

SUPPLEMENTARY DATA

Grid independence test

A grid independence test was conducted by referring to ref. [1] during computational fluid dynamics (CFD) analysis of the idealized aneurysm model with the stent “Pore1-d30”. The spatial-averaged velocity in the intracranial aneurysm and area-averaged wall shear stress (WSS) were compared. Table 1 shows the grid sensitivity. The relative change of each hemodynamic parameter from that with each subsequently finer grid was calculated. The mesh size included in the manuscript was chosen since both relative changes were small enough to be neglected (under 3%).

Table 1 Relative changes of hemodynamic parameters on grid independence test

	Fine	Adopted	Coarse 1	Coarse 2
Number of nodes	14692059	8598292	3891887	2346779
Number of elements	73329526	43209960	20080038	11922997
Maximum element size of the vessel [mm]	0.225	0.3	0.45	0.6
Maximum element size around the stent [mm]	0.006	0.008	0.012	0.016
Average velocity [m/s]	0.03648	0.03653	0.03921	0.03110
Average WSS [Pa]	0.4393	0.4441	0.4499	0.3676
Relative change with each progressive mesh refinement [%]				
Average velocity	-	0.132	7.350	20.694
Average WSS	-	1.085	1.324	18.302

Abbreviation: WSS, wall shear stress

REFERENCES

- [1]. Ma D, Dargush GF, Natarajan SK, et al. Computer modeling of deployment and mechanical expansion of neurovascular flow diverter in patient-specific intracranial aneurysms. *J Biomech* 2012;45:2256–63.