

Supplementary Materials: Kidney Dysfunction Is Associated with Thrombosis and Dis-ease Severity in Myeloproliferative Neoplasms: Implications from the German Study Group for MPN Bioregistry

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Table S1. Patient characteristics of the total cohort and by eGFR groups.

Parameter (n, % row, % column)	Category	total (n, % in parameter)	eGFR1	eGFR2	eGFR3	Comparison Between Pairs	p
Patients; n, % of total	-	1420	304	799	317	-	-
Diagnosis	-	100.0	21.4	56.3	22.3	-	-
	ET	546	129	308	109	ET - PV eGFR1 - eGFR2	0.0188 >0.9999
		38.45	23.63	56.41	19.96	eGFR1 - eGFR3	>0.9999
	PV	478	102	279	97	eGFR2 - eGFR3	>0.9999
		33.66	21.34	58.37	20.29	ET - MF eGFR1 - eGFR2	0.0243 0.8124
	MF	396	73	212	111	eGFR1 - eGFR3	0.0099
		27.89	18.43	53.54	28.03	eGFR2 - eGFR3	0.0558
			24.01	26.53	35.02	PV - MF eGFR1 - eGFR2	0.0795
						eGFR1 - eGFR3	>0.9999
						eGFR2 - eGFR3	0.0729
							0.0480
Thromboembolism							0.0141
	yes	414	80	221	113	eGFR1 - eGFR2	>0.9999
		29.15	19.32	53.38	27.29	eGFR1 - eGFR3	0.0453
			26.32	27.66	35.65	eGFR2 - eGFR3	0.0276
	no	1006	224	578	204		
		70.85	22.27	57.46	20.28		
Bleeding							0.6449
	yes	55	14	31	10	eGFR1 - eGFR2	>0.9999
		3.87	25.45	56.36	18.18	eGFR1 - eGFR3	>0.9999
			4.61	3.88	3.15	eGFR2 - eGFR3	>0.9999
	no	1365	290	768	307		
		96.13	21.25	56.26	22.49		
Sex							0.0643
	f	726	144	403	179	eGFR1 - eGFR2	>0.9999
		51.13	19.83	55.51	24.66	eGFR1 - eGFR3	0.0741
			47.37	50.44	56.47	eGFR2 - eGFR3	0.2190
	m	694	160	396	138		
		48.87	23.05	57.06	19.88		
			52.63	49.56	43.53		
Age at diagnosis, years							<0.0001
	>60	606	80	318	208	eGFR1 - eGFR2	<0.0001
		42.80	13.20	52.48	34.32	eGFR1 - eGFR3	<0.0001
			26.40	39.80	66.24	eGFR2 - eGFR3	<0.0001
	≤60	810	223	481	106		
		57.20	27.53	59.38	13.09		
			73.60	60.20	33.76		
Age at creatinine test, years							<0.0001
	>60	780	103	416	261	eGFR1 - eGFR2	<0.0001
		54.93	13.21	53.33	33.46	eGFR1 - eGFR3	<0.0001
			33.88	52.07	82.33	eGFR2 - eGFR3	<0.0001

Parameter (n, % row, % column)	Category	total (n, % in parameter)	eGFR1	eGFR2	eGFR3	Comparison Between Pairs	p
Age at first MPN treatment, years	≤60	640	201	383	56		
		45.07	31.41	59.84	8.75		
			66.12	47.93	17.67		
	>60	465	56	243	166	eGFR1 - eGFR2	<0.0001
		49.95	12.04	52.26	35.70	eGFR1 - eGFR3	<0.0001
			29.95	47.74	70.64	eGFR2 - eGFR3	<0.0001
JAK2V617F mutation	≤60	466	131	266	69		
		50.05	28.11	57.08	14.81		
			70.05	52.26	29.36		
	yes	964	208	533	223	eGFR1 - eGFR2	0.1014
		73.31	21.58	55.29	23.13	eGFR1 - eGFR3	>0.9999
			71.48	72.12	78.25	eGFR2 - eGFR3	0.2046
no	351	83	206	62			
	26.69	23.65	58.69	17.66			
		28.52	27.88	21.75			
CALR mutation	yes	139	39	82	18	eGFR1 - eGFR2	0.0192
		27.31	28.06	58.99	12.95	eGFR1 - eGFR3	>0.9999
			32.23	29.18	16.82	eGFR2 - eGFR3	0.0270
	no	370	82	199	89		
		72.69	22.16	53.78	24.05		
			67.77	70.82	83.18		
Diabetes mellitus	yes	97	21	38	38	eGFR1 - eGFR2	<0.0001
		7.75	21.65	39.18	39.18	eGFR1 - eGFR3	0.5223
			7.87	5.36	13.82	eGFR2 - eGFR3	0.0834
	No	1154	246	671	237		
		92.25	21.32	58.15	20.54		
			92.13	94.64	86.18		
Arterial hypertension	yes	468	81	235	152	eGFR1 - eGFR2	<0.0001
		48.95	17.31	50.21	32.48	eGFR1 - eGFR3	0.1260
			36.99	45.19	70.05	eGFR2 - eGFR3	<0.0001
	no	488	138	285	65		
		51.05	28.28	58.40	13.32		
			63.01	54.81	29.95		
Hyperlipidemia	yes	21	3	10	8	eGFR1 - eGFR2	0.0101
		11.60	14.29	47.62	38.10	eGFR1 - eGFR3	>0.9999
			5.77	10.00	27.59	eGFR2 - eGFR3	0.0420
	no	160	49	90	21		
		88.40	30.63	56.25	13.13		
			94.23	90.00	72.41		
ECOG-score *,†	ECOG 0	683	151	395	137	eGFR1 - eGFR2	0.0184
		69.3	22.11	57.83	20.06	eGFR1 - eGFR3	>0.9999
			71.23	71.95	61.16	eGFR2 - eGFR3	0.0780
	ECOG 1	270	52	141	77		
		27.4	19.26	52.22	28.52		
			24.53	25.68	34.38		
	ECOG 2	25	6	11	8		
		2.5	24.00	44.00	32.00		
			2.83	2.00	3.57		
	ECOG 3	7	3	2	2		
		0.7	42.86	28.57	28.57		
			1.42	0.36	0.89		
Leukocytes, G/L	>8.4	700	142	373	185	eGFR1 - eGFR2	0.0013
		49.72	20.29	53.29	26.43	eGFR1 - eGFR3	>0.9999
			46.71	47.28	58.73	eGFR2 - eGFR3	0.0087
	≤8.4	708	162	416	130		
		50.28	22.88	58.76	18.36		
			53.29	52.72	41.27		
Platelets, G/L	>492	697	153	407	137	eGFR1 - eGFR2	>0.9999
		49.96	21.95	58.39	19.66	eGFR1 - eGFR3	0.2715
			50.50	52.38	43.49	eGFR2 - eGFR3	0.0273

Parameter (n, % row, % column)	Category	total (n, % in parameter)	eGFR1	eGFR2	eGFR3	Comparison Between Pairs	p
Uric acid, mg/dL	≤492	698	150	370	178		
		50.04	21.49	53.01	25.50		
	>5.7	487	76	257	154	eGFR1 - eGFR2	<0.0001
Absolute neutrophil count, G/L	≤5.7	48.12	15.61	52.77	31.62	eGFR1 - eGFR3	<0.0001
		51.88	34.23	45.25	69.37	eGFR2 - eGFR3	<0.0001
	>5.48	625	125	339	161	eGFR1 - eGFR2	>0.9999
Absolute monocyte count, G/L	≤5.48	49.84	20.00	54.24	25.76	eGFR1 - eGFR3	0.0081
		50.16	45.96	47.81	58.97	eGFR2 - eGFR3	0.0051
	>0.55	629	147	370	112		
LDH, U/L	≤0.55	50.46	23.37	58.82	17.81		
		50.46	54.04	52.19	41.03		
	>267.5	650	135	342	173	eGFR1 - eGFR2	>0.9999
CRP, mg/L	≤267.5	49.54	20.77	52.62	26.62	eGFR1 - eGFR3	0.0180
		50.00	47.37	46.66	58.84	eGFR2 - eGFR3	0.0012
	>1.4	662	150	391	121		
Thromboembolism	≤1.4	50.46	22.66	59.06	18.28		
		50.46	52.63	53.34	41.16		
	>1.4	678	128	369	181	eGFR1 - eGFR2	0.0001
Bleeding	≤267.5	50.00	18.88	54.42	26.70	eGFR1 - eGFR3	0.0003
		50.00	43.84	48.30	60.33	eGFR2 - eGFR3	0.0015
	>1.4	678	164	395	119		
Sex	≤1.4	50.00	24.19	58.26	17.55		
		51.69	56.16	51.70	39.67		
	>1.4	172	35	85	52	eGFR1 - eGFR2	>0.9999
Age at diagnosis, years	≤1.4	48.31	20.35	49.42	30.23	eGFR1 - eGFR3	0.0813
		51.69	44.30	43.81	62.65	eGFR2 - eGFR3	0.0171
	>1.4	184	44	109	31		
Age at diagnosis, years	≤1.4	51.69	23.91	59.24	16.85		
		51.69	55.70	56.19	37.35		
	>1.4	172	35	85	52	eGFR1 - eGFR2	>0.9999

* ECOG 4 and 5 0% each. † Significance testing for ECOG 0 vs 1. Bolded values indicate significant P values.

Table S2. Patient characteristics by eGFR groups in ET patients

Parameter (n, % row, % column)	Category	total (n, % in parameter)	eGFR1	eGFR2	eGFR3	Comparison between pairs	p
Patients; n, % of total		546	129	308	109		
		100.0	23.63	56.41	19.96		
Thromboembolism	yes	142	33	75	34	eGFR1 - eGFR2	>0.9999
		26.01	23.24	52.82	23.94	eGFR1 - eGFR3	>0.9999
	no	404	25.58	24.35	31.19	eGFR2 - eGFR3	0.4959
Bleeding	yes	73.99	96	233	75		
		73.99	23.76	57.67	18.56		
	no	529	122	300	107		
Sex	f	96.89	23.06	56.71	20.23		
		96.89	94.57	97.40	98.17		
	m	227	66	122	39	eGFR1 - eGFR2	0.0321
Age at diagnosis, years	f	58.42	19.75	58.31	21.94	eGFR1 - eGFR3	0.1017
		58.42	48.84	60.39	64.22	eGFR1 - eGFR3	0.0564
	>0.9999	227	29.07	53.74	17.18	eGFR2 - eGFR3	>0.9999
>0.9999	41.58	51.16	39.61	35.78			

Parameter (n, % row, % column)	Category	total (n, % in parameter)	eGFR1	eGFR2	eGFR3	Comparison between pairs	p
Age at creatinine test, years	>60	195	24	108	63		
		35.78	12.31	55.38	32.31	eGFR1 - eGFR2	0.0024
			18.75	35.06	57.80	eGFR1 - eGFR3	<0.0001
	≤60	350	104	200	46	eGFR2 - eGFR3	<0.0001
		64.22	29.71	57.14	13.14		
			81.25	64.94	42.20		
						<0.0001	
Age at first MPN treatment, years	>60	263	34	145	84		
		48.17	12.93	55.13	31.94	eGFR1 - eGFR2	<0.0001
			26.36	47.08	77.06	eGFR1 - eGFR3	<0.0001
	≤60	283	95	163	25	eGFR2 - eGFR3	<0.0001
		51.83	33.57	57.60	8.83		
			73.64	52.92	22.94		
						<0.0001	
JAK2V617F mutation	>60	163	17	95	51		
		45.53	10.43	58.28	31.29	eGFR1 - eGFR2	<0.0001
			20.73	47.98	65.38	eGFR1 - eGFR3	<0.0001
	≤60	195	65	103	27	eGFR2 - eGFR3	0.0327
		54.47	33.33	52.82	13.85		
			79.27	52.02	34.62		
						0.0032	
CALR mutation	yes	317	66	176	75		
		63.15	20.82	55.52	23.66	eGFR1 - eGFR2	0.5505
			54.55	62.19	76.53	eGFR1 - eGFR3	0.0030
	no	185	55	107	23	eGFR2 - eGFR3	0.0291
		36.85	29.73	57.84	12.43		
			45.45	37.81	23.47		
						0.1079	
Diabetes mellitus	yes	81	28	46	7	eGFR1 - eGFR2	
		36.99	34.57	56.79	8.64	eGFR1 - eGFR3	>0.9999
			42.42	38.33	21.21	eGFR2 - eGFR3	0.1377
	no	138	38	74	26		
		63.01	27.54	53.62	18.84		0.2922
			57.58	61.67	78.79		
						0.0001	
Arterial hypertension	yes	31	8	8	15		
		6.40	25.81	25.81	48.39	eGFR1 - eGFR2	0.2685
			7.02	2.92	15.63	eGFR1 - eGFR3	0.2226
	no	453	106	266	81	eGFR2 - eGFR3	<0.0001
		93.60	23.40	58.72	17.88		
			92.98	97.08	84.38		
						<0.0001	
Hyperlipidemia	yes	171	32	82	57	eGFR1 - eGFR2	0.7611
		45.60	18.71	47.95	33.33	eGFR1 - eGFR3	<0.0001
			32.99	40.20	77.03	eGFR2 - eGFR3	<0.0001
	no	204	65	122	17		
		54.40	31.86	59.80	8.33		
			67.01	59.80	22.97		
						0.3263	
ECOG-score ^{+,†}	yes	7	2	3	2	eGFR1 - eGFR2	>0.9999
		10.61	28.57	42.86	28.57	eGFR1 - eGFR3	0.5661
			6.67	10.71	25.00	eGFR2 - eGFR3	0.9144
	no	59	28	25	6		
		89.39	47.46	42.37	10.17		
			93.33	89.29	75.00		
						0.2586	
Leukocytes, G/L	ECOG 0	277	68	159	50	eGFR1 - eGFR2	>0.9999
		75.07	24.55	57.40	18.05	eGFR1 - eGFR3	>0.9999
			73.12	78.71	67.57	eGFR2 - eGFR3	0.4080
	ECOG 1	82	21	40	21		
		22.22	25.61	48.78	25.61		
			22.58	19.80	28.38		
	ECOG 2	9	3	3	3		
		2.44	33.33	33.33	33.33		
			3.23	1.49	4.05		
	ECOG 3	1	1	0	0		
		0.27	100.00	0	0		
			1.08				
						0.0685	
>8.4	250	53	137	60	eGFR1 - eGFR2	>0.9999	

Parameter (n, % row, % column)	Category	total (n, % in parameter)	eGFR1	eGFR2	eGFR3	Comparison between pairs	p
		46.13	21.20	54.80	24.00	eGFR1 - eGFR3	0.0825
			41.09	44.92	55.56	eGFR2 - eGFR3	0.2178
Platelets, G/L	≤8.4	292	76	168	48		
		53.87	26.03	57.53	16.44		
	>492	409	103	233	73	eGFR1 - eGFR2	>0.9999
		76.02	80.47	77.15	67.59	eGFR1 - eGFR3	0.0762
Uric acid, mg/dL	≤492	129	25	69	35	eGFR2 - eGFR3	0.1623
		23.98	19.38	53.49	27.13		
	>5.7	144	18	79	47		<0.0001
		37.02	12.50	54.86	32.64	eGFR1 - eGFR2	0.0210
Absolute neutrophil count, G/L	≤5.7	245	73	144	28	eGFR1 - eGFR3	<0.0001
		62.98	29.80	58.78	11.43	eGFR2 - eGFR3	<0.0001
	>5.48	226	43	129	54		0.0304
		45.75	19.03	57.08	23.89	eGFR1 - eGFR2	0.3564
Absolute monocyte count, G/L	≤5.48	268	73	151	44	eGFR1 - eGFR3	0.0273
		54.25	27.24	56.34	16.42	eGFR2 - eGFR3	0.3861
	>0.55	263	52	149	62		0.0494
		51.27	19.77	56.65	23.57	eGFR1 - eGFR2	0.5751
LDH, U/L	≤0.55	250	67	142	41	eGFR1 - eGFR3	0.0474
		48.73	26.80	56.80	16.40	eGFR2 - eGFR3	0.4056
	>267.5	184	38	102	44		0.2112
		34.72	20.65	55.43	23.91	eGFR1 - eGFR2	>0.9999
CRP, mg/L	≤267.5	346	88	195	63	eGFR1 - eGFR3	0.2958
		65.28	25.43	56.36	18.21	eGFR2 - eGFR3	0.7221
	>1.4	51	13	25	13		0.3321
		40.48	25.49	49.02	25.49	eGFR1 - eGFR2	>0.9999
	≤1.4	75	26	37	12	eGFR1 - eGFR3	0.5790
		59.52	34.67	49.33	16.00	eGFR2 - eGFR3	>0.9999
			66.67	59.68	48.00		

* ECOG 4 and 5 0% each. † Significance testing for ECOG 0 vs 1. Bolded values indicate significant P values.

Table S3. Patient characteristics by eGFR groups in PV patients

Parameter (n, % row, % column)	Category	total (n, % in parameter)	eGFR1	eGFR2	eGFR3	Comparison between pairs	p
Patients; n, % of total		478	102	279	97		
Thromboembolism	yes	161	31	86	44		0.0243
		33.68	19.25	53.42	27.33	eGFR1 - eGFR2	>0.9999
	no	317	30.39	30.82	45.36	eGFR1 - eGFR3	0.1206
		66.32	71	193	53	eGFR2 - eGFR3	0.0387
Bleeding	yes	20	5	13	2	eGFR1 - eGFR2	0.5696
		4.18	25.00	65.00	10.00	eGFR1 - eGFR3	>0.9999
	no	458	4.90	4.66	2.06	eGFR2 - eGFR3	>0.9999
		95.82	97	266	95		
			21.18	58.08	20.74		

Parameter (n, % row, % column)	Category	total (n, % in parameter)	eGFR1	eGFR2	eGFR3	Comparison between pairs	p
			95.10	95.34	97.94		
Sex							0.0378
	f	240 50.21	44 18.33 43.14	137 57.08 49.10	59 24.58 60.82	eGFR1 - eGFR2 eGFR1 - eGFR3 eGFR2 - eGFR3	>0.9999 0.0474 0.1764
	m	238 49.79	58 24.37 56.86	142 59.66 50.90	38 15.97 39.18		
Age at diagnosis, years							<0.0001
	>60	224 46.96	30 13.39 29.41	125 55.80 44.80	69 30.80 71.88	eGFR1 - eGFR2 eGFR1 - eGFR3 eGFR2 - eGFR3	0.0207 <0.0001 <0.0001
	≤60	253 53.04	72 28.46 70.59	154 60.87 55.20	27 10.67 28.13		
Age at creatinine test, years							<0.0001
	>60	293 61.30	41 13.99 40.20	165 56.31 59.14	87 29.69 89.69	eGFR1 - eGFR2 eGFR1 - eGFR3 eGFR2 - eGFR3	0.0033 <0.0001 <0.0001
	≤60	185 38.70	61 32.97 59.80	114 61.62 40.86	10 5.41 10.31		
Age at first MPN treatment, years							<0.0001
	>60	171 55.88	20 11.70 33.90	93 54.39 53.45	58 33.92 79.45	eGFR1 - eGFR2 eGFR1 - eGFR3 eGFR2 - eGFR3	0.0315 <0.0001 0.0003
	≤60	135 44.12	39 28.89 66.10	81 60.00 46.55	15 11.11 20.55		
JAK2V617F mutation							0.2881
	yes	419 92.29	96 22.91 96.00	242 57.76 91.32	81 19.33 91.01	eGFR1 - eGFR2 eGFR1 - eGFR3 eGFR2 - eGFR3	0.5328 0.6978 >0.9999
	no	35 7.71	4 11.43 4.00	23 65.71 8.68	8 22.86 8.99		
CALR mutation							0.3973
	yes	2 1.63	1 50.00 4.55	1 50.00 1.47	0 0.00 0.00	eGFR1 - eGFR2 eGFR1 - eGFR3 eGFR2 - eGFR3	>0.9999 >0.9999 >0.9999
	no	121 98.37	21 17.36 95.45	67 55.37 98.53	33 27.27 100.00		
Diabetes mellitus							0.4161
	yes	41 9.49	12 29.27 12.50	20 48.78 8.00	9 21.95 10.47	eGFR1 - eGFR2 eGFR1 - eGFR3 eGFR2 - eGFR3	0.6459 >0.9999 >0.9999
	no	391 90.51	84 21.48 87.50	230 58.82 92.00	77 19.69 89.53		
Arterial hypertension							0.0560
	yes	189 62.79	35 18.52 53.03	105 55.56 62.50	49 25.93 73.13	eGFR1 - eGFR2 eGFR1 - eGFR3 eGFR2 - eGFR3	0.5604 0.0594 0.3936
	no	112 37.21	31 27.68 46.97	63 56.25 37.50	18 16.07 26.87		
Hyperlipidemia							0.5809
	yes	8 17.02	1 12.50 9.09	6 75.00 18.18	1 12.50 33.33	eGFR1 - eGFR2 eGFR1 - eGFR3 eGFR2 - eGFR3	>0.9999 >0.9999 >0.9999
	no	39 82.98	10 25.64 90.91	27 69.23 81.82	2 5.13 66.67		
ECOG-score ^{*,†}							0.3696
	ECOG 0	236 70.87	50 21.19 76.92	133 56.36 67.86	53 22.46 73.61	eGFR1 - eGFR2 eGFR1 - eGFR3 eGFR2 - eGFR3	0.6075 >0.9999 >0.9999
	ECOG 1	92 27.63	14 15.22	59 64.13	19 20.65		

Parameter (n, % row, % column)	Category	total (n, % in parameter)	eGFR1	eGFR2	eGFR3	Comparison between pairs	p
			21.54	30.10	26.39		
	ECOG 2	4 1.20	1 25.00 1.54	3 75.00 1.53	0		
	ECOG 3	1 0.30	0	1 100.00 0.51	0		
Leukocytes, G/L							0.4807
	>8.4	269 57.11	54 20.07 52.94	156 57.99 57.14	59 21.93 61.46	eGFR1 - eGFR2 eGFR1 - eGFR3	>0.9999 0.7563
	≤8.4	202 42.89	48 23.76 47.06	117 57.92 42.86	37 18.32 38.54	eGFR2 - eGFR3	>0.9999
Platelets, G/L							0.5275
	>492	173 37.12	33 19.08 32.35	103 59.54 38.58	37 21.39 38.14	eGFR1 - eGFR2 eGFR1 - eGFR3	0.8406 >0.9999
	≤492	293 62.88	69 23.55 67.65	164 55.97 61.42	60 20.48 61.86	eGFR2 - eGFR3	>0.9999
Uric acid, mg/dL							0.0014
	>5.7	186 51.24	34 18.28 40.96	101 54.30 49.03	51 27.42 68.92	eGFR1 - eGFR2 eGFR1 - eGFR3	0.7251 0.0021
	≤5.7	177 48.76	49 27.68 59.04	105 59.32 50.97	23 12.99 31.08	eGFR2 - eGFR3	0.0123
Absolute neutrophil count, G/L							0.2392
	>5.48	245 60.05	52 21.22 57.14	139 56.73 58.40	54 22.04 68.35	eGFR1 - eGFR2 eGFR1 - eGFR3	>0.9999 0.4632
	≤5.48	163 39.95	39 23.93 42.86	99 60.74 41.60	25 15.34 31.65	eGFR2 - eGFR3	0.4296
Absolute monocyte count, G/L							0.0244
	>0.55	218 50.46	54 24.77 55.67	111 50.92 44.94	53 24.31 60.23	eGFR1 - eGFR2 eGFR1 - eGFR3	0.2787 >0.9999
	≤0.55	214 49.54	43 20.09 44.33	136 63.55 55.06	35 16.36 39.77	eGFR2 - eGFR3	0.0540
LDH, U/L							0.0466
	>267.5	205 45.66	43 20.98 43.88	111 54.15 42.37	51 24.88 57.30	eGFR1 - eGFR2 eGFR1 - eGFR3	>0.9999 0.2382
	≤267.5	244 54.34	55 22.54 56.12	151 61.89 57.63	38 15.57 42.70	eGFR2 - eGFR3	0.0573
CRP, mg/L							0.3641
	>1.4	55 45.45	10 18.18 43.48	31 56.36 41.89	14 25.45 58.33	eGFR1 - eGFR2 eGFR1 - eGFR3	>0.9999 >0.9999
	≤1.4	66 54.55	13 19.70 56.52	43 65.15 58.11	10 15.15 41.67	eGFR2 - eGFR3	0.7149

* ECOG 4 and 5 0% each. † Significance testing for ECOG 0 vs 1. Bolded values indicate significant P values.

Table S4. Patient characteristics by eGFR groups in MF patients

Parameter (n, % row, % column)	Category	total (n, % in parameter)	eGFR1	eGFR2	eGFR3	Comparison between pairs	p
Patients; n, % of total		396 100.0	73 18.43	212 53.54	111 28.03		
Thromboembolism							0.3616
	yes	111 28.03	16 14.41 21.92	60 54.05 28.30	35 31.53 31.53	eGFR1 - eGFR2 eGFR1 - eGFR3 eGFR2 - eGFR3	>0.9999 0.5391 >0.9999

Parameter (n, % row, % column)	Category	total (n, % in parameter)	eGFR1	eGFR2	eGFR3	Comparison between pairs	p
Bleeding	no	285	57	152	76		
		71.97	20.00	53.33	26.67		
Sex	yes	18	2	10	6		0.6865
		4.55	11.11	55.56	33.33	eGFR1 - eGFR2	>0.9999
Age at diagnosis, years	no	378	71	202	105	eGFR1 - eGFR3	>0.9999
		95.45	18.78	53.44	27.78	eGFR2 - eGFR3	>0.9999
Age at creatinine test, years	f	229	37	80	50		0.1191
		57.83	15.72	57.64	26.64		
Age at first MPN treatment, years	m	167	22.16	47.90	29.94	eGFR1 - eGFR2	0.1653
		42.17	50.68	37.74	45.05	eGFR1 - eGFR3	>0.9999
JAK2V617F mutation	>60	229	36	132	61	eGFR2 - eGFR3	0.6975
		57.83	15.72	57.64	26.64		
CALR mutation	>60	207	47	127	33		<0.0001
		52.54	22.71	61.35	15.94	eGFR1 - eGFR2	>0.9999
Diabetes mellitus	≤60	207	22.71	61.35	15.94	eGFR1 - eGFR3	<0.0001
		52.54	64.38	59.91	30.28	eGFR2 - eGFR3	<0.0001
Arterial hypertension	>60	224	28	106	90		<0.0001
		56.57	12.50	47.32	40.18	eGFR1 - eGFR2	0.3084
Hyperlipidemia	≤60	172	45	106	21	eGFR1 - eGFR3	<0.0001
		43.43	26.16	61.63	12.21	eGFR2 - eGFR3	<0.0001
Diabetes mellitus	>60	131	19	55	57		0.0002
		49.06	14.50	41.98	43.51	eGFR1 - eGFR2	>0.9999
JAK2V617F mutation	≤60	136	27	82	27	eGFR1 - eGFR3	0.0015
		50.94	19.85	60.29	19.85	eGFR2 - eGFR3	<0.0001
CALR mutation	yes	228	46	115	67		0.3602
		63.51	20.18	50.44	29.39	eGFR1 - eGFR2	>0.9999
Diabetes mellitus	no	131	24	76	31	eGFR1 - eGFR3	>0.9999
		36.49	18.32	58.02	23.66	eGFR2 - eGFR3	0.5967
Arterial hypertension	yes	111	23	58	30		0.4311
		66.47	20.72	52.25	27.03	eGFR1 - eGFR2	>0.9999
Diabetes mellitus	no	56	10	35	11	eGFR1 - eGFR3	>0.9999
		33.53	17.86	62.50	19.64	eGFR2 - eGFR3	>0.9999
Arterial hypertension	yes	111	23	58	30		0.7308
		66.47	20.72	52.25	27.03		
Diabetes mellitus	no	25	1	10	14		0.0031
		7.46	4.00	40.00	56.00	eGFR1 - eGFR2	>0.9999
Arterial hypertension	yes	310	56	175	79	eGFR1 - eGFR3	0.0288
		92.54	18.06	56.45	25.48	eGFR2 - eGFR3	0.0342
Hyperlipidemia	no	108	14	48	46		<0.0001
		38.57	12.96	44.44	42.59	eGFR1 - eGFR2	>0.9999
Diabetes mellitus	yes	172	42	100	30	eGFR1 - eGFR3	<0.0001
		61.43	24.42	58.14	17.44	eGFR2 - eGFR3	<0.0001
Arterial hypertension	no	6	0	1	5		0.0041
		8.82	0.00	16.67	83.33	eGFR1 - eGFR2	>0.9999
Hyperlipidemia	yes	6	0	1	5	eGFR1 - eGFR3	0.3783
		8.82	0.00	16.67	83.33		

Parameter (n, % row, % column)	Category	total (n, % in parameter)	eGFR1	eGFR2	eGFR3	Comparison between pairs	p
			0.00	2.5	27.78	eGFR2 - eGFR3	0.0291
	no	62 91.18	11 17.74 100.00	38 61.29 97.44	13 20.97 72.22		
ECOG-score [†]							0.0042
	ECOG 0	170 60.07	33 19.41 61.11	103 60.59 68.21	34 20.00 43.59	eGFR1-eGFR2 eGFR1-eGFR3 eGFR2-eGFR3	>0.9999 0.1902 0.0045
	ECOG 1	96 33.92	17 17.71 31.48	42 43.75 27.81	37 38.54 47.44		
	ECOG 2	12 4.24	2 16.67 3.70	5 41.67 3.31	5 41.67 6.41		
	ECOG 3	5 1.77	2 40.00 3.70	1 20.00 0.66	2 40.00 2.56		
Leukocytes, G/L							0.0010
	>8.4	181 45.82	35 19.34 47.95	80 44.20 37.91	66 36.46 59.46	eGFR1 - eGFR2 eGFR1 - eGFR3 eGFR2 - eGFR3	0.4992 0.3987 0.0009
	≤8.4	214 54.18	38 17.76 52.05	131 61.21 62.09	45 21.03 40.54		
Platelets, G/L							0.0904
	>492	115 29.41	17 14.78 23.29	71 61.74 34.13	27 23.48 24.55	eGFR1 - eGFR2 eGFR1 - eGFR3 eGFR2 - eGFR3	0.3192 >0.9999 0.2904
	≤492	276 70.59	56 20.29 76.71	137 49.64 65.87	83 30.07 75.45		
Uric acid, mg/dL							0.0028
	>5.7	157 60.38	24 15.29 50.00	77 49.04 55.40	56 35.67 76.71	eGFR1 - eGFR2 eGFR1 - eGFR3 eGFR2 - eGFR3	>0.9999 0.0096 0.0081
	≤5.7	103 39.62	24 23.30 50.00	62 60.19 44.60	17 16.50 23.29		
Absolute neutrophil count, G/L							0.0134
	>5.48	154 43.75	30 19.48 46.15	71 46.10 37.17	53 34.42 55.21	eGFR1 - eGFR2 eGFR1 - eGFR3 eGFR2 - eGFR3	0.7200 0.7992 0.0159
	≤5.48	198 56.25	35 17.68 53.85	120 60.61 62.83	43 21.72 44.79		
Absolute monocyte count, G/L							0.0481
	>0.55	169 46.05	29 17.16 42.03	82 48.52 42.05	58 34.32 56.31	eGFR1 - eGFR2 eGFR1 - eGFR3 eGFR2 - eGFR3	>0.9999 0.2604 0.0624
	≤0.55	198 53.95	40 20.20 57.97	113 57.07 57.95	45 22.73 43.69		
LDH, U/L							0.1157
	>267.5	289 76.66	47 16.26 69.12	156 53.98 76.10	86 29.76 82.69	eGFR1 - eGFR2 eGFR1 - eGFR3 eGFR2 - eGFR3	0.7944 0.1269 0.5781
	≤267.5	88 23.34	21 23.86 30.88	49 55.68 23.90	18 20.45 17.31		
CRP, mg/L							0.0545
	>1.4	66 60.55	12 18.18 70.59	29 43.94 50.00	25 37.88 73.53	eGFR1 - eGFR2 eGFR1 - eGFR3 eGFR2 - eGFR3	0.5130 >0.9999 0.0915
	≤1.4	43 39.45	5 11.63 29.41	29 67.44 50.00	9 20.93 26.47		

* ECOG 4 and 5 0% each. † Significance testing for ECOG 0 vs 1. Bolded values indicate significant P values.

Table S5. Correlations between uric acid, leukocytes, LDH, and platelets

MPN subtype (<i>n</i> , % row, % column)	Uric acid, mg/dL (<i>n</i> , % subgroup)	Leukocytes, G/L		LDH, U/L		Platelets, G/L		Significance
		>8.4	≤8.4	>267.5	≤267.5	>492	≤492	
All patients (<i>n</i> = 1012)								
all eGFR groups	>5.7	283	197	272	196	210	268	EU//LDH/PLT
	487, 48.12	58.96	41.04	58.12	41.88	43.93	56.07	
	≤5.7	227	294	220	290	321	192	
	525, 51.88	43.57	56.43	43.14	56.86	62.57	37.43	
eGFR1/eGFR2	>5.7	186	141	170	148	143	182	LEU/LDH/PLT
	333, 42.15	56.88	43.12	53.46	46.54	44.00	56.00	
	≤5.7	196	257	190	255	281	164	
	457, 57.85	43.27	56.73	42.70	57.30	63.15	36.85	
eGFR3	>5.7	97	56	102	48	67	86	LEU/LDH/PLT
	154, 69.37	63.40	36.60	68.00	32.00	43.79	56.21	
	≤5.7	31	37	30	35	40	28	
	68, 30.63	45.59	54.41	46.15	53.85	58.82	41.18	
ET (<i>n</i> = 389)								
eGFR1-3	>5.7	78	64	56	85	106	37	LEU/PLT
	144, 37.02	54.93	45.07	39.72	60.28	74.13	25.87	
	≤5.7	102	142	81	158	204	37	
	245, 62.98	41.80	58.20	33.89	66.11	84.65	15.35	
eGFR1/eGFR2	>5.7	52	43	34	60	77	19	LEU
	97, 30.89	54.74	45.26	36.17	63.83	80.21	19.79	
	≤5.7	88	128	71	140	180	33	
	217, 69.11	40.74	59.26	33.65	66.35	84.51	15.49	
eGFR3	>5.7	26	21	22	25	29	18	PLT
	47, 62.67	55.32	44.68	46.81	53.19	61.70	38.30	
	≤5.7	14	14	10	18	24	4	
	28, 37.33	50.00	50.00	35.71	64.29	85.71	14.29	
PV (<i>n</i> = 363)								
eGFR1-3	>5.7	124	58	91	84	57	123	LEU/LDH/PLT
	186, 51.24	68.13	31.87	52.00	48.00	31.67	68.33	
	≤5.7	81	93	67	104	77	94	
	177, 48.76	46.55	53.45	39.18	60.82	45.03	54.97	
eGFR1/eGFR2	>5.7	90	42	58	69	34	95	LEU/PLT
	135, 46.71	68.18	31.82	45.67	54.33	26.36	73.64	
	≤5.7	72	79	60	89	67	81	
	154, 53.29	47.68	52.32	40.27	59.73	45.27	54.73	
eGFR3	>5.7	34	16	33	15	23	28	LEU/LDH
	51, 68.92	68.00	32.00	68.75	31.25	45.10	54.90	
	≤5.7	9	14	7	15	10	13	
	23, 31.08	39.13	60.87	31.82	68.18	43.48	56.52	
MF (<i>n</i> = 260)								
eGFR1-3	>5.7	81	75	125	27	47	108	
	157, 60.38	51.92	48.08	82.24	17.76	30.32	69.68	
	≤5.7	44	59	72	28	40	61	
	103, 39.62	42.72	57.28	72.00	28.00	39.60	60.40	
eGFR1/eGFR2	>5.7	44	56	78	19	32	68	
	101, 54.01	44.00	56.00	80.41	19.59	32.00	68.00	
		55.00	52.83	56.93	42.22	48.48	57.63	

MPN subtype (n, % row, % column)	Uric acid, mg/dL (n, % subgroup)	Leukocytes, G/L		LDH, U/L		Platelets, G/L		Significance
		>8.4	≤8.4	>267.5	≤267.5	>492	≤492	
eGFR3		36	50	59	26	34	50	
	≤5.7	41.86	58.14	69.41	30.59	40.48	59.52	
	86, 45.99	45.00	47.17	43.07	57.78	51.52	42.37	
		37	19	47	8	15	40	
	>5.7	66.07	33.93	85.45	14.55	27.27	72.73	
	56, 76.71	82.22	67.86	78.33	80.00	71.43	78.43	
		8	9	13	2	6	11	
	≤5.7	47.06	52.94	86.67	13.33	35.29	64.71	
17, 23.29	17.78	32.14	21.67	20.00	28.57	21.57		

LEU indicates leukocytes; and PLT, platelets. Bolded values indicate significant P values.

Table S6. Median MPN duration across eGFR groups.

MPN duration, months (n = 1183)	eGFR1	eGFR2	eGFR3	Total	Comparison between pairs	p
n	244	660	279	1183		
Median	31.5	43.5	57.0	42.0		
Q1	5.0	11.5	19.0	11.0		
Q3	77.5	104.0	132.0	105.0		
					eGFR1 - eGFR2	0.0002
					eGFR1 - eGFR3	0.0255
					eGFR2 - eGFR3	<0.0003
						0.0786

Bolded values indicate significant P values.

Table S7. MPN duration of >42 months versus ≤42 months across eGFR groups.

MPN duration, months (n = 1183) (n, % row, % column)	eGFR1	eGFR2	eGFR3	Total	Comparison between pairs	p
>42	99	332	158	589		
	16.81	56.37	26.83	49.79		
	40.57	50.30	56.63			
	145	328	121	594		
≤42	24.41	55.22	20.37	50.21		
	59.43	49.70	43.37			
Total	244	660	279	1183		
	20.63	55.79	23.58	100.00		
					eGFR1 - eGFR2	0.0011
					eGFR1 - eGFR3	0.0321
					eGFR2 - eGFR3	0.0009
						0.2586

Bolded values indicate significant P values.

Table S8. Median MPN duration across creatinine groups.

MPN duration, months (n = 1183)	Creatinine level, mg/dL		Total	p
	>0.9	≤0.9		
n	574	609	1183	
Median	49.00	37.00	42.00	
Q1	13.00	8.00	11.00	
Q3	117.00	94.00	105.00	
				0.0198

Bolded values indicate significant P values.

Table S9. MPN duration of >42 months versus ≤42 months across creatinine groups.

MPN duration, months (n = 1183)	Creatinine level, mg/dL (n, % row, % column)		Total	p
	>0.9	≤0.9		
	>42	304		
	52.96	46.80	49.79	
	51.61	48.39		
	270	324	594	
≤42	47.04	53.20	50.21	
	45.45	54.55		
Total	574	609	1183	

48.52 51.48 100.00

0.0363

Bolded values indicate significant *P* values.

Table S10. Risk factors for MPN duration longer than 42 months.

Risk factors for MPN duration >42 months	Odds ratio	95% CI	<i>p</i>
Univariate regression			
Diagnosis (<i>n</i> = 1183)			
ET vs PV (<i>n</i> = 828)	0.818	0.621 - 1.076	0.1502
ET vs MF (<i>n</i> = 787)	1.709	1.285 - 2.273	0.0002
MF vs PV (<i>n</i> = 751)	0.478	0.357 - 0.640	<0.0001
Sex (female vs male; <i>n</i> = 1183)	1.239	0.986 - 1.556	0.0664
JAK2V617F mutation (yes vs no; <i>n</i> = 1100)	0.891	0.683 - 1.163	0.3963
Diabetes mellitus (yes vs no; <i>n</i> = 1019)	0.541	0.325 - 0.900	0.0181
Arterial hypertension (yes vs no; <i>n</i> = 829)	1.531	1.163 - 2.017	0.0024
Hyperlipidemia (yes vs no; <i>n</i> = 162)	1.653	0.616 - 4.434	0.3179
Leukocytes (>8.4 vs ≤8.4 G/L; <i>n</i> = 1181)	0.769	0.611 - 0.966	0.0243
Platelets (>492 vs ≤492 G/L; <i>n</i> = 1169)	0.844	0.671 - 1.063	0.1494
Uric acid (>5.7 vs ≤5.7 mg/dL; <i>n</i> = 799)	1.106	0.838 - 1.460	0.4770
Absolute neutrophil count (>5.48 vs ≤5.48 G/L; <i>n</i> = 1052)	0.862	0.676 - 1.098	0.2293
Absolute monocyte count (>0.55 vs ≤0.55 G/L; <i>n</i> = 1106)	0.954	0.753 - 1.208	0.6954
LDH (>267.5 vs ≤267.5 U/L; <i>n</i> = 1141)	1.017	0.807 - 1.283	0.8836
CRP (>1.4 vs ≤1.4 mg/L; <i>n</i> = 332)	1.142	0.739 - 1.763	0.5500
MPN therapy (yes vs WW; <i>n</i> = 1087)	3.546	2.729 - 4.606	<0.0001
HU-treated (yes vs WW; <i>n</i> = 659) *	3.089	2.227 - 4.286	<0.0001
RUX-treated (yes vs WW; <i>n</i> = 498) †	1.479	0.925 - 2.365	0.1020
Other MPN treatment (yes vs WW; <i>n</i> = 742) ‡	5.133	3.751 - 7.023	<0.0001
Antithrombotic therapy (yes vs no; <i>n</i> = 1124)	1.524	1.178 - 1.972	0.0013
ASA (yes vs no; <i>n</i> = 921)	1.630	1.244 - 2.137	0.0004
P2Y12-antagonists (yes vs no; <i>n</i> = 366) §	1.116	0.520 - 2.393	0.7785
Anticoagulant-treated (yes vs no; <i>n</i> = 497) ¶	1.210	0.787 - 1.862	0.3854
Multiple regression (<i>n</i> = 1087) ¶			
ET vs MF	1.598	1.140 - 2.239	0.0065
MF vs PV	0.474	0.335 - 0.672	<0.0001
HU-treated (yes vs WW)	2.750	1.971 - 3.838	<0.0001
RUX-treated (yes vs WW)	2.043	1.231 - 3.392	0.0057
Other MPN treatment (yes vs WW)	5.381	3.913 - 7.399	<0.0001
By Diagnosis			
ET (<i>n</i> = 308)			
Arterial hypertension (yes vs no)	1.738	1.029 - 2.936	0.0387
HU-treated (yes vs WW)	2.185	1.131 - 4.218	0.0199
Other MPN treatment (yes vs WW)	7.337	4.043 - 13.315	<0.0001
PV (<i>n</i> = 227)			
Diabetes mellitus (yes vs no)	0.231	0.081 - 0.662	0.0064
Arterial hypertension (yes vs no)	2.082	1.089 - 3.981	0.0266
HU-treated (yes vs WW)	4.251	1.995 - 9.058	0.0002
RUX-treated (yes vs WW)	5.036	1.038 - 24.427	0.0448
Other MPN treatment (yes vs WW)	16.813	6.634 - 42.555	<0.0001
MF (<i>n</i> = 324)			
HU-treated (yes vs WW)	3.249	1.446 - 7.297	0.0043
Other MPN treatment (yes vs WW)	3.440	1.938 - 6.106	<0.0001

* Hydroxyurea. † Ruxolitinib. ‡ Anagrelide, IMiDs, interferon. § P2Y12-antagonist-treated: clopidogrel/ticagrelor/prasugrel. ¶ Anticoagulant-treated: vitamin K-antagonist/dabigatran/rivaroxaban/apixaban/heparin/fondaparinux. ¶¶ Initial model including diagnosis, diabetes mellitus, leukocytes, arterial hypertension, MPN-therapy, and antithrombotic therapy. Bolded values indicate significant odds ratios and significant *P* values.

Table S11. Frequencies of thromboses across eGFR groups by risk factor.

Risk factor (<i>n</i> = 1420) (<i>n</i> , % row, % column)	TE	eGFR1	eGFR2	eGFR3	Total	<i>p</i>
ET						0.3726
yes		33 23.24	75 52.82	34 23.94	142 26.01	
no		96 23.76	233 57.67	75 18.56	404 73.99	
PV		74.42	75.65	68.81		0.0243

Risk factor (n = 1420) (n, % row, % column)	TE	eGFR1	eGFR2	eGFR3	Total	p	
MF	yes	31	86	44	161	0.3616	
		19.25	53.42	27.33	33.68		
	no	30.39	30.82	45.36	317		
		71	193	53			66.32
PMF	yes	2.40	60.88	16.72	0.3351		
		69.61	69.18	54.64			285
	no	16	60	35			
		14.41	54.05	31.53			28.03
Post-ET-MF	yes	21.92	28.30	31.53		>0.9999	
		57	152	76			285
	no	20.00	53.33	26.67			
		78.08	71.70	68.47			90
Post-PV-MF	yes	15	47	28	>0.9999		
		16.67	52.22	31.11			28.85
	no	23.08	28.48	34.15			222
		50	118	54			
Female gender	yes	22.52	53.15	24.32		0.0321	
		76.92	71.52	65.85			13
	no	1	7	5			
		7.69	53.85	38.46			25.00
Male gender	yes	16.67	28.00	25.00	0.2565		
		5	18	15			38
	no	13.16	47.37	39.47			
		83.33	72.00	75.00			8
Age at diagnosis >60, years	yes	0	6	2		0.3837	
		0.00	75.00	25.00			24.24
	no	0.00	27.27	22.22			25
		2	16	7			
Age at diagnosis ≤60, years	yes	8.00	64.00	28.00	0.0364		
		100.00	72.73	77.78			529
	no	34	101	62			
		17.26	51.27	31.47			27.13
Age at creatinine test >60, years	yes	23.61	25.06	34.64		0.0903	
		110	302	117			529
	no	20.79	57.09	22.12			
		76.39	74.94	65.36			217
Age at creatinine test ≤60, years	yes	46	120	51	0.2006		
		21.20	55.30	23.50			31.27
	no	28.75	30.30	36.96			477
		114	276	87			
Age at diagnosis >60, years	yes	23.90	57.86	18.24		0.3837	
		71.25	69.70	63.04			191
	no	23	95	73			
		12.04	49.74	38.22			35.10
Age at diagnosis ≤60, years	yes	28.75	29.87	35.10	0.0364		
		57	223	135			415
	no	13.73	53.73	32.53			
		71.25	70.13	64.90			222
Age at creatinine test >60, years	yes	56	126	40		0.0903	
		25.23	56.76	18.02			27.41
	no	25.11	26.20	37.74			588
		167	355	66			
Age at creatinine test ≤60, years	yes	28.40	60.37	11.22	0.0903		
		74.89	73.80	62.26			240
	no	32	115	93			
		13.33	47.92	38.75			35.63
Age at diagnosis >60, years	yes	31.07	27.64	35.63		0.0903	
		71	301	168			540
	no	13.15	55.74	31.11			
		68.93	72.36	64.37			240
Age at diagnosis ≤60, years	yes	32	115	93	0.0903		
		13.33	47.92	38.75			30.77
	no	31.07	27.64	35.63			540
		71	301	168			
Age at creatinine test >60, years	yes	13.15	55.74	31.11		0.2006	
		68.93	72.36	64.37			240
	no	32	115	93			
		13.33	47.92	38.75			30.77

Risk factor (n = 1420) (n, % row, % column)	TE	eGFR1	eGFR2	eGFR3	Total	p
JAK2V617F mutation = yes	yes	48	106	20	174	0.0437
		27.59	60.92	35.71	27.19	
		23.88	27.68			
	no	153	277	36	466	
		32.83	59.44	7.73	72.81	
		76.12	72.32	64.29		
JAK2V617F mutation = no	yes	62	161	87	310	0.0322
		20.00	51.94	28.06	32.16	
		29.81	30.21	39.01		
	no	146	372	136	654	
		22.32	56.88	20.80	67.84	
		70.19	69.79	60.99		
CALR mutation = yes	yes	13	45	21	79	0.1596
		16.46	56.96	26.58	22.51	
		15.66	21.84	33.87		
	no	70	161	41	272	
		25.74	59.19	15.07	77.49	
		84.34	78.16	66.13		
CALR mutation = no	yes	3	15	1	19	0.6165
		15.79	78.95	5.26	13.67	
		7.69	18.29	5.56		
	no	36	67	17	120	
		30.00	55.83	14.17	86.33	
		92.31	81.71	94.44		
Diabetes = yes	yes	25	64	33	122	0.6957
		20.49	52.46	27.05	32.97	
		30.49	32.16	37.08		
	no	57	135	56	248	
		22.98	54.44	22.58	67.03	
		69.51	67.84	62.92		
Diabetes = no	yes	8	14	11	33	0.0573
		24.24	42.42	33.33	34.02	
		38.10	36.84	28.95		
	no	13	24	27	64	
		20.31	37.50	42.19	65.98	
		61.90	63.16	71.05		
Arterial hypertension = yes	yes	65	189	84	338	0.3167
		19.23	55.92	24.85	29.29	
		26.42	28.17	35.44		
	no	181	482	153	816	
		22.18	59.07	18.75	70.71	
		73.58	71.83	64.56		
Arterial hypertension = no	yes	28	90	67	185	0.9387
		15.14	48.65	36.22	39.53	
		34.57	38.30	44.08		
	no	53	145	85	283	
		18.73	51.24	30.04	60.47	
		65.43	61.7	55.92		
Hyperlipidemia = yes	yes	35	75	18	128	0.0714
		27.34	58.59	14.06	26.23	
		25.36	26.32	27.69		
	no	103	210	47	360	
		28.61	58.33	13.06	73.77	
		74.64	73.68	72.31		
Hyperlipidemia = no	yes	0	7	6	13	0.0714
		0.00	53.85	46.15	61.90	
		0.00	70.0	75.00		
	no	3	3	2	8	
		37.50	37.50	25.00	38.10	
		100.0	30.006	25.00		

Risk factor (n = 1420) (n, % row, % column)	TE	eGFR1	eGFR2	eGFR3	Total	p
Hyperlipidemia = no	yes	13	35	9	57	0.2639
		22.81	61.40	15.79	35.63	
	no	26.53	38.89	42.86	103	0.0011
		36	55	12	64.38	
Leukocytes >8.4, G/L	yes	34.95	53.40	11.65	194	0.6514
		73.47	61.11	57.14	27.71	
	no	114	276	116	506	0.0336
		22.53	54.55	22.92	72.29	
Leukocytes ≤8.4, G/L	yes	80.28	73.99	62.70	220	0.4083
		52	124	44	31.07	
	no	23.64	56.36	20.00	488	0.3087
		32.10	29.81	33.85	68.93	
Platelets >483, G/L	yes	110	292	86	460	0.2209
		22.54	59.84	17.62	65.90	
	no	67.90	70.19	66.15	525	<0.0001
		31	96	45	172	
Platelets ≤483, G/L	yes	18.02	55.81	26.16	238	0.7214
		20.26	23.59	32.85	34.10	
	no	122	311	92	460	0.3087
		23.24	59.24	17.52	69.61	
Uric acid >5.7, mg/dL	yes	79.74	76.41	67.15	238	0.2209
		49	121	68	34.10	
	no	20.59	50.84	28.57	460	0.3087
		32.67	32.70	38.20	65.90	
Uric acid ≤5.7, mg/dL	yes	101	249	110	460	0.2209
		21.96	54.13	23.91	65.90	
	no	67.33	67.30	61.80	339	0.3087
		22	72	54	148	
Neutrophils >5.44, G/L	yes	14.86	48.65	36.49	30.39	0.2209
		28.95	28.02	35.06	339	
	no	54	185	100	339	0.2209
		15.93	54.57	29.50	69.61	
Uric acid ≤5.7, mg/dL	yes	71.05	71.98	64.94	143	0.2209
		35	84	24	143	
	no	24.48	58.74	16.78	27.24	0.2209
		23.97	27.01	35.29	382	
Neutrophils ≤5.44, G/L	yes	111	227	44	382	0.2209
		29.06	59.42	11.52	72.76	
	no	76.03	72.99	64.71	72.76	0.2209
		20	87	62	169	
Neutrophils >5.44, G/L	yes	11.83	51.48	36.69	27.04	0.2209
		16.00	25.66	38.51	105	
	no	105	252	99	456	0.2209
		23.03	55.26	21.71	72.96	
Neutrophils ≤5.44, G/L	yes	84.00	74.34	61.49	456	0.2209
		43	117	38	198	
	no	21.72	59.09	19.19	31.48	0.2209
		29.25	31.62	33.93	431	
Monocytes >0.55, G/L	yes	104	253	74	431	0.2209
		24.13	58.70	17.17	68.52	
	no	70.75	68.38	66.07	68.52	0.2209
		27	102	63	192	
Monocytes ≤0.55, G/L	yes	14.06	53.13	32.81	29.54	0.0073
		20.00	29.82	36.42	108	
	no	108	240	110	458	0.0073
		23.58	52.40	24.02	70.46	
Monocytes ≤0.55, G/L	yes	80.00	70.18	63.58	70.46	0.0073
		27	102	63	192	

Risk factor (n = 1420) (n, % row, % column)	TE	eGFR1	eGFR2	eGFR3	Total	p
LDH >267.5, U/L	yes	41	108	41	190	0.3775
		21.58	56.84	21.58	28.70	
		27.33	27.62	33.88		
	no	109	283	80	472	
		23.09	59.96	16.95	71.30	
		72.67	72.38	66.12		
LDH ≤267.5, U/L	yes	34	113	69	216	0.0749
		15.74	52.31	31.94	31.86	
		26.56	30.62	38.12		
	no	94	256	112	462	
		20.35	55.41	24.24	68.14	
		73.44	69.38	61.88		
CRP >1.5, mg/L	yes	42	102	41	185	0.1473
		22.70	55.14	22.16	27.29	
		25.61	25.82	34.45		
	no	122	293	78	493	
		24.75	59.43	15.82	72.71	
		74.39	74.18	65.55		
CRP ≤1.5, mg/L	yes	10	27	24	61	0.1707
		16.39	44.26	39.34	35.47	
		28.57	31.76	46.15		
	no	25	58	28	111	
		22.52	52.25	25.23	64.53	
		71.43	68.24	53.85		
	yes	9	37	12	58	0.1707
		15.52	63.79	20.69	31.52	
		20.45	33.94	38.71		
	no	35	72	19	126	
		27.78	57.14	15.08	68.48	
		79.55	66.06	61.29		

Bolded values indicate significant P values.

Table S12. Distribution of arterial and venous thromboembolism across eGFR groups.

Type of thromboembolism (n = 1409) (n, % row, % column)	eGFR1	eGFR2	eGFR3	Total	p
Arterial	43	122	63	228	100.00
	18.86	53.51	27.63	16.18	
	14.14	15.44	20.00	14.00	
Venous including splanchnic	34	72	34	140	100.00
	24.29	51.43	24.29	9.94	
	11.18	9.11	10.79	35	
Arterial and venous including splanchnic	3	18	14	35	100.00
	8.57	51.43	40.00	2.48	
	0.99	2.28	4.44	1006	
No thromboembolism	224	578	204	1006	100.00
	22.27	57.46	20.28	71.40	
	73.68	73.16	64.76		
<i>Comparisons between type of thromboembolism</i>					
Arterial vs venous/splanchnic vs no vs arterial + venous					0.0174
Arterial vs venous/splanchnic vs arterial + venous					0.5262
Arterial vs venous/splanchnic vs no (excl. arterial + venous)					0.3324
Arterial vs venous (excl. arterial + venous)					>0.9999

Bolded values indicate significant P values.

Table S13. Frequency of HU, RUX, anagrelide/IMiDs/interferon, and no therapy across eGFR groups.

Sample (n = 1215) (n, % row, % column)	Therapy (n, %)	eGFR1	eGFR2	eGFR3	p	
					overall	pairwise *
All patients (n = 1215)					<0.0001	
	HU only	41	155	60		0.0021
	(256, 21.07)	16.02	60.55	23.44		
	RUX only	14	49	31		0.0002
		15.71	22.79	21.90		

Sample (n = 1215) (n, % row, % column)	Therapy (n, %)	eGFR1	eGFR2	eGFR3	p	
					overall	pairwise *
ET (n = 471)	(94, 7.74)	14.89	52.13	32.98	0.0001	
		5.36	7.21	11.31		
		72	167	102		
	other (341, 28.07)	21.11	48.97	29.91		
		27.59	24.56	37.23		
		49	119	82		
	Multiple therapies (250, 20.58)	19.60	47.60	32.80		
		18.77	17.50	29.93		
		134	309	81		
	WW (524, 43.13)	25.57	58.97	15.46		
		51.34	45.44	29.56		
		17	52	19		
	HU only (88, 18.68)	19.32	59.09	21.59		
		14.66	19.48	21.59		
PV (n = 395)		0	3	2	0.5082	
	RUX only (5, 1.06)	0.00	60.00	40.00		
		0.00	1.12	2.27		
		35	69	44		
	other (148, 31.42)	23.65	46.62	29.73		
		30.17	25.84	50.00		
	Multiple therapies (88, 18.68)	20	38	30		
		22.73	43.18	34.09		
		17.24	14.23	34.09		
		64	143	23		
	WW (230, 48.83)	27.83	62.17	10.00		
		55.17	53.56	26.14		
		22	81	32		
	HU only (135, 34.18)	16.30	60.00	23.70		
	28.57	35.06	36.78			
MF (n = 349)		2	6	3	0.0103	
	RUX only (11, 2.78)	18.18	54.55	27.27		
		2.60	2.60	3.45		
		22	45	23		
	other (90, 22.78)	24.44	50.00	25.56		
		28.57	19.48	26.44		
		16	39	22		
	Multiple therapies (77, 19.49)	20.78	50.65	28.57		
		20.78	16.88	25.29		
		31	99	29		
	WW (159, 40.25)	19.50	62.26	18.24		
		40.26	42.86	33.33		
		2	22	9		
	HU only (33, 9.46)	6.06	66.67	27.27		
	2.94	12.09	9.09			
All patients (n = 1251)		12	40	26	0.0033	
	RUX only (78, 22.35)	15.38	51.28	33.33		
		17.65	21.98	26.26		
		15	53	35		
	other (103, 29.51)	14.56	51.46	33.98		
		22.06	29.12	35.35		
		13	42	30		
	Multiple therapies (85, 24.36)	15.29	49.41	35.29		
		19.12	23.08	30.30		
		39	67	29		
	WW (135, 38.68)	28.89	49.63	21.48		
		57.35	36.81	29.29		

* Therapy compared to WW. Bolded values indicate significant P values.

Table S14. Frequency of ASA, P2Y12-antagonists, or anticoagulation therapy across eGFR groups.

Sample (n = 1251) (n, % row, % column)	Therapy (n, %)	eGFR1	eGFR2	eGFR3	p	
					overall	pairwise *
All patients (n = 1251)		128	395	131	0.0033	
	ASA (654, 52.28)	19.57	60.40	20.03		0.3387
	P2Y12-antagonists	48.48	56.19	46.13		>0.9999
		5	17	8		

Sample (<i>n</i> = 1251) (<i>n</i> , % row, % column)	Therapy (<i>n</i> , %)	eGFR1	eGFR2	eGFR3	<i>p</i>		
					overall	pairwise *	
ET (<i>n</i> = 483)	(30, 2.40)	16.67	56.67	26.67	0.0930		
		1.89	2.42	2.82			
	Anticoagulant-treated	28	51	43			
	(122, 9.75)	22.95	41.80	35.25			0.0237
		10.61	7.25	15.14			
	no	91	203	81			
	(375, 29.98)	24.27	54.13	21.60			
		34.47	28.88	28.52			
	ASA	63	156	53			
	(272, 56.31)	23.16	57.35	19.49			0.1953
	52.07	58.43	55.79				
P2Y12-antagonists	4	9	6				
(19, 3.93)	21.05	47.37	31.58	0.2967			
	3.31	3.37	6.32				
Anticoagulant-treated	8	16	10				
(35, 7.04)	23.53	47.06	29.41	0.1968			
	6.61	5.99	10.53				
no	41	67	16				
(124, 25.67)	33.06	54.03	12.90				
	33.88	25.09	16.84				
PV (<i>n</i> = 415)					0.1193		
	ASA	51	157	46			
	(254, 61.20)	20.08	61.81	18.11			0.4626
		62.96	64.08	51.69			
	P2Y12-antagonists	1	6	0			
	(7, 1.69)	14.29	85.71	0.00			0.7311
		1.23	2.45	0.00			
	Anticoagulant-treated	14	26	19			
	(59, 14.22)	23.73	44.07	32.20			0.5388
		17.28	10.61	21.35			
no	10	43	20				
(73, 17.59)	13.70	58.90	27.40				
	12.35	17.55	22.47				
MF (<i>n</i> = 353)					0.0047		
	ASA	14	82	32			
	(128, 36.26)	10.94	64.06	25.00			0.0729
		22.58	42.93	32.00			
	P2Y12-antagonists	0	2	2			
	(4, 1.13)	0.00	50.00	50.00			>0.9999
		0.00	1.05	2.00			
	Anticoagulant-treated	6	9	14			
	(29, 8.22)	20.69	31.03	48.28			0.0933
		9.68	4.71	14.00			
no	40	93	45				
(178, 50.42)	22.47	52.25	25.28				
	64.52	48.69	45.00				

* Compared to no therapy. Bolded values indicate significant *P* values.

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