Abstract E-129 Figure 1

appropriate waste segregation have the potential to reduce the environmental impact of our specialty.

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E-130 STEP FORWARD: EARLY EXPERIENCE USING OCT TECHNOLOGY IN NEUROVASCULAR FIELD

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Introduction Optical Coherence Tomography (OCT) is a validated technology in cardiac and peripheral vasculature. However, its use for neurovascular procedures only have been described in few publications of animal lab, cadaveric models and some case reports. Detection of high-resolution (micron-scale) findings intra-procedural and during follow-up in the treatment of variety of Neurovascular conditions are described below.

Methods Since introduction of this technology in our institution 2018, after learning curve was acquired and IRB approved INR application, we retrospectively described the OCT use to evaluate Intra and extra cranially device implanted. Clinical, anatomical, angiographic variables were registered. Devices such as monolayer and dual-layer flow

diverter stents, monolayer and dual-layer carotid stents, and endosaccular flow disruption devices such as the WEB device, were evaluated using this technology.

Results A total of 6 patients were selected to be evaluated using OCT. Eleven Dragonfly Otis Imaging Catheters (Abbott Vascular), assisted with the use of a triaxial system as support were registered. All cases performed under GA and full heparinization. Informed consent obtained. OCT evaluation was performed immediately after the procedure, and in 3 and 6 months as follow-up. Description of multiple endovascular findings in the short and mid-term follow-up were determined, such as wall apposition, device conformability, presence or not of thrombus device-related, atheroma plaque fragmentation or stabilization, fibrin bridges formation processes, neoendothelization and healing process. Additional information was obtained: aneurismal neck permeability, patency of perforators or arterial ostia, which were clearly elucidated in a close-by histologic scale. In the analysis of the WEB device, none evidence of thrombosis, even none material at the radiopaque-proximal marker, findings in the proximal recess, were revealed. No procedural related complications were reported.

Conclusion Intravascular OCT technology may be suitable to use in Neurovascular procedures highly selected. In our experience an accurate training and learning curve are mandatory. Under special circumstances the use of OCT for INR showed to be feasible and safe. The valuable information acquired still is under analysis but constitutes an extra tool to evaluate intraprocedural results and to assess the healing process during the follow up.

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E-131 A TIME RESOLVED 3D DSA PROTOCOL TO EVALUATE ANEURYSMAL FLOW FOLLOWING FLOW DIVERSION

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Introduction Time resolved three-dimensional angiography (4D DSA) was developed initially to investigate parameters related to the flow in arterio-venous malformations (AVMs). We have extended this protocol to evaluate flow before and after placement of a flow diverter for treatment of an intracranial aneurysm. Here we evaluate a prototype for 3D iFlow using 4D DSA imaging.

Methods In this study, 4D DSA angiographic imaging (6 s syngo Dyna4D, Siemens Healthineers AG, Forchheim, Germany) was performed on 13 patients before and after receiving a pipeline (Medtronic, USA) across a known intracranial aneurysm. 4D DSA imaging was acquired before a pipeline was placed and after deployment of a pipeline on the same day using a constant flow rate of 3 ml/sec and 21 cc of contrast. 3D iFlow information was extracted using prototype software from the imaging and 3 bolus arrival time definitions were evaluated.

Results Using three separate reconstruction protocols for 3D iFlow the flow proximal to the aneurysm and distal to the aneurysm showed similar average bolus arrival times (table 1).