SUPPLEMENTAL MATERIAL

Table 1. Association of CHIP with blood traits

Trait	Estimate	Std.Error	P	gene
BA	-0.328	1.989	0.869	All CHIP
EO	-0.071	0.501	0.887	All CHIP
HCT	0.002	0.005	0.715	All CHIP
HGB	0.001	0.005	0.860	All CHIP
LY	-0.178	0.108	0.101	All CHIP
MCH	0.012	0.005	0.009	All CHIP
MCHC	0.007	0.003	0.033	All CHIP
MCV	0.007	0.012	0.555	All CHIP
MONO	-0.106	0.373	0.776	All CHIP
MPV	-0.006	0.048	0.894	All CHIP
NEUT	0.048	0.019	0.011	All CHIP
PCT	0.005	0.033	0.871	All CHIP
PDW	0.019	0.019	0.308	All CHIP
PDWCV	0.019	0.010	0.071	All CHIP
PLCR	0.007	0.009	0.465	All CHIP
PLT	0.004	0.001	<0.0001	All CHIP
RBC	-0.125	0.137	0.364	All CHIP
RDW	0.019	0.017	0.262	All CHIP
RDWCV	0.068	0.041	0.096	All CHIP
WBC	0.033	0.029	0.267	All CHIP
NLR	0.032	0.015	0.037	All CHIP
BA	0.003	0.659	0.996	DNMT3A
EO	0.472	0.715	0.509	DNMT3A
HCT	-0.001	0.008	0.925	DNMT3A
HGB	-0.001	0.009	0.942	DNMT3A
LY	0.051	0.120	0.669	DNMT3A
MCH	0.016	0.005	0.001	DNMT3A
MCHC	0.002	0.009	0.850	DNMT3A
MCV	0.037	0.022	0.095	DNMT3A
MONO	-0.075	0.660	0.909	DNMT3A
MPV	-0.196	0.077	0.010	DNMT3A

NEUT	0.051	0.024	0.030	DNMT3A
PCT	0.051	0.032	0.112	DNMT3A
PDW	0.008	0.040	0.842	DNMT3A
PDWCV	0.012	0.020	0.557	DNMT3A
PLCR	-0.013	0.017	0.453	DNMT3A
PLT	0.004	0.002	0.018	DNMT3A
RBC	-0.274	0.248	0.269	DNMT3A
RDW	0.036	0.031	0.237	DNMT3A
RDWCV	0.077	0.075	0.304	DNMT3A
WBC	-0.005	0.055	0.934	DNMT3A
NLR	0.001	0.036	0.978	DNMT3A
BA	-19.129	14.078	0.174	TET2
EO	-9.968	3.799	0.009	TET2
HCT	-0.007	0.012	0.545	TET2
HGB	0.004	0.014	0.776	TET2
LY	-0.737	0.381	0.053	TET2
MCH	0.006	0.032	0.853	TET2
MCHC	0.012	0.007	0.085	TET2
MCV	-0.015	0.035	0.674	TET2
MONO	-1.875	1.291	0.146	TET2
MPV	0.239	0.149	0.109	TET2
NEUT	0.079	0.027	0.004	TET2
PCT	-0.129	0.369	0.727	TET2
PDW	0.016	0.053	0.766	TET2
PDWCV	0.042	0.022	0.063	TET2
PLCR	0.029	0.026	0.262	TET2
PLT	0.003	0.003	0.319	TET2
RBC	-0.054	0.396	0.892	TET2
RDW	0.060	0.045	0.188	TET2
RDWCV	-0.012	0.083	0.889	TET2
WBC	-0.020	0.091	0.825	TET2
NLR	0.047	0.021	0.025	TET2
BA	0.077	0.836	0.927	JAK2
EO	1.236	0.894	0.167	JAK2
HCT	-0.008	0.017	0.651	JAK2
HGB	0.042	0.015	0.004	JAK2
LY	-0.261	0.451	0.562	JAK2
MCH	-0.012	0.120	0.917	JAK2
MCHC	0.003	0.016	0.855	JAK2
MCV	-0.010	0.048	0.838	JAK2
MONO	1.294	0.557	0.020	JAK2
MPV	0.080	0.204	0.694	JAK2
NEUT	0.085	0.033	0.009	JAK2

PCT	-0.005	0.148	0.972	JAK2
PDW	-0.159	0.110	0.149	JAK2
PDWCV	-0.102	0.149	0.494	JAK2
PLCR	0.006	0.035	0.863	JAK2
PLT	0.015	0.002	<.0001	JAK2
RBC	0.003	0.022	0.877	JAK2
RDW	0.136	0.043	0.002	JAK2
RDWCV	0.438	0.128	0.001	JAK2
WBC	0.235	0.076	0.002	JAK2
NLR	0.051	0.029	0.076	JAK2
BA	-11.612	17.640	0.510	GNAS
EO	-3.253	3.575	0.363	GNAS
HCT	0.025	0.028	0.371	GNAS
HGB	0.041	0.017	0.017	GNAS
LY	-0.796	0.560	0.155	GNAS
MCH	-0.158	0.110	0.153	GNAS
MCHC	0.010	0.007	0.156	GNAS
MCV	-0.095	0.037	0.009	GNAS
MONO	-1.603	1.886	0.395	GNAS
MPV	-0.154	0.193	0.424	GNAS
NEUT	0.080	0.037	0.032	GNAS
PCT	-5.908	6.386	0.355	GNAS
PDW	0.097	0.033	0.004	GNAS
PDWCV	-0.087	0.155	0.574	GNAS
PLCR	-0.021	0.042	0.622	GNAS
PLT	0.001	0.005	0.867	GNAS
RBC	0.003	0.021	0.896	GNAS
RDW	-0.014	0.071	0.842	GNAS
RDWCV	0.209	0.207	0.311	GNAS
WBC	0.173	0.096	0.073	GNAS
NLR	0.047	0.027	0.077	GNAS
BA	-0.328	1.989	0.869	SF3B1
EO	-0.071	0.501	0.887	SF3B1
HCT	0.002	0.005	0.715	SF3B1
HGB	0.001	0.005	0.860	SF3B1
LY	-0.178	0.108	0.101	SF3B1
MCH	0.012	0.005	0.009	SF3B1
MCHC	0.007	0.003	0.033	SF3B1
MCV	0.007	0.012	0.555	SF3B1
MONO	-0.106	0.373	0.776	SF3B1
MPV	-0.006	0.048	0.894	SF3B1
NEUT	0.048	0.019	0.011	SF3B1
PCT	0.005	0.033	0.871	SF3B1

PDW	0.019	0.019	0.308	SF3B1
PDWCV	0.019	0.010	0.071	SF3B1
PLCR	0.007	0.009	0.465	SF3B1
PLT	0.004	0.001	<0.0001	SF3B1
RBC	-0.125	0.137	0.364	SF3B1
RDW	0.019	0.017	0.262	SF3B1
RDWCV	0.068	0.041	0.096	SF3B1
WBC	0.033	0.029	0.267	SF3B1
NLR	0.032	0.015	0.037	SF3B1

RDWCV, Red blood cell distribution width CV; BA, Basophilic absolute value; EO, Eosinophilic absolute value; HCT, Hematocrit; HGB, Hemoglobin; LY, Lymphocyte count; MCH, Mean corpuscular hemoglobin; MCHC, Mean hemoglobin concentration; MCV, Mean corpuscular volume; MONO, Monocyte count; MPV, Mean platelet volume; NEUT, Neutrophil absolute value; PCT, Platelet pressure; PDW, Platelet distribution width; PLCR, Large platelet ratio; PLT, Absolute platelet value; RBC, Absolute value of red blood cells; RDW, Red blood cell distribution width; PDWCV, Platelet distribution width; WBC, Absolute white blood cell; PDWCV, Platelet distribution width; NLR, neutrophil to lymphocyte ratio.

Table 2. Associations between CHIP and recurrent stroke in selected subgroups

	CHIP	No CHIP	Unadjusted			Adjusted[a]		
Hyper-inflammation	**(%)**	**(%)**	**HR (95% CI)**	**P**	**$P_{interaction}$**	**HR (95% CI)**	**P**	**$P_{interaction}$**
Yes	12.63	6.71	1.93 (1.07-3.48)	0.03	0.01	3.10 (1.92-5.00)	<.001	0.002
No	5.50	1.60	0.29(0.07-1.16)	0.08		0.18 (0.03-1.04)	0.06	
ICAS≥50%								
Yes	7.34	6.93	1.05 (0.52-2.14)	0.89	0.95	1.75 (0.98-3.10)	0.06	0.57
No	5.41	5.01	1.09 (0.48-0.84)	0.84		1.34 (0.66-2.74)	0.42	
ICAO								
Yes	12.77	8.25	1.56 (0.69-3.57)	0.29	0.28	2.52 (1.31-4.85)	0.006	0.08
No	4.62	5.53	0.87 (0.43-1.75)	0.69		1.13 (0.61-2.10)	0.69	

[a] Data were adjusted with a stable inverse probability of treatment weighted (IPTW) based on the propensity score (PS). Variables used for calculating PS included age, sex, BMI, smoking, drinking, history of the disease (i.e., hypertension, diabetes mellitus and hyperlipidemia), TOAST classification, admitting NIHSS.

HR, hazards ratio; 95% CI, 95% confidence interval; CHIP, clonal hematopoiesis of indeterminate potential; ICAS, intracranial atherosclerotic stenosis; ICAO, intracranial atherosclerotic occlusion;

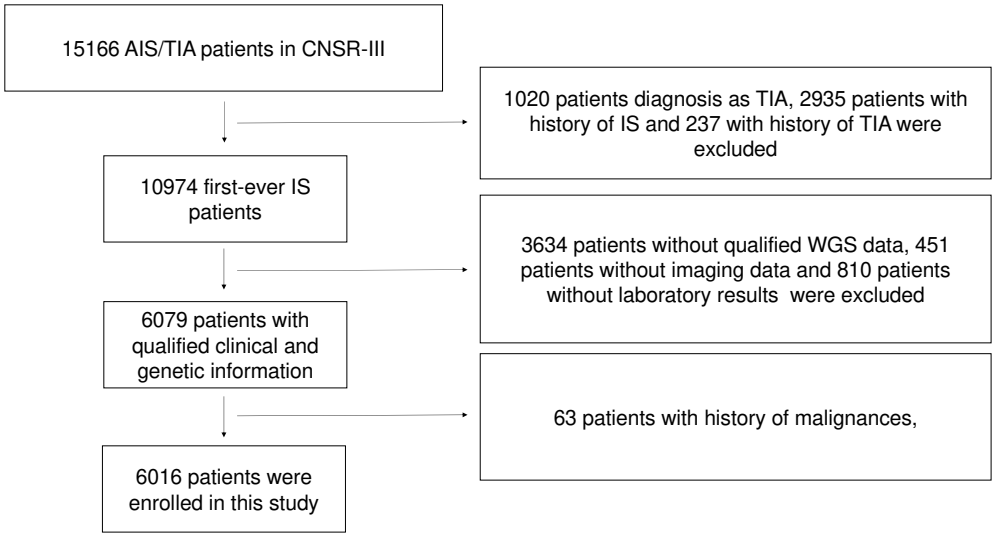

Figure 1: Flow chart of patients' enrolment

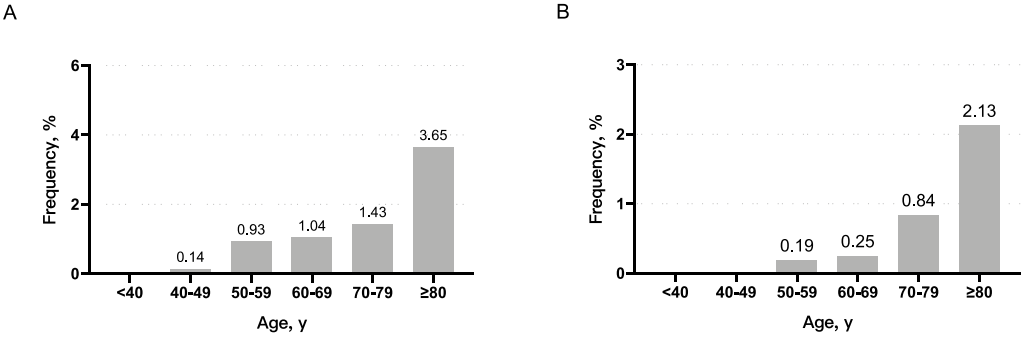

Figure 2: Prevalence of (A) *DNMT3A* and (B) *TET2* according to age.

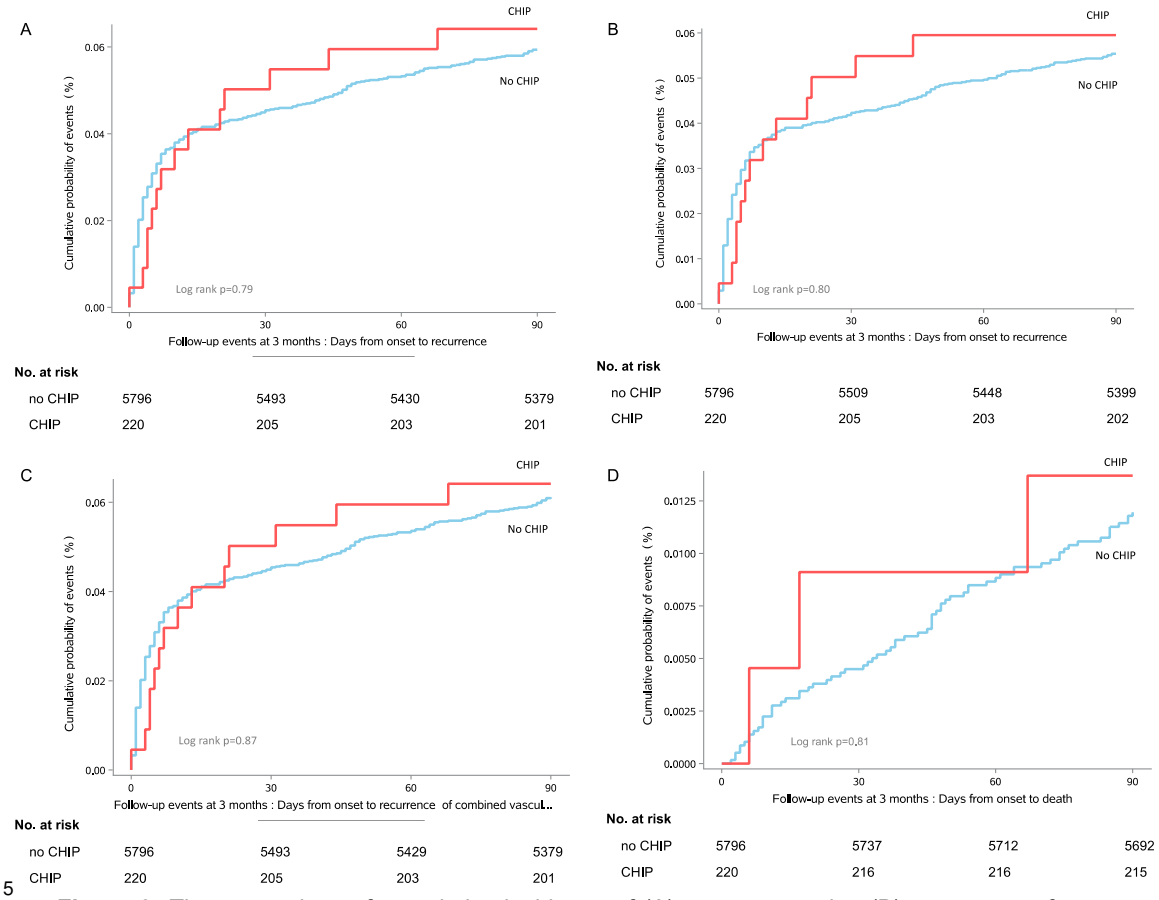

Figure 3: The comparison of cumulative incidence of (A) recurrent stroke, (B) recurrence of ischemic stroke, (C) combined vascular event, and (D) death within 3 months between CHIP and non-CHIP carriers.