/L, mean ± SD)	989.8 ± 371.3	881.7 ± 278.4	779 ± 334	**0.04**	0.22
Leukocytes (109/L, mean ± SD)	4.4 ± 0.9	11.7 ± 6.3	11.1 ± 3.6	**0.046**	0.98
Erythrocytes (10^{12}/L, mean ± SD)	8.9 ± 2.6	5.1 ± 0.7	4.7 ± 0.4	0.11	0.08
Hemoglobin (g/dL, mean ± SD)	13.3 ± 1.8	14.5 ± 1.7	13.6 ± 1	0.59	0.07
Hematocrit (percentage, mean ± SD)	40.2 ± 6.1	44.4 ± 4.9	41.8 ± 2.9	0.35	0.09
Cytoreductive treatment	51/56 (9%)	42/46 (91%)	7/10 (70%)	0.09	0.09
Splenomegaly	3/50 (6%)	14/43 (33%)	1/7 (40%)	0.45	0.65
Cardiovascular complications at diagnosis	9/55 (16%)	5/46 (11%)	3/9 (33%)	0.35	0.11
arterial thrombosis	11/55 (20%)	7/45 (16%)	2/9 (22%)	1	0.63
venous event	2/49 (4%)	6/45 (13%)	1/9 (11%)	0.4	1
Death	7/51 (14%)	10/38 (26%)	1/10 (10%)	1	0.4
progression to MF	9/51 (18%)	2/41 (5%)	0/9	0.33	1
progression to AML	4/49 (8%)	3/41 (7%)	0/9	1	1

Numbers in bold are p-values <0.05