Supplementary

Table S1 The values of CBF in the all ROIs

ROI	Group	CBF1 (PLD =1,525 ms)#	CBF2 (PLD =2,025 ms)#	CBF3 (PLD =2,525 ms)#	Rough trends of CBF changing	ANOVA*	CBF1 *vs.* CBF2*	CBF1 *vs.* CBF3*	CBF2 *vs.* CBF3*
Global GM	ALL	37.2332 (7.8341)	39.761 (5.7009)	44.2865 (4.0401)	CBF1<CBF2<CBF3	<0.0001	0.021	<0.0001	<0.0001
	Y	43.0086 (7.3646)	43.3632 (6.0175)	44.9585 (4.0332)	CBF1<CBF2<CBF3	0.3944	0.973	0.44	0.576
	M	35.0916 (6.2482)	37.883 (4.8002)	43.9165 (4.3213)	CBF1<CBF2<CBF3	<0.0001	0.0970	<0.0001	<0.0001
	O	33.0654 (6.1604)	37.8493 (4.267)	43.955 (3.7187)	CBF1<CBF2<CBF3	<0.0001	0.003	<0.0001	<0.0001
Frontal lobe_L	ALL	36.6708 (9.0740)	39.3374 (6.4201)	44.0278 (4.2676)	CBF1<CBF2<CBF3	<0.0001	0.035	<0.0001	<0.0001
	Y	44.4701 (7.8985)	44.3862 (6.3092)	45.6777 (4.1579)	CBF2<CBF1<CBF3	0.6672	0.999	0.754	0.724
	M	33.5351 (6.9670)	36.9130 (4.8944)	43.1724 (4.2388)	CBF1<CBF2<CBF3	<0.0001	0.049	<0.0001	<0.0001
	O	31.3515 (6.1881)	36.3950 (4.4646)	43.1463 (3.9928)	CBF1<CBF2<CBF3	<0.0001	0.002	<0.0001	<0.0001
Frontal lobe_R	ALL	35.9594 (9.3772)	38.2183 (6.6934)	42.9871 (4.6472)	CBF1<CBF2<CBF3	<0.0001	0.109	<0.0001	<0.0001
	Y	43.9537 (8.2247)	43.2801 (6.7826)	44.7087 (4.1075)	CBF2<CBF1<CBF3	0.6959	0.922	0.904	0.696
	M	32.6301 (6.7302)	35.8726 (5.0456)	42.5284 (5.2028)	CBF1<CBF2<CBF3	<0.0001	0.075	<0.0001	<0.0001
	O	30.6531 (7.1219)	35.1605 (4.7903)	41.5166 (3.9734)	CBF1<CBF2<CBF3	<0.0001	0.015	<0.0001	<0.0001
Parietal lobe_L	ALL	36.7195 (9.1805)	40.6541 (7.0646)	44.9523 (5.4312)	CBF1<CBF2<CBF3	<0.0001	0.002	<0.0001	<0.0010
	Y	42.6209 (7.5829)	45.1631 (6.4204)	46.7885 (4.5311)	CBF1<CBF2<CBF3	0.0363	0.289	0.038	0.599
	M	35.1176 (8.7893)	38.6912 (6.5521)	44.1900 (5.7930)	CBF1<CBF2<CBF3	<0.0001	0.134	<0.0001	0.010
	O	31.7164 (7.7170)	37.7694 (5.8572)	43.7307 (5.5609)	CBF1<CBF2<CBF3	<0.0001	0.005	<0.0001	0.006
Parietal lobe_R	ALL	35.0187 (8.8216)	38.9473 (6.5891)	43.2198 (5.3788)	CBF1<CBF2<CBF3	<0.0001	0.001	<0.0001	<0.0001
	Y	40.3026 (8.8309)	42.1901 (7.1958)	44.1301 (4.9864)	CBF1<CBF2<CBF3	0.1163	0.587	0.116	0.570
	M	33.8635 (7.2170)	37.7619 (5.7898)	43.2187 (6.0728)	CBF1<CBF2<CBF3	<0.0001	0.051	<0.0001	0.003
	O	30.1848 (7.4904)	36.5853 (5.3685)	42.1349 (4.8683)	CBF1<CBF2<CBF3	<0.0001	0.001	<0.0001	0.006
Temporal lobe_L	ALL	42.0248 (9.1328)	43.6577 (6.7303)	47.7300 (4.5621)	CBF1<CBF2<CBF3	<0.0001	0.302	<0.0001	0.001
	Y	49.5320 (8.4739)	48.6884 (6.5775)	49.1726 (4581)	CBF2<CBF3<CBF1	0.8891	0.885	0.978	0.960
	M	38.3034 (7.2931)	40.5355 (5.3066)	46.3794 (4.2196)	CBF1<CBF2<CBF3	<0.0001	0.293	<0.0001	<0.0001
	O	37.7971 (5.9938)	41.6223 (4.9741)	47.7242 (4.7399)	CBF1<CBF2<CBF3	<0.0001	0.037	<0.0001	<0.0001
Temporal lobe_R	ALL	40.2905 (8.9547)	42.0882 (6.4690)	46.7415 (4.6314)	CBF1<CBF2<CBF3	<0.0001	0.221	<0.0001	<0.0001
	Y	47.7533 (8.8836)	46.8439 (7.0491)	48.3758 (4.5853)	CBF2<CBF1<CBF3	0.6925	0.880	0.942	0.695
	M	36.9024 (6.0611)	39.5080 (4.7779)	46.0387 (5.0953)	CBF1<CBF2<CBF3	<0.0001	0.146	<0.0001	<0.0001
	O	35.6927 (6.1270)	39.6927 (4.1633)	45.6847 (3.5740)	CBF1<CBF2<CBF3	<0.0001	0.013	<0.0001	<0.0001
Occipital lobe_L	ALL	40.6651 (9.6628)	45.4407 (6.9019)	49.4849 (5.3617)	CBF1<CBF2<CBF3	<0.0001	<0.0001	<0.0001	0.001
	Y	44.0340 (9.3160)	47.6412 (7.9205)	48.9659 (5.2943)	CBF1<CBF2<CBF3	0.0373	0.188	0.046	0.795
	M	40.3095 (9.0631)	44.2887 (6.8912)	49.4812 (5.4118)	CBF1<CBF2<CBF3	<0.0001	0.090	<0.0001	0.018
	O	37.0997 (8.2521)	44.2793 (4.9355)	50.1083 (5.5208)	CBF1<CBF2<CBF3	<0.0001	0.001	<0.0001	0.007
Occipital lobe_R	ALL	37.9942 (8.7085)	43.1815 (6.5343)	47.4593 (4.7018)	CBF1<CBF2<CBF3	<0.0001	<0.0001	<0.0001	<0.0001
	Y	41.6775 (9.6628)	45.7447 (8.3593)	47.5312 (5.5036)	CBF1<CBF2<CBF3	0.0161	0.143	0.019	0.683
	M	37.3196 (7.2345)	41.9168 (5.1729)	47.4752 (4.5789)	CBF1<CBF2<CBF3	<0.0001	0.007	<0.0001	0.001
	O	34.4589 (7.7800)	41.7306 (4.6316)	47.3534 (3.9369)	CBF1<CBF2<CBF3	<0.0001	<0.0001	<0.0001	0.003
Limbic lobe_L	ALL	50.8501 (9.0965)	48.8864 (7.5076)	50.6756 (5.3430)	CBF2<CBF3<CBF1	0.1512	0.214	0.988	0.277
	Y	56.4782 (8.6511)	53.9100 (7.3238)	51.9736 (4.9260)	CBF3<CBF2<CBF1	0.0051	0.371	0.020	0.567
	M	48.4682 (7.7087)	45.5616 (6.1651)	49.1475 (5.0001)	CBF2<CBF1<CBF3	0.580	0.187	0.911	0.080
	O	47.1630 (8.2341)	47.1167 (6.2046)	50.1915 (5.9272)	CBF2<CBF1<CBF3	0.0652	0.999	0.129	0.123
Limbic lobe_R	ALL	49.1806 (8.3331)	47.6520 (6.7320)	49.2809 (4.7217)	CBF2<CBF1<CBF3	0.1956	0.318	0.995	0.272
	Y	53.5056 (8.3667)	51.5120 (6.9960)	49.6792 (4.5426)	CBF3<CBF2<CBF1	0.0029	0.518	0.033	0.573
	M	47.9856 (6.5989)	45.5573 (5.8201)	48.9873 (4.5481)	CBF3<CBF2<CBF1	0.0478	0.231	0.777	0.056
	O	45.5405 (8.2830)	45.7085 (5.5726)	49.1786 (5.2733)	CBF1<CBF2<CBF3	0.0824	0.996	0.139	0.166
Insula_L	ALL	56.0026 (10.9058)	51.8294 (8.9509)	52.1528 (5.9964)	CBF2<CBF3<CBF1	0.0023	0.007	0.015	0.970
	Y	64.7333 (9.9941)	59.3676 (7.3453)	55.6751 (5.1915)	CBF3<CBF2<CBF1	0.0001	0.028	<0.0001	0.179
	M	52.3619 (8.3956)	47.7282 (6.9683)	49.6642 (4.8233)	CBF2<CBF3<CBF1	0.0266	0.027	0.287	0.523
	O	50.214 (8.153)	48.0468 (7.126)	51.1117 (6.4187)	CBF2<CBF1<CBF3	0.3004	0.563	0.906	0.320
Insula_R	ALL	57.4214 (11.8917)	52.6676 (9.8092)	53.2227 (6.5311)	CBF2<CBF3<CBF1	0.0017	0.005	0.015	0.929
	Y	67.7047 (11.0877)	61.0708 (8.7128)	57.8125 (5.0939)	CBF3<CBF2<CBF1	0.0001	0.013	<0.0001	0.338
	M	53.1037 (7.5257)	48.5346 (7.3357)	51.3408 (6.0876)	CBF2<CBF3<CBF1	0.0321	0.034	0.595	0.272
	O	50.6407 (8.9366)	47.8942 (6.983)	50.1387 (5.7089)	CBF2<CBF3<CBF1	0.3603	0.406	0.970	0.546
Deep GM_L	ALL	46.943 (6.727)	42.595 (5.152)	43.57 (3.887)	CBF2<CBF3<CBF1	<0.001	<0.001	<0.001	0.478
	Y	50.799 (6.444)	45.615 (5.135)	42.586 (4.258)	CBF3<CBF2<CBF1	<0.001	0.001	<0.001	0.09
	M	44.633 (6.067)	40.211 (4.458)	43.224 (3.440)	CBF2<CBF3<CBF1	0.0011	0.001	0.491	0.042
	O	45.2769 (5.9832)	42.0184 (4.2733)	45.1831 (3.580)	CBF2<CBF3<CBF1	0.0221	0.051	0.997	0.060
Deep GM_R	ALL	47.0654 (6.7951)	42.5973 (5.6002)	43.6907 (4.0156)	CBF2<CBF3<CBF1	<0.001	<0.001	<0.001	0.424
	Y	51.6445 (6.8587)	46.1544 (6.1933)	42.586 (4.2581)	CBF3<CBF2<CBF1	<0.001	0.001	<0.001	0.046
	M	44.6611 (4.960)	40.2649 (4.3792)	44.1766 (4.1781)	CBF2<CBF3<CBF1	0.0002	0.001	0.910	0.003
	O	44.6573 (6.0644)	41.3165 (4.0617)	44.547 (3.7977)	CBF2<CBF3<CBF1	0.0195	0.046	0.996	0.055
ACA_L	ALL	37.034 (9.0148)	38.6341 (6.7284)	42.4711 (4.521)	CBF1<CBF2<CBF3	<0.001	0.310	<0.001	0.001
	Y	44.3492 (7.949)	43.8052 (6.4693)	44.2911 (4.3599)	CBF2<CBF3<CBF1	0.9353	0.946	0.999	0.957
	M	34.1675 (7.2164)	36.1076 (5.344)	41.5379 (4.5415)	CBF1<CBF2<CBF3	<0.001	0.402	<0.001	0.001
	O	31.9513 (6.5393)	35.6752 (4.8682)	41.4856 (4.1577)	CBF1<CBF2<CBF3	<0.001	0.045	<0.001	0.001
ACA_R	ALL	36.0794 (9.3459)	37.9544 (6.7914)	42.3314 (4.778)	CBF1<CBF2<CBF3	<0.001	0.221	<0.001	<0.001
	Y	43.8903 (8.3243)	43.104 (6.8363)	44.2347 (4.3751)	CBF2<CBF1<CBF3	0.7941	0.899	0.980	0.803
	M	32.9326 (6.781)	35.5371 (5.2146)	41.8064 (5.2332)	CBF1<CBF2<CBF3	<0.001	0.194	<0.001	<0.001
	O	30.7606 (7.1271)	34.8827 (4.7858)	40.7284 (3.9646)	CBF1<CBF2<CBF3	<0.001	0.029	<0.001	0.001
MCA_L	ALL	40.6072 (8.9591)	42.77 (6.6307)	46.734 (4.4634)	CBF1<CBF2<CBF3	<0.001	0.114	<0.001	0.001
	Y	47.5836 (8.1072)	47.5774 (6.4762)	48.1817 (4.287)	CBF2<CBF1<CBF3	0.9150	0.099	0.936	0.935
	M	37.7522 (7.4076)	40.1782 (5.4401)	45.7736 (4.3459)	CBF1<CBF2<CBF3	<0.001	0.249	<0.001	0.001
	O	35.9129 (6.5274)	40.3278 (4.9581)	46.2266 (4.5395)	CBF1<CBF2<CBF3	<0.001	0.017	<0.001	0.001
MCA_R	ALL	39.0391 (8.7193)	41.2256 (6.3442)	45.373 (4.502)	CBF1<CBF2<CBF3	<0.001	0.096	<0.001	<0.001
	Y	45.9035 (8.5995)	45.6481 (6.9108)	46.7892 (4.3598)	CBF2<CBF1<CBF3	0.7895	0.989	0.879	0.807
	M	36.070 (6.2291)	38.7518 (4.9466)	44.6201 (4.9895)	CBF1<CBF2<CBF3	<0.001	0.138	<0.001	<0.001
	O	34.6231 (6.4727)	39.0923 (4.1942)	44.6402 (3.6995)	CBF1<CBF2<CBF3	<0.001	0.007	<0.001	0.001
PCA_L	ALL	41.9863 (8.7754)	44.5665 (6.5726)	47.7026 (4.9131)	CBF1<CBF2<CBF3	<0.001	0.046	<0.001	0.011
	Y	45.7456 (8.7076)	47.3182 (7.3932)	47.3101 (4.9326)	CBF1<CBF3<CBF2	0.6126	0.691	0.693	0.99
	M	41.2155 (8.3609)	43.0633 (6.3543)	47.639 (4.9117)	CBF1<CBF2<CBF3	0.0006	0.535	0.001	0.025
	O	38.4822 (7.9122)	43.1938 (4.7101)	48.2514 (5.0346)	CBF1<CBF2<CBF3	<0.001	0.024	<0.001	0.014
PCA_R	ALL	39.9285 (8.1504)	42.8939 (6.1324)	46.1976 (4.327)	CBF1<CBF2<CBF3	<0.001	0.009	<0.001	0.003
	Y	43.5779 (8.8577)	45.6738 (7.5559)	46.0121 (4.8436)	CBF1<CBF2<CBF3	0.3658	0.528	0.424	0.983
	M	39.1208 (6.7838)	41.3811 (5.0424)	46.369 (4.2777)	CBF1<CBF2<CBF3	<0.001	0.249	<0.001	0.002
	O	36.6024 (7.3859)	41.4995 (4.2656)	46.2014 (3.8726)	CBF1<CBF2<CBF3	<0.001	0.007	<0.001	0.010

In the column marked with "#", the mean value of CBF was listed, and the standard deviation is listed in parentheses. In the column marked with "*", the P-value was listed. P<0.01 is statistically significant in ANOVA, and P<0.005 is statistically significant in the Scheffe post hoc analysis. "ALL" indicates all participants (age range, 20-77 years). "Y" indicates youth group (age range, 20-45 years). "M" indicates middle-aged group (age range, 46-60 years). "O" indicates elderly group (age range, 61-77 years). CBF, cerebral blood flow, unit: mL/100 g/min; PLD, post-labeling delay; ROIs, regions of interest; GM, gray matter; ACA, anterior carotid artery; MCA, middle carotid artery; ANOVA, analysis of variance; PCA, posterior carotid artery "L" stands for the left lateral of the brain. "R" stands for the right lateral of the brain.

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Table S2 The slopes of CBF with age and sex under different PLDs

ROI	Global GM			frontal_L			frontal_R			parietal_L			parietal_R			temporal_L		
PLD	1,525 ms	2,025 ms	2,525 ms	1,525 ms	2,025 ms	2,525 ms	1,525 ms	2,025 ms	2,525 ms	1,525 ms	2,025 ms	2,525 ms	1,525 ms	2,025 ms	2,525 ms	1,525 ms	2,025 ms	2,525 ms
Age	−0.293	−0.178	−0.035	−0.377	−0.241	−0.077	−0.393	−0.254	−0.093	−0.393	−0.254	−0.093	−0.293	−0.168	−0.048	−0.363	−0.240	−0.071
	(<0.001)	(<0.001)	(0.200)	(<0.001)	(<0.001)	(0.007)	(<0.001)	(<0.001)	(0.003)	(<0.001)	(<0.001)	(0.003)	(<0.001)	(<0.001)	(0.181)	(<0.001)	(<0.001)	(0.020)
Sex	−4.594	−1.827	−0.706	−4.406	−1.657	−0.827	−4.503	−1.410	0.101	−4.503	−1.410	0.101	−4.628	−1.004	0.703	−4.116	−2.620	−1.340
	(0.001)	(0.088)	(0.416)	(0.003)	(0.138)	(0.349)	(0.003)	(0.236)	(0.917)	(0.003)	(0.236)	(0.917)	(0.003)	(0.438)	(0.531)	(0.008)	(0.031)	(0.162)
ROI	temporal_R			occipital_L			occipital_R			limbic_L			limbic_R			insula_L		
PLD	1525ms	2025ms	2525ms	1525ms	2025ms	2525ms	1525ms	2025ms	2525ms	1525ms	2025ms	2525ms	1525ms	2025ms	2525ms	1525ms	2025ms	2525ms
Age	−0.360	−0.232	−0.085	−0.174	−0.626	−0.260	−0.227	−0.140	−0.030	−0.293	−0.246	−0.060	−0.246	−0.215	−0.042	−0.426	−0.362	−0.164
	(<0.001)	(<0.001)	(0.006)	(0.055)	(0.001)	(0.197)	(<0.001)	(0.001)	(0.333)	(<0.001)	(<0.001)	(0.103)	(<0.001)	(<0.001)	(0.193)	(<0.001)	(<0.001)	(<0.001)
Sex	−4.289	−2.227	−0.370	−7.578	−3.505	−1.790	−7.174	−3.275	−1.863	−5.486	−2.935	−1.034	−5.500	−2.399	−0.393	−2.086	−0.083	−0.916
	(0.004)	(0.051)	(0.698)	(<0.001)	(0.025)	(0.350)	(<0.001)	(0.012)	(0.061)	(0.001)	(0.037)	(0.372)	(<0.001)	(0.062)	(0.701)	(0.264)	(0.956)	(0.436)
ROI	insula_R			DeepGM_L			DeepGM_R			ACA_L			ACA_R			MCA_L		
PLD	1525ms	2025ms	2525ms	1525ms	2025ms	2525ms	1525ms	2025ms	2525ms	1525ms	2025ms	2525ms	1525ms	2025ms	2525ms	1525ms	2025ms	2525ms
Age	−0.507	−0.426	−0.230	−0.191	−0.150	0.061	−0.217	−0.185	0.043	−0.356	−0.248	−0.087	−0.378	−0.249	−0.093	−0.347	−0.231	−0.071
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(0.020)	(<0.001)	(<0.001)	(0.111)	(<0.001)	(<0.001)	(0.004)	(<0.001)	(<0.001)	(0.004)	(<0.001)	(<0.001)	(0.018)
Sex	−1.983	0.065	−0.211	−2.273	−0.646	0.009	−2.059	−0.950	0.433	−4.630	−1.566	−0.740	−4.634	−1.384	−0.034	−4.189	−2.042	−0.928
	(0.301)	(0.967)	(0.859)	(0.080)	(0.517)	(0.991)	(0.105)	(0.360)	(0.614)	(0.002)	(0.187)	(0.429)	(0.002)	(0.250)	(0.973)	(0.006)	(0.088)	(0.322)

ROI	MCA_R			PCA_L			PCA_R		
PLD	1525ms	2025ms	2525ms	1525ms	2025ms	2525ms	1525ms	2025ms	2525ms
Age	−0.339	−0.216	−0.072	−0.225	−0.143	0.001	−0.214	−0.145	−0.012
	(<0.001)	(<0.001)	(0.018)	(<0.001)	(0.001)	(0.976)	(<0.001)	(<0.001)	(0.686)
Sex	−4.620	−1.950	−0.144	−7.087	−3.615	−1.959	−6.683	−3.077	−1.584
	(0.002)	(0.092)	(0.879)	(<0.001)	(0.006)	(0.064)	(<0.001)	(0.011)	(0.089)

The table lists the slopes of CBF changing with the age and sex. The P values of the slopes are listed in parentheses. P<0.01 is statistically significant. In the calculation of slopes in the table, the unit of age was year, and sex was coded as 0 for female and 1 for male. GM, gray matter; CBF, cerebral blood flow; PLD, post-labeling delay; ROI, region of interest; ACA, anterior carotid artery; MCA, middle carotid artery; PCA, posterior carotid artery. “L” stands for the left lateral of the brain. “R” stands for the right lateral of the brain.

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Table S3 The results of regression analysis about the effect of sex and age on ATT

ROI	frontal_L	frontal_R	parietal_L	parietal_R	temporal_L	temporal_R	occipital_L	occipital_R	limbic_L	limbic_R	insula_L
Age	0.597	0.569	0.478	0.503	0.549	0.556	0.418	0.416	0.411	0.380	0.387
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Sex	0.220	0.271	0.265	0.316	0.160	0.233	0.350	0.371	0.258	0.312	0.065
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(0.251)
ROI	insula_R	Globa GM	DeepGM_L	DeepGM_R	ACA_L	ACA_R	MCA_L	MCA_R	PCA_L	PCA_R	
Age	0.387	0.575	0.532	0.530	0.498	0.483	0.441	0.364	0.499	0.443	
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	
Sex	0.105	0.264	0.137	0.156	0.283	0.314	0.186	0.299	0.260	0.337	
	(0.061)	(<0.001)	(0.008)	(0.002)	(<0.001)	(<0.001)	(0.001)	(<0.001)	(<0.001)	(<0.001)	

The regression coefficients listed in the form are standardized regression coefficients (the statistical analysis equation was as follows: ATT = $\beta_1$age + $\beta_2$sex+ constant). The P-values of the regression coefficients are listed in parentheses. P<0.01 is statistically significant. In this regression analysis, the unit of age was year, and sex was coded as 0 for female and 1 for male. ATT, arterial transit time; ROI, region of interest; GM, gray matter; ACA, anterior carotid artery; MCA, middle carotid artery; PCA, posterior carotid artery. "L" stands for the left lateral of the brain. "R" stands for the right lateral of the brain.

Table S4 The results of regression analysis about the effect of ATT on CBF

ROI	frontal_L	frontal_R	parietal_L	parietal_R	temporal_L	temporal_R	occipital_L	occipital_R	limbic_L	limbic_R	insula_L
ATT	−207.796	−199.690	−205.465	−196.674	−238.173	−230.697	−233.697	−218.839	−267.869	−248.815	−290.680
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
ATT*PLD	0.08113	0.07858	0.08374	0.0799	0.09561	0.09176	0.0948	0.08757	0.1135	0.106209	0.120
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
ROI	insula_R	Globa GM	DeepGM_L	DeepGM_R	ACA_L	ACA_R	MCA_L	MCA_R	PCA_L	PCA_R	
ATT	−823.329	−208.6356	−231.8553	−231.6943	−1.3049	−1.286	−2.460	−3.50193	−1.23634	−1.64271	
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	
ATT*PLD	0.333	0.08397	0.10099	0.10142	0.000511	0.000502	0.001008	0.001458	0.000508	0.000675	
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	

The regression coefficients listed in the form are non-standardized regression coefficients (the statistical analysis equation was as follows: CBF = β_1ATT + β_2ATT*PLD + β_3PLD + $\beta_4$age + $\beta_5$sex + constant). In this study, this regression analysis model mainly focused on the impact of ATT on CBF, so only the regression coefficients of ATT and the interaction terms between ATT and PLD are listed in the table. The P-values of the regression coefficients are listed in parentheses. P<0.01 is statistically significant. In this regression analysis, the unit of age was year, and sex was coded as 0 for female and 1 for male. CBF, cerebral blood flow; ATT, arterial transit time; PLD, post-labeling delay; ROI, region of interest; GM, gray matter; ACA, anterior carotid artery; MCA, middle carotid artery; PCA, posterior carotid artery. "L" stands for the left lateral of the brain. "R" stands for the right lateral of the brain.

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Table S5 The results of regression analysis for spatial coefficient of variation

ROI	frontal_L	frontal_R	parietal_L	parietal_R	temporal_L	temporal_R	occipital_L	occipital_R	limbic_L	limbic_R	insula_L
ATT	13.245	10.693	1.336	6.271	15.552	12.295	0.307	–1.896	–3.122	–0.801	0.022
	(0.001)	(0.002)	(0.776)	(0.275)	(<0.001)	(0.006)	(0.930)	(0.642)	(0.437)	(0.854)	(0.342)
PLD	–0.008	–0.008	–0.006	–0.010	–0.018	–0.020	–0.010	–0.015	–0.005	–0.005	–0.00007
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Age	0.079	0.051	0.007	0.017	0.003	–0.018	0.063	–0.015	0.091	0.053	–0.00016
	(<0.001)	(0.007)	(0.791)	(0.600)	(0.899)	(0.464)	(<0.001)	(0.443)	(<0.001)	(0.007)	(0.153)
Sex	1.191	0.049	–0.466	–3.148	1.841	1.445	0.194	2.354	0.949	0.395	0.006
	(0.087)	(0.938)	(0.556)	(0.011)	(0.004)	(0.002)	(0.719)	(<0.001)	(0.083)	(0.509)	(0.050)
ROI	insula_R	Globa GM	DeepGM_L	DeepGM_R	ACA_L	ACA_R	MCA_L	MCA_R	PCA_L	PCA_R	
ATT	0.054	11.614	0.392	3.535	0.136	0.089	0.108	0.084	0.026	0.022	
	(0.402)	(0.001)	(0.894)	(0.241)	(<0.001)	(0.004)	(0.005)	(0.172)	(0.224)	(0.534)	
PLD	–0.00008	–0.011	–0.001	–0.002	–0.006	–0.006	–0.013	–0.014	–0.008	–0.014	
	(<0.001)	(<0.001)	(0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	
Age	0.00009	0.012	–0.022	0.050	0.023	0.073	0.025	0.010	0.073	–0.034	
	(0.417)	(0.493)	(0.107)	(0.000)	(0.368)	(0.008)	(0.166)	(0.565)	(0.000)	(0.116)	
Sex	0.002	0.083	0.487	–0.180	0.581	0.298	–1.251	0.863	0.268	–1.216	
	(0.583)	(0.862)	(0.177)	(0.628)	(0.431)	(0.711)	(0.016)	(0.112)	(0.630)	(0.065)	

The regression coefficients listed in the table are non-standardized regression coefficients (the statistical analysis equation was as follows: Spatial CoV = β_1ATT + β_2PLD + $\beta_3$age + $\beta_4$sex + constant). The P-values of the regression coefficients are listed in parentheses. P<0.01 is statistically significant. In this regression analysis, the unit of age was year, and sex was coded as 0 for female and 1 for male. PLD, post-labeling delay; ATT, arterial transit time; ROI, region of interest; GM, gray matter; ACA, anterior carotid artery; MCA, middle carotid artery; PCA, posterior carotid artery. “L” stands for the left lateral of the brain. “R” stands for the right lateral of the brain.

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