Supplementary Material

**Table 1.** Correlation matrix with derived Spearmen’s rho and p-values (italic) for anterior cerebral artery. Significant p-values are highlighted in bold.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Mean** | **Spatial CoVCBF** | **Kurtosis** | **Skewness** | **ATTVol** | **CVRMax** |
| **Mean** | 1.00*-* | -0.12*0.58* | 0.03*0.89* | -0.04*0.88* | 0.02*0.94* | 0.14*0.52* |
| **Spatial CoVCBF** | -0.12*0.58* | 1.00- | 0.46***0.03*** | 0.79***<0.01*** | 0.66***<0.01*** | -0.16*0.46* |
| **Kurtosis** | -0.03*0.89* | 0.46***0.03*** | 1.00- | 0.82***<0.01*** | 0.83***<0.01*** | 0.02*0.91* |
| **Skewness** | -0.04*0.88* | 0.79***<0.01*** | 0.82***<0.01*** | 1.00- | 0.93***<0.01*** | 0.01*0.98* |
| **ATTVol** | 0.02*0.94* | 0.66***<0.01*** | 0.83***<0.01*** | 0.93***<0.01*** | 1.00- | 0.11*0.63* |
| **CVRMax** | 0.14*0.52* | -0.16*0.46* | 0.02*0.91* | 0.01*0.98* | 0.11*0.63* | 1.00- |

ATA, arterial transit time artefact; CBF, cerebral blood flow; CVR, cerebrovascular reserve; CoV, coefficient of variation

**Table 2.** Correlation matrix with derived Spearmen’s rho and p-values (italic) for middle cerebral artery. Significant p-values are highlighted in bold.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Mean** | **Spatial CoVCBF** | **Kurtosis** | **Skewness** | **ATTVol** | **CVRMax** |
| **Mean** | 1.00*-* | -0.04*0.86* | 0.05*0.82* | 0.10*0.65* | 0.09*0.69* | 0.12*0.58* |
| **Spatial CoVCBF** | -0.04*0.86* | 1.00- | 0.52***0.01*** | 0.86***<0.01*** | 0.80***<0.01*** | -0.19*0.37* |
| **Kurtosis** | 0.05*0.82* | 0.52***0.01*** | 1.00- | 0.80***<0.01*** | 0.74***<0.01*** | 0.26*0.22* |
| **Skewness** | 0.10*0.65* | 0.86***<0.01*** | 0.80***<0.01*** | 1.00- | 0.90***<0.01*** | 0.01*0.96* |
| **ATTVol** | 0.09*0.69* | 0.80***<0.01*** | 0.74***<0.01*** | 0.90***<0.01*** | 1.00- | 0.04*0.87* |
| **CVRMax** | 0.12*0.58* | -0.19*0.37* | 0.26*0.22* | 0.01*0.96* | 0.04*0.87* | 1.00- |

ATA, arterial transit time artefact; CBF, cerebral blood flow; CVR, cerebrovascular reserve; CoV, coefficient of variation

**Table 3.** Correlation matrix with derived Spearmen’s rho and p-values (italic) for posterior cerebral artery. Significant p-values are highlighted in bold.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Mean** | **Spatial CoVCBF** | **Kurtosis** | **Skewness** | **ATTVol** | **CVRMax** |
| **Mean** | 1.00*-* | -0.28*0.14* | -0.07*0.72* | 0.04*0.85* | 0.19*0.34* | -0.15*0.45* |
| **Spatial CoVCBF** | -0.28*0.14* | 1.00- | 0.56***<0.01*** | 0.64***<0.01*** | 0.55***<0.01*** | 0.15*0.46* |
| **Kurtosis** | -0.07*0.72* | 0.56***<0.01*** | 1.00- | 0.92***<0.01*** | 0.72***<0.01*** | 0.05*0.80* |
| **Skewness** | 0.04*0.85* | 0.64***<0.01*** | 0.92***<0.01*** | 1.00- | 0.88***<0.01*** | -0.08*0.70* |
| **ATTVol** | 0.19*0.34* | 0.55***<0.01*** | 0.72***<0.01*** | 0.88***<0.01*** | 1.00- | -0.18*0.36* |
| **CVRMax** | -0.15*0.45* | 0.15*0.46* | 0.05*0.80* | -0.08*0.70* | -0.18*0.36* | 1.00- |

ATA, arterial transit time artefact; CBF, cerebral blood flow; CVR, cerebrovascular reserve; CoV, coefficient of variation

**Table 4.** Repeated-measures one-way analysis of variance (ANOVA) with Tukey’s multiple comparisons test. Scatter plots of the datasets can be found in Figure 3.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parameter** | **Comparisons** | **Mean Diff** | **95% CI of Diff** | **Adj. p-value** |
| **CBF [ml/100g/min]** | **ACA vs MCA****ACA vs PCA****MCA vs PCA** | -1810 | -3 to 0.85 to 116 to 13 | 0.26<0.0001<0.0001 |
| **CVRmax [%]** | **ACA vs MCA****ACA vs PCA****MCA vs PCA** | 0.020-0.083-0.103 | -0.008 to 0.0481-0.153 to -0.0127-0.172 to -0.0336 | 0.210.020.03 |
| **Spatial CoVCBF [%]** | **ACA vs MCA****ACA vs PCA****MCA vs PCA** | -0.0150.0180.033 | -0.059 to 0.029-0.010 to 0.046-0.015 to 0.080 | 0.680.270.22 |
| **Skewness [a.u]** | **ACA vs MCA****ACA vs PCA****MCA vs PCA** | -0.0320.0150.047 | -0.203 to 0.139-0.152 to 0.182-0.123 to 0.217 | 0.880.970.77 |
| **Kurtosis [a.u]** | **ACA vs MCA****ACA vs PCA****MCA vs PCA** | -0.117-0.143-0.027 | -0.662 to 0.429-0.599 to 0.312-0.649 to 0.595 | 0.850.710.99 |
| **ATAvol [cm3]** | **ACA vs MCA****ACA vs PCA****MCA vs PCA** | -1.2700.4081.678 | -1.681 to -0.8590.167 to 0.6491.301 to 2.055 | <0.00010.0009<0.0001 |

ACA, anterior cerebral artery; ATA, arterial transit time artefact; a.u, arbitrary units; CBF, cerebral blood flow; CoV, Coefficient of Variation; CVR, cerebrovascular reserve; MCA, middle cerebral artery; PCA, posterior cerebral artery