Supplemental material

Macroscopic findings of the left MCA with A1 and A2 bifurcation branches

Figure S1: Top left vessel A1 used for 3D imaging. Bottom left: Comparison of qualitative velocity vector wall shear stress patterns in A1 and A2 branches with and without SCA vessels included. Right: Macromolecular transport FROG maps of left MCA branches with and without SCA vessels included. Bottom right: A1 and A2 branches in those of the control in an insufficient 2D printing (marked with green arrows).

Figure S2: New flow curves set as boundary conditions at the inlet for each case A1-A4 and C1-C8.

Figure S3: Pressure curves set as outlet boundary conditions for each case A1-A4 and C1-C8.

Figure S4: Visual representation of the Couette-NB between virtually deformed (a) Contour (green) and p'Contour (blue) for four cases.

Figure S5: Branched correlation hydrodynamics parameters between with (a) and without (c) Contour. Significant differences are marked with *.

Figure S6: Correlation of the velocity vector from CFD simulation of case A1 and A1-C10 with different structures (case A1-C10 and case A1) with the flow in the anterior circulation (A1) and the interaction of the plasma differences in velocity higher than 0.5 m/s.