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### P088 EFFICACY AND SAFETY OF HYDROPHILIC POLYMER COATED DEVICES WITH PRASUGREL AS A SINGLE ANTIPLATELET THERAPY IN THE TREATMENT IN PATIENTS WITH ACUTELY RUPTURED INTRACRANIAL ANEURYSMS

[1]Ali Khanafer, [2]Alexandru Cimpoca, [2]Von Gottberg Philipp, [2]Kamran Hajiyev, [3]Ganslandt Oliver, [2]Hans Henkes. *[1]Neuroradiologische Klinik, Neurozentrum, Klinikum Stuttgart, Germany; [2]Neuroradiologische Klinik, Neurozentrum, Klinikum Stuttgart; [3]Neurochirurgische Klinik, Neurozentrum, Klinikum Stuttgart*

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**Introduction** Here, we report our experience in using hydrophilic polymer-coated (HPC) Devices with prasugrel as single antiplatelet therapy (SAPT) to treat patients with subarachnoid hemorrhage (SAH) in the acute setting.
**Aim of Study** The objective of this study is to assess the safety and efficacy of HPC-coated devices with prasugrel as SAPT in the treatment of SAH patients.
**Methods** Patients treated within 30 days after SAH with a p64/p48 MW HPC FDs, pEGASUS or pCONUS 2-HPC (Wallaby Medical Phenox) were prospectively identified. Outcomes, intraprocedural and postprocedural complications, and mid-term follow-up were evaluated.
**Results** A total of 55 patients (51% women; mean age 52 years) were treated in 58 sessions using 78 devices (p64 MW HPC: 39; p48 MW HPC: 31; pEGASUS: 6; pCONUS 2-HPC: 2). Two patients (3,6%) experienced FD-dependent ischaemic complications. No intraprocedural thromboembolic complications were documented. No cases of aneurysm rerupture or hemorrhagic complications related to antiplatelet therapy were recorded. Three patients exhibited mild, non-haemodynamically relevant intimal hyperplasia in the mid-term control. No devices demonstrated in-stent stenosis or occlusion.
**Conclusion** The utilisation of HPC-coated devices with prasugrel as SAPT is both safe and efficacious in the treatment of patients with acutely ruptured aneurysms. It is essential to manage SAPT with prasugrel adequately, particularly through the utilisation of higher than usual doses and the performance of daily efficacy testing, in order to prevent the occurrence of ischaemic and thromboembolic complications.
**Disclosure of Interest** no.

## 1.3 Miscellaneous

### P089 TRANSLATIONAL RESEARCH IN INTRACEREBRAL HEMORRHAGE (ICH): MRI BIOMARKER DEVELOPMENT INCLUDING IRON QUANTIFICATION, PROPORTIONAL ERYTHROLYSIS, WHITE MATTER SURVIVAL WITHIN AND AROUND THE HEMATOMA

Neeraj Chaudhary. *University of Michigan, Michigan Medicine*

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**Introduction** An effective paradigm for treatment of human ICH doesn't exist. We have established MRI biomarkers enabling understanding of pathomechanisms of recovery from animal ICH models to the human, aided by NIH funded projects.
**Aim of Study** Translational, non-invasive MRI biomarker development in human ICH, including iron overload, proportional erythrolysis, and white matter survival within and around the hematoma.
**Methods** Validation of a method of iron quantification in a phantom interrogated in animal and human magnet MRI (9.4 & 3Tesla: T1, T2*-6 echo, R2*, FLAIR, DTI). The principle was applied to animal ICH model correlating iron concentrations with them euthanized. It was then applied to 20 human ICH with MRI at 1-3 day, 7-10 day and 1 month. In addition to iron quantification we also analyzed hematoma size, surrounding edema, proportional erythrolysis plus white matter survival within and around the hematoma.
**Results** In ICH, the iron overload to the surrounding tissue is based on hematoma size, proportional erythrolysis within ICH, and correlates with the extent of edema. Iron overload peaks up to 10 days reducing by the end of the month in the animal and human. Some white matter tracts survive within the hematoma acting as scaffolds for macrophage mediated iron overload clearance in the animal and the human and in surrounding tissue is inversely related to iron overload.
**Conclusion** Our data shows initial validation and translation of multiparametric MRI as objective biomarkers of human ICH which could enable prognostication and be recovery surrogates of therapeutic interventions in future ICH trials.
**Disclosure of Interest** no.

## 1.1. Aneurysms

### P090 FLUID-STRUCTURE INTERACTION ANALYSIS FOR CEREBRAL ANEURYSM RUPTURE RISK PREDICTION: DEVELOPMENT OF A NOVEL SIMULATION METHOD

[1]Matthias Gmeiner, [2]Wolfgang Fenz, [2]Stefan Thumfart, [3]Julia Maier, [3]Zoltan Major, [4]Nico Stroh, [2]Michael Giretzlehner, [5]Andreas Gruber, [6]Jozsef Nagy. *[1]Department of Neurosurgery, Kepler University Hospital, Johannes Kepler University, Linz, Austria; [2]RISC Software GmbH, Hagenberg, Austria; [3]Johannes Kepler University, Institute of Polymer Product Engineering, Linz, Austria; [4]Kepler University Hospital, Linz, Austria; [5]Kepler University Hospital, Johannes Kepler University, Linz, Austria; [6]Eulerian-Solutions e.U, Linz, Austria*

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**Introduction** Cerebral aneurysms may occur in 2% of the population. If an aneurysm ruptures, patients suffer from subarachnoid hemorrhage. Therefore, strategies that improve rupture risk prediction are highly warranted. Currently, several studies carried out hemodynamic simulations, but most of them mainly focused on fluid dynamics (e.g. wall shear stress; WSS). However, comprehensive evaluation of hemodynamics should include both fluid and structural aspects (fluid-structure interaction; FSI).
**Aim of Study** To develop a novel simulation workflow for detailed FSI analysis (>50 parameters).
**Methods** After simulation software development, the usability of this approach has been validated by residents and experienced neurosurgeons. In addition, we analyzed the process