Computational fluid dynamics of twelve aortic Type B dissections managed with the streamliner multilayer flow modulator

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Disclosure

Speaker name: .....................................FLORIAN......STEFANOV........................................

I have the following potential conflicts of interest to report:

- Consulting
- Employment in industry
- Stockholder of a healthcare company
- Owner of a healthcare company
- Other(s)

☒ I do not have any potential conflict of interest
Aortic type B dissection

Aims

Haemodynamic changes due to the streamliner device by employing computational fluid dynamics (CFD)
Methods

• 12 patients data (MFM Global Registry, Ireland)
• 12 months follow-up
• Computer models generation from CTs
• Blood flow simulation
• Primary vs secondary intervention: branches perfusion & aortic wall pressure
Computer models generation
CFD Analysis setup
Blood flow streamlines

Wall pressure plot

Decreased by 6.5% (primary) and by 5% (secondary)
Results

Blood flow streamlines

Wall pressure plot

Decreased by 6.5% (primary) and by 5% (secondary)
Results

**Primary** intervention group
(cases 1-7)

**Secondary** intervention group
(cases 8-12)
Conclusions

The primary intervention predictions showed better outcomes in terms of carotids and suprarenal perfusion increase.

The secondary intervention predictions prevailed in the renal perfusion increases over the primary.

CFD predictions encourage the use of the streamliner device, as a primary intervention option in managing cases with aortic type B dissection.
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