or thrombus only at one of the four locations as compared to PED (OR 0.10 95% CI 0.02–0.56, p = 0.01). There was no difference in thrombus at the four locations as a function of DAPT (p > 0.05). There was no dependence on aneurysm occlusion on the device used or PRU value; however, achieving complete or near complete occlusion was negatively and marginally correlated with the aneurysm neck size (Spearman's rho = 0.314; p = 0.049).

Conclusion The hypothesis that Shield technology reduces acute thrombus formation regardless of DAPT has been confirmed in vivo using OCT.

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O-030 CHANGES IN CONTRAST TRANSIT TIMES ON DIGITAL SUBTRACTION ANGIOGRAPHY POST PIPELINE EMBOLIZATION DEVICE DEPLOYMENT

[1]A Alaraj, [2]A Hussein, [1]A Linninger, [2]F Charbel, II, [1]C Hsu, [2]F Charbel, [2]V Aletich. *[1]Neurosurgery and Bioengenerring, University of Illinois at Chicago, Chicago, IL; [2]Neurosurgery, University of Illinois at Chicago, Chicago, IL*

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Introduction Pipeline Embolization Devices (PED) has been introduced as a new method to treat aneurysms that are otherwise difficult to treat surgically or with endovascular means. It is postulated that hemodynamic changes occur post deployment which affect the distal vascular bed. In this paper we evaluated changes in the contrast transit times on angiography post PED implementations.

Methods Medical charts and digital subtraction angiographic (DSA) films for patients treated with PED were included. Only anterior circulations, un-ruptured aneurysms, located proximal to the internal carotid artery terminus were included. DSA images were analyzed using custom made software for the time-density relationship at baseline and compared to post PED implementation. All analysis was done over region of interest over the middle cerebral artery (M1 segment). Analysis included $TT_{10\%–100\%}$ (time needed for the contrast to change from 10% image intensity to 100), $TT_{100\%–10\%}$ (time needed for the contrast to change from 100% image intensity to 10%), and $TT_{25\%–25\%}$ (time needed for the contrast to change from 25% image intensity-up slope to 25%-down slope of the curve).

Results A total of 44 patients were included in this study. Analysis over the M1 segment showed a significant decrease in the $TT_{10\%–100\%}$ (2.79 to 2.24 seconds, $P < 0.001$) post PED. There was significant correlation (Pearson's correlation) between the percentage change in $TT_{100\%–10\%}$ and the aneurysm size ($r = 0.34$, $P = 0.02$). There was a significant decrease in the $TT_{25\%–25\%}$ (7.07 to 6.41 seconds, $P = 0.016$) post PED (Figure 1). Moreover, there was significant correlation between the absolute or percent changes in $TT_{25\%–25\%}$ and the aneurysm size ($P = 0.05$; rho = 0.54 and 0.049; rho = 0.29 respectively) (Figure 1).

Conclusion Analysis shows that statistically significant hemodynamic changes do occur post PED deployment, as determined by differences in the contrast transit time post PED in the distal intracranial circulation. These hemodynamic changes might be more pronounced in large and giant aneurysms. The mechanism for this is not clear, yet hemodynamic changes affecting especially the vasculature distal of the PED might shed a light at the patho-physiology of the delayed parenchymal hemorrhage.

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O-031 ENDOVASCULAR MANAGEMENT OF INTRACRANIAL ARTERIOVENOUS MALFORMATIONS WITH VARIOUS ANGIOARCHITECTURE FEATURES IN THE PEDIATRIC POPULATION: IS SPETZLER-MARTIN GRADING PREDICTIVE?

[1]A Honarmand, [2]S Ansari, [1]M Hurley, [1]P Golnari, [1]M Potts, [1]B Jahromi, [1]A Shaibani. *[1]Radiology, Northwestern University Feinberg School of Medicine, Chicago, IL; [2]Radiology and Neurological Surgery, Northwestern University Feinberg School of Medicine, Chicago, IL*

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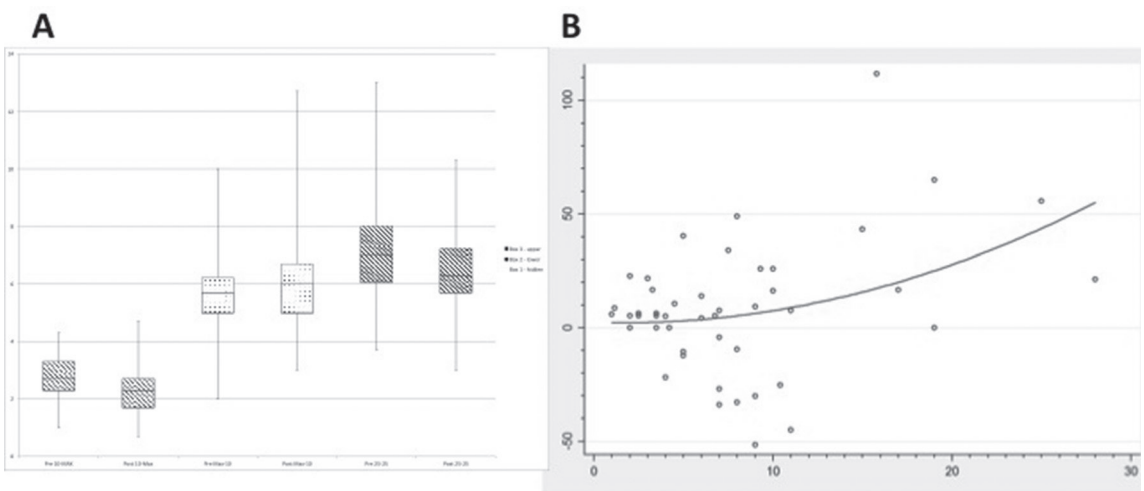

Abstract O-030 Figure 1