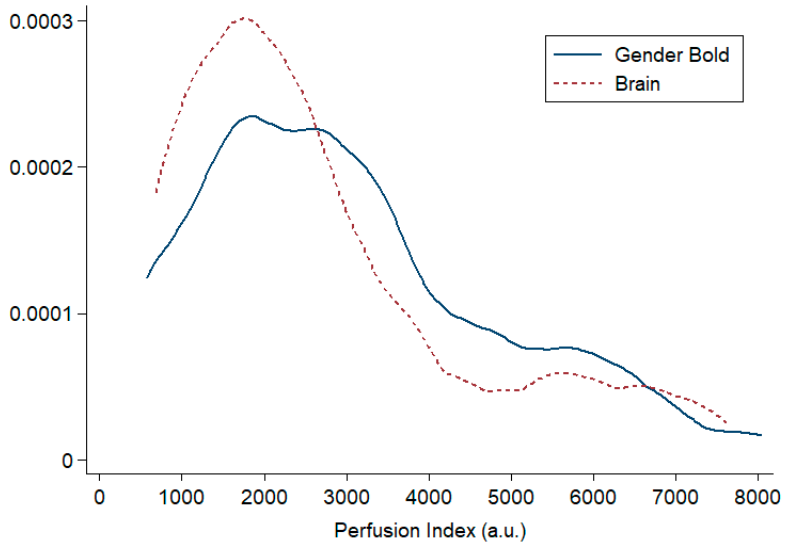
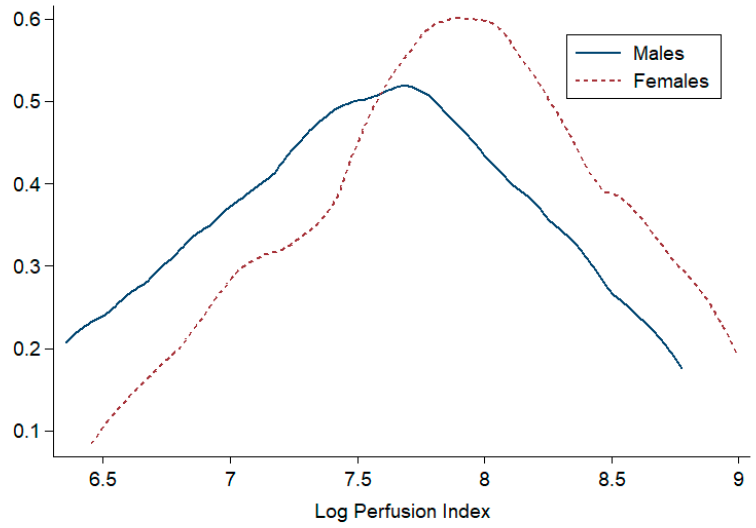
Supplementary material

- Suppl. Figure S1- Distribution of perfusion between GenderBOLD and BRAIrdN study
- Suppl. Figure S2 – Logarithmic transformation of distribution of PI
- Suppl. Table S1- Differences between GenderBOLD and BRAIrdN study
- Suppl. Table S2- Association of the Perfusion Index with the variables of interest
- Suppl. Table S3- HS GenderBOLD and BRAIrdN - Multivariate regression analysis including all the variables that were significantly associated with the outcome variable PI (Log) in univariate analysis, showing the associations between the perfusion index (PI) (outcome variable) and clinical variables

Supplementary Figure S1 - Distribution of perfusion between GenderBOLD and BRAIrdDN study



Supplementary Figure S2 – Logarithmic transformation of distribution of PI (Kernel density) by sex



Supplementary Table S1- Differences between GenderBOLD and BRAIrdN study

Clinical Variables	GenderBOLD	BRAIrdN	p
Age (years)	39±13	34±11	0.07
BMI (kg/m²)	24±4	24±3	0.20
SBP (mmHg)	114±11	120±8	**0.00**
DBP (mmHg)	71±8	71±7	0.92
MBP (mmHg)	85±8	87±6	0.18
HR (bpm)	68±8	62±11	**0.00**
Creatinine (µmol/l)	69±10	76±12	**0.00**
eGFR (ml/min/1.73m²)	102±15	99±21	0.41
Sodium (mmol/l)	140±1	141±1	**0.00**
Potassium (mmol/l)	3.81±0.2	3.81±0.3	0.89
Uric acid (mmol/l)	277±142	283±64	0.81
Bicarbonate (mmol/l)	23±1	23±2	0.45
PI (a.u.)	2600(1539-3777)	2011(1357- 3291)	0.24
rBV	4990(3322- 6624)	4001(2545- 7020)	0.36
mTT (seconds)	1.96(1.57-2.35)	1.88(1.53- 2.67)	0.89
RRI	0.63(0.60-0.66)	0.59(0.56-0.64)	**0.006**
Kidney volume (ml)	125(99-145)	101(89-125)	**0.005**
PRA (ng/ml/h)	1.05(0.68-1.58)	0.38(0.17-0.77)	**0.000**
PAC (pmol/l)	181(95-275)	94(56-137)	**0.005**

Data are expressed as mean±SD or median(IQR). BMI: body mass index; SBP : systolic blood pressure; DBP : diastolic blood pressure; MBP : mean blood pressure; HR: heart rate; eGFR: estimated by CKD-EPI formula glomerular filtration rate PI: perfusion index; rBV: renal blood volume; mTT: mean transit time; RRI: renal resistive index; PRA: plasma renin activity; PAC: plasma aldosterone concentration

Supplementary Table S2- Correlation of the Perfusion Index, Renal Blood volume and Mean Transit Time with the variables of interest

Clinical Variables	PI		rBV		mTT	
	Rho	p	Rho	p	Rho	p
Female sex	0.20	**0.03**	0.08	0.40	-0.12	0.21
Age (years)	-0.02	0.86	0.03	0.75	0.12	0.20
BMI (kg/m²)	-0.02	0.80	0.00	0.96	0.08	0.39
SBP (mmHg)	-0.19	**0.04**	-0.06	0.54	0.24	**0.01**
DBP (mmHg)	0.02	0.86	0.09	0.32	0.19	**0.04**
MBP (mmHg)	-0.07	0.45	0.05	0.63	0.25	**0.01**
HR (bpm)	0.25	**0.01**	0.12	0.20	-0.18	0.05
Creatinine (μmol/l)	-0.17	0.07	-0.11	0.24	0.18	0.05
eGFR (ml/min/1.73m²)	0.20	**0.03**	0.15	0.12	-0.15	0.11
Sodium (mmol/l)	0.02	0.82	0.08	0.38	0.12	0.22
Potassium (mmol/l)	-0.24	**0.01**	-0.18	0.05	0.13	0.17
Uric acid (mmol/l)	-0.01	0.94	0.01	0.90	0.04	0.67
Bicarbonate (mmol/l)	-0.20	**0.03**	-0.16	0.08	0.03	0.76
RRI	0.04	0.70	0.00	0.97	-0.04	0.71
Kidney volume (ml)	-0.01	0.95	-0.07	0.49	-0.08	0.43
PRA (ng/ml/h)	0.37	**0.001**	0.37	**0.00**	-0.03	0.80
PAC (pmol/l)	0.22	**0.04**	0.20	0.06	-0.04	0.68

BMI: body mass index; SBP : systolic blood pressure; DBP : diastolic blood pressure; MBP : mean blood pressure; HR: heart rate; eGFR: estimated by CKD-EPI formula glomerular filtration rate PI: perfusion index; rBV: renal blood volume; mTT: mean transit time; RRI: renal resistive index; PRA: plasma renin activity; PAC: plasma aldosterone concentration

Supplementary Table S3 - HS GenderBOLD and BRAIrdN - Multivariate regression analysis including all the variables that were significantly associated with the outcome variable PI (Log) in univariate analysis, showing the associations between the perfusion index (PI) (outcome variable) and clinical variables

Clinical Variables	Univariate analysis β (95% CI)	p	Multivariate analysis β (95% CI)	p
eGFR (ml/min/1.73m²)	0.13(0.004 to 0.21)	0.004	0.01(-0.0007 to 0.02)	0.068
Bicarbonates (mmol/l)	-0.10(-0.19 to -0.01)	0.03	- 0.07(-0.19 to 0.05)	0.24
PRA - Log (ng/ml/h)	0.21(0.034 to 0 .38)	0.02	0.17(-0.05 to 0.31)	0.14

CI: confidence interval; eGFR: estimated by CKD-EPI formula glomerular filtration rate; PRA: plasma renin activity